

# 2019

## H2 Economics

1.	ACJC	
2.	ASRJC	
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**ANGLO-CHINESE JUNIOR COLLEGE**  
**2019 JC2 PRELIMINARY EXAMINATIONS**



**ECONOMICS**

**9757/01**

**Higher 2**

27 August 2019

Paper 1: Case Studies

2 hours 15 minutes

Additional materials: Answer paper

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**READ THESE INSTRUCTIONS FIRST**

Write your index number and name on all the work you hand in.

Write in dark blue or black ink pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid / tape.

Begin each question on a **fresh** sheet of paper.

Answer **all** questions.

At the end of the examination, fasten your answers for Question 1 and Question 2 **separately** using the cover sheets provided.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **8** printed pages (excluding the cover pages).  
Please check that your question paper is complete.

Answer **all** questions.

### Question 1: The UK Rail Industry

**Table 1: UK Rail Statistics**

	2011	2012	2013	2014	2015	2016
Rail fares index (January 1995 = 100)	187.1	198.6	207.1	212.6	217.2	218.7
Annual passenger numbers (% change)	8.6	6.1	3.3	5.0	4.5	5.1

Source: Office of Rail and Road, accessed 20 July 2019

**Table 2: Estimates of elasticities for various modes of transport in the UK**

	Elasticity Value
Price elasticity of demand for rail	(-) 0.218
Price elasticity of demand for bus	(-) 0.357
Price elasticity of demand for car	(-) 0.197
Cross elasticity of demand for car *w.r.t rail	0.196
Cross elasticity of demand for car *w.r.t bus	0.116
Cross elasticity of demand for rail *w.r.t car	0.053
Cross elasticity of demand for bus *w.r.t car	0.066

\*w.r.t refers to 'with respect to'

Source: <https://www.vtpi.org/tranelas.pdf>

**Table 3: Rail Ticket Prices for Southampton to Manchester (in UK pound sterling (£))**

Type of ticket	Direct route	Indirect route
Advance	57.00	*n/a
Off-peak	113.50	115.10
Anytime	124.80	221.50
First Class Anytime	276.30	305.00

\*n/a = not available

When buying a ticket for a rail journey, consumers often face an array of possible prices and types of rail ticket. Consumers could choose the following types of rail tickets:

1. **Indirect route** will require travellers to switch to another rail to reach the destination and the journey will usually include multiple stops.
2. **Advance tickets** have to be bought in advance (up to the day before the day of travel) and are sold in limited numbers and subject to availability. These tickets are only valid on the date/train specified.

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3. **Off-Peak tickets** can be bought anytime. However, travellers have to travel during off-peak hours (exclude peak hours in the mornings, late afternoons and late evenings on Mondays-Fridays).
4. **Anytime tickets** can be bought anytime and allow travellers to travel anytime.
5. **First Class tickets** offer additional free Wi-Fi, complimentary food and drinks, free newspapers, extra leg room and reclining seats as well as access to first class lounges at certain stations.

Source: Economic Review February 2019 Vol 36 No.3

### **Extract 1: Connecting Britain**

High-Speed 2 (HS2) is a planned rail network between London, the West Midlands and the North. It will be the biggest construction project in Europe and it is expected to bring great economic benefits to the country. The construction of HS2 will be a major generator of jobs and businesses directly linked to the project. The benefits will fall across a wide range of industrial sectors from the construction sector to the civil engineering and rail industries.

Beyond the construction of the railways and stations themselves, associated development triggered by HS2 can have an important impact on the economy. There is evidence that infrastructure has a stronger positive effect on growth.

However, many who live along the proposed route are naturally opposed to the project. One major reason is obviously the prospect of years of disruptive construction work, followed by up to 28 trains an hour screaming past their homes and villages at speeds of up to 400km/h.

The Institute of Economic Affairs (IEA), predicts that costs will be greater while the economic benefits will be lower than what the government has forecasted.

The overall costs would be higher for a number of reasons, ranging from minor costs such as compensation for disruption during the construction work being paid to residents staying near construction sites, to major expenses arising from a resulting need to expand and upgrade existing stations that are going to link to the HS2. Moreover, when operating costs are added to the initial investment of HS2, the overall cost could increase substantially.

Furthermore, the overall revenue from ticket sales are unlikely to match expectations stated by the UK government.

Source: GOV.UK developer docs, accessed 20 July 2019

### **Extract 2: Should Britain nationalise the rail network?**

Britain's rail network was first nationalised in 1948 and then privatised again in 1993. Now, 24 years on, the main Britain opposition Labour Party says the railways have become inefficient and expensive; it wants to see a return to public ownership.

Over the past decade, fares have risen twice as fast as salaries. Where the rail operators have been left to their own devices, choosing whether or not to invest in new trains, the result is clear: on some rush-hour train services into London, a third of passengers are forced to stand.

Under the existing rail system, Britain's railway lines are divided into regions and each region is run by train operating companies for a fixed length of time. There are currently 20 regions in England, Scotland and Wales, with 25 foreign and local train operating companies competing for the regions.

This system allows for rail companies from around the world to bring new ideas and innovation to Britain's railways.

One in two of the 1.7bn passenger journeys made in the UK each year will be on trains operated by foreign companies. All of those companies are ultimately owned by foreign states – which outrages unions and others who call rail privatisation into question, as this is akin to transferring British fare payers' cash overseas.

Source: The Guardian, 1 April 2017

### **Extract 3: Rail privatisation: the UK looks for secrets of Japan's success**

The two railways – UK and Japan, have something in common: both were once state-owned, then privatised in 1987 and 1994, respectively. There, the similarities end.

The most fundamental difference between the British and Japanese railways is how they were privatised. In Britain, the government chose to break up railway operations into three components: tracks, trains, and train operations. Today, the tracks are publicly owned by Network Rail<sup>1</sup> while companies regularly compete to operate trains in regions such as the West Midlands, leasing their trains from another company. In Japan, however, the former Japan National Railways was split up along regional lines and then everything were sold together. An example is JR East, centred on the city of Tokyo, owns its tracks, trains and stations.

However, Britain split up its system for a reason, and that reason was competition. It was hoped that the regular fight for regions would drive down costs. The obvious downside to the Japanese model is potentially creating a local monopoly with all the risks that entails: exorbitant fares, bloated costs, lazy service and refusal to co-operate with rivals.

In Britain, whether railway privatisation was beneficial is deeply controversial. This is because under privatisation, prices have been rising, yet the train service is unreliable. On top of that, despite operators earning tidy profits, some are still seeking public subsidies to improve services. In fact, Britain's trains are so unpopular that, according to a poll, the public supports nationalisation by a majority of 56 percent to 15 percent. Yet in Japan, the privatisation of its railways is regarded as a triumph. The bulk of Japan's ultra-reliable railway network operates without a single yen of public subsidy. Pricing is straightforward, and apart from consumption tax hikes, JR East has never raised fares once in 31 years as a private operator.

The divergent fortunes of these two systems raises an obvious question: is private ownership really the problem with Britain's railways? If not, can nationalisation cure their ills?

Japan's success offers UK an appealing prospect of fixing the railways in the private sector. As such, a review has been launched that will specifically look at Japan as a model for the UK. What they will find is not just a triumph of private enterprise, but a robust system of regulation and indirect but ferocious competition. Japan's rail success will not be easy to replicate.

Source: The Financial Times, accessed 20 July 2019

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<sup>1</sup> Network Rail is a 100 percent public-owned body that runs Britain's railway network and owns the infrastructure, including 20,000 miles of track, 40,000 bridges and tunnels and 2,500 stations.

**Questions**

- (a) Using supply and demand analysis, state what could have caused the changes in annual rail fares and annual passenger numbers in Table 1. [2]
- (b) With reference to Table 2, comment on whether the UK government should subsidise rail transport or bus to reduce private car usage. [4]
- (c) Extract 1 explains that the UK government is considering building the High-Speed 2 (HS2) rail network to improve rail connections in the country.
- (i) Explain a possible opportunity cost that the government might incur in the building of HS2 rail network. [2]
- (ii) Discuss the factors that the government needs to consider in their decision to build the HS2 rail network. [8]
- (d) Explain whether the UK rail ticketing strategies could be considered an example of price discrimination. [4]
- (e) Discuss whether UK should renationalise or to adopt Japan's model of privatisation of its rail network. [10]

[Total: 30]

## **Question 2: Impact of US-China Trade War**

### **Extract 4: Harmful effects of import restrictions**

The history of steel import restrictions by the United States dates back to the 1960s. Because of their strong position in the market, US steelmakers used to have significant power to control prices. In the early 1960s, it was quite easy to pass on any increase in costs onto prices, and thus raising employee wages was not difficult. However, on the other side of the same coin, they were beginning to lose competitive advantage, lagging behind their foreign rivals in investing in continuous casting facilities and technology development. This resulted in higher domestic steel prices and a boost in imports.

Responding to calls from the domestic steel industry, the then President Johnson had Japan and the European Community agree to 'voluntarily restrict' U.S.-bound steel exports. More than half a century later, the United States has repeatedly implemented various measures to curb steel imports, including voluntary export restrictions on the part of trading partners, anti-dumping duties and the trigger price mechanism (TPM) designed to inhibit steel imports below set prices.

The US steel industry has long been protected from international competitive pressure, but remains far from being revitalized today. The latest import restrictions will do more harm than good, resulting in higher domestic prices for steel and causing a further delay in revitalisation efforts.

Moreover, steel users are no ordinary consumers but are manufacturers such as automakers. An increase in the prices of intermediate goods means higher costs for user industries, eroding their competitiveness and further reducing jobs. Some companies may move production bases to other countries to avoid higher costs of intermediate goods. The impact of such negative effects will be more serious on companies exposed to higher competition and may prompt those in the user industries to call for similar import restrictions.

Source: Research Institute of Economy, Trade and Industry, 18 May 2018

### **Extract 5: Trump's trade war may benefit most global economies**

With the US imposing higher tariffs on Chinese goods, European producers will enjoy a competitive advantage over Chinese producers in the US market. Likewise, in the Chinese market, both European and Asian producers will have a competitive advantage over US producers.

A substantial share of US-China trade is thus likely to be diverted to Europe, Japan and other Asian economies close to the Chinese market. The European Union is likely to reap particularly large benefits, because it remains one of the largest trading partners of both the US and China, and because European producers are often US companies' closest competitors.

Ultimately, however, it seems likely that the Sino-American confrontation will shift global trade significantly. This may benefit most of the world's economies, but it will also have serious consequences for the US and China.

The losses are likely to be larger for the US than for China, because Chinese imports from the US include a larger share of agricultural commodities for which alternative suppliers are relatively easy to find. For example, China can import soya beans from Brazil instead of the

US, at little additional cost. Moreover, Chinese countervailing measures have been more moderate; there is little prospect of a blanket 25 per cent tariff on US imports.

All in all, the Sino-US trade war may lead to some losses for China, but those losses will likely be dwarfed by the costs incurred by the US itself.

Source: Business Time, 11 October 2018

### **Extract 6: Vietnam's GDP is just 11 years behind China, and growing rapidly**

In 2006, Vietnam's GDP was barely \$4,000 per capita PPP (Purchasing Power Parity). Today it's close to \$7,000 per capita PPP and has more than doubled at market exchange rates.

Over the last 11 years, Vietnam's economy has grown at a compound annual rate of 5.0% in per capita terms. That is far short of China's 8.2%. However, as China's growth is slowing as it reaches the top of the world's middle-income bracket, Vietnam's growth seems to be accelerating as it breaks into the lower ranks of middle-income countries.

Part of Vietnam's growth is coming from China itself. Chinese companies have begun offshoring manufacturing jobs to Vietnam to take advantage of the country's much lower wages. The last 11 years of growth in China have raised even the poorer provinces of western China up to global middle-income levels. Southeast Asia is the new frontier. Vietnam is well-placed to attract Chinese investment companies looking to diversify their manufacturing base.

Source: Forbes, 9 November 2017

### **Extract 7: A remedy for Vietnam's financial troubles**

Vietnam has become one of the Pacific Rim's staunchest proponents of free trade deals. From Hanoi's perspective, free trade agreements are critical to promoting foreign investment and to finding new markets for its exports as competition in the region heats up. The country currently has a dozen free trade agreements in effect with partners near and far, including the European Union and the Eurasian Economic Union.

Vietnam's economic growth has outpaced even that of other rapidly developing states in the region such as Thailand, Indonesia and Malaysia. Its reliance on exports and foreign investment makes its economy susceptible to external volatility. Furthermore, Vietnam's manufacturing sector relies on importing the raw materials it needs to produce the country's leading exports. Vietnam's incomplete supply chains, coupled with its lack of supporting and processing industries, have cut into producers' profit margins and limited their ability to add value. Without a long-term strategy to develop its industries and boost productivity, the country's economy will remain vulnerable.

Though Vietnam has made a name for itself as an economic success story, the country's worsening structural problems have tarnished its reputation. Vietnam's budget deficit is among the highest in Asia. The protracted imbalance stands to undermine Hanoi's many social, economic and strategic objectives unless the government finds a viable way to boost revenue in the short term, beyond raising taxes.

Its public debt is now estimated to exceed 63 percent of GDP — and is expected to grow as the government increases borrowing to cover the budget and fuel economic growth. The country's state-owned enterprises, meanwhile, have buckled under the weight of their own inefficiency, and the government has fallen short in its efforts to strengthen the banking sector.

Together, these problems (among others) have given Vietnam a sense of urgency in its quest to partially privatise large state-owned companies. The government has already sold off shares of several companies formerly under its exclusive control, including state-owned oil and gas firm PetroVietnam.

Source: The Guardian, 30 June 2019

**Table 4: Selected economic indicators of Vietnam**

Indicators	2013	2014	2015	2016	2017
Real GDP Growth (annual %)	5.4	6.0	6.7	6.2	6.8
Households Final consumption expenditure (constant 2010 US\$) (billion)	88.6	94.0	102.8	110.3	118.4
Government final consumption expenditure (constant 2010 US\$) (billion)	8.6	9.2	9.8	10.5	11.3
Gross fixed capital formation (constant 2010 US\$) (billion)	37.4	40.9	44.7	49.1	53.5
Exports of goods and services (constant 2010 US\$) (billion)	125.6	140.1	157.8	179.7	209.8
Imports of goods and services (constant 2010 US\$) (billion)	123.9	139.8	165.1	190.4	223.7
Inflation rate (%)	6.6	4.7	0.9	3.2	3.5
Unemployment rate (%)	1.3	1.3	1.9	1.9	1.9

Source: Various

### Questions

- (a) Explain the economic relationship between steel and automobiles. [2]
- (b) Using a diagram, explain how rising wage costs in the US steel industry led to increasing steel imports. [4]
- (c) Consider whether the US government should continue to pursue protectionistic trade policies to save the steel industry. [8]
- (d) (i) Describe the change in Vietnam's trade balance between 2013 and 2017. [2]
- (ii) Using the information given, explain how free trade agreements could account for Vietnam's economic growth. [4]
- (e) Discuss the policy options for the Vietnamese government to manage her budget deficit whilst sustaining her economic growth. [10]

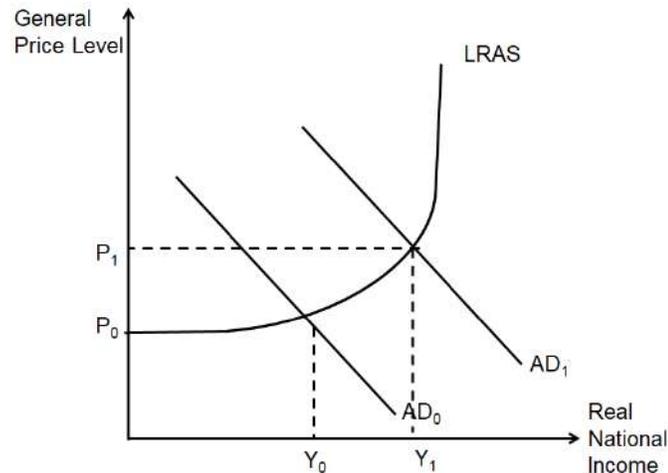
[Total: 30 Marks]

### Question 1: The UK Rail Industry

<b>(a)</b>	Using supply and demand analysis, state what could have caused the changes in annual rail fares and annual passenger numbers in Table 1. [2]
<ul style="list-style-type: none"><li>Assuming the SS of rail services remains constant, the greater population in UK could lead to an increase in demand for UK rail service → shortage and upward pressure on rail fares → annual rail fares increased</li><li>The increase in demand for UK rail services also saw an increase in the number of annual passenger number</li></ul> OR <ul style="list-style-type: none"><li>Greater population could lead to an increase in DD.</li><li>At the same time, there could be an increase in the frequency of rail services. <u>OR</u> At the same time, privatisation might have led to rail companies reducing the SS of rail services.</li><li>Increase in DD &gt; change (increase or decrease) in SS → shortage and upward pressure on rail fares → annual rail fares increased &amp; increase in the number of annual passenger number</li></ul>	
<b>(b)</b>	With reference to Table 2, comment on whether the UK government should subsidise rail transport or bus to reduce private car usage. [4]
<p><u>Impact of subsidies on fares</u></p> <ul style="list-style-type: none"><li>If subsidy is given to the producers of public transport (rail transport or bus transport), it will lower the COP → increase the SS of public transport → surplus of public transport services → downward pressure on public transport fare → fall in public transport fare. The fall in public transport fare could prompt private car owners to switch from using private cars to cheaper substitutes such as rail or bus.</li></ul> <p><u>UK govt may want to consider subsidising rail transport</u></p> <ul style="list-style-type: none"><li>However, the XED value for car w.r.t rail (XED = 0.196) is higher than XED value for car w.r.t bus (XED = 0.116). DD for car w.r.t rail is less positive cross inelastic than DD for car w.r.t bus.</li><li>This suggests that qty dd for car is more responsive to a change in price of rail than bus. The fall in rail fare → fall in DD for car as drivers switch to rail. This fall in DD for car is likely to be more when rail fare fall compare to a fall in bus fare.</li><li>Thus to reduce car usage, govt may want to subsidise rail transport instead of bus as car users are more responsive to a fall in fares of rail than bus.</li></ul> <p><u>Comment</u></p> <ul style="list-style-type: none"><li>However, government may also want to subsidise bus fares as well.</li><li>Since the XED for car w.r.t. bus is positive, indicating that both goods are substitutes, a fall in bus fare will still prompt car users to switch to bus especially in cities/areas with the parked and ride scheme. Such scheme may further help drivers to switch from cars to bus.</li></ul> OR	

	<ul style="list-style-type: none"> <li>In addition of reducing the fares of substitutes of car, govt could also increase the cost of owning a car which may reduce the private car usage.</li> </ul>
(c)	Extract 1 explains that the UK government is considering building the High-Speed 2 (HS2) rail network to improve rail connections in the country.
(i)	Explain a possible opportunity cost that the government might incur in the building of HS2 rail network. [2]
	<ul style="list-style-type: none"> <li>Opportunity cost is the <b>value</b> of the <b>next best</b> option forgone.</li> <li>If UK government build the HS2, the government might have forgone the benefit of spending on higher education such as a making UK a more attractive place for FDI.</li> </ul>
(ii)	Discuss the factors that the government needs to consider in their decision to build the HS2 rail network. [8]
	<p><u>Introduction</u> Briefly explain the factors that government needs to consider:</p> <ul style="list-style-type: none"> <li>Cost and benefit of building the HS2</li> <li>Constraints face when building the HS2</li> </ul> <p><u>Body Paragraph 1: Benefit</u> UK government needs to consider the benefit of building the HS2 rail network.</p> <ul style="list-style-type: none"> <li>Extract 1 suggests that construction of infrastructure like HS2 could have a stronger positive effect on growth and employment than spending on consumption goods.</li> <li>Building HS2 → increase in investment in infrastructure by govt → increase in AD</li> <li>At the same time, construction of HS2 also triggered associated development (extract 1) such as investment in capital goods by construction firms → increase AD as seen in the diagram below.</li> <li>The increase in AD → increase in NY by multiple times due to the multiplier effect, assuming there is spare capacity.</li> <li>Increase in AD → increase in employment especially in a wide range of industrial sectors from the construction sector to the civil engineering and rail industries (Extract 1). This reduces the demand deficient unemployment in the country.</li> <li>Economic growth and lower unemployment could mean that higher income tax revenue collected and fewer unemployment benefits given to the citizens → reduce the government debt</li> <li>At the same time, increase spending on infrastructure for HS2 → increase in quantity of capital goods → increase the productivity such that workers could travel longer distance within a shorter time and more goods can be delivered given the time period → maximum output that UK can produce increase → this</li> </ul>

increase productive capacity of the country → increase in LRAS → prevents any potential DD-pull inflation if the country is near full capacity  
 Thus, construction of HS2 could bring about macroeconomic benefits to the country.



#### Body Paragraph 2: Comment on the benefit

- Construction of HS2 has benefit both in the short and long run.
- Such benefits, economic growth and lower unemployment, would be especially beneficial if UK is experiencing slow EG in the country. Such expansionary policy may help to prevent slow EG and rising unemployment.
- However, UK government should not just look at the benefit of HS2. Constructing such mega project will definitely incur cost. Thus, government must also consider the cost of constructing the HS2.

#### Body Paragraph 3: Cost

Construction of HS2 has significant cost and govt needs to take into consideration the cost of building HS2.

- The UK govt could incur substantial construction cost, such as compensation for disruption during the construction work being paid to residents staying near construction sites, to major expenses arising from a resulting need to expand and upgrade existing stations that are going to link to the HS2 (extract 1).
- Residents living along the proposed HS2 route will suffer from years of disruptive construction work, followed by up to 28 trains an hour screaming past their homes and villages at speeds of up to 400km/h (extract 1).  
*Note: not a MEC because UK government has compensated the residents for the disruptive construction work and pollution caused by the HS2.*
- The building and running of HS2 generates noise pollution, affecting the quality of life of the residents and increasing the stress of the residents. Housing value near the construction site and HS2 track could fall, reducing the possible wealth of the residents.

Thus construction of HS2 will have substantial cost on both the government and residents living near the construction site.

#### Body Paragraph 4: Comment on the cost

- The cost of building HS2 may be substantial given the scale of the project. However, government has to consider both the cost and benefit before deciding on the project.
- While the HS2 requires substantial financial cost, if the construction and operation of HS2 generates sufficient revenue for the government so much so that the revenue can cover the cost, government can consider constructing the HS2 rail network.
- However, the cost and benefits are estimations provided by the government and economic agency such as IEA (Extract 1). The accuracy of such estimation is restricted by the available information that government and economic agency have. Furthermore, the information gathered and presented by the respective organisations could be biased, deliberately skewed in favour of their argument.
- Thus, the cost and benefit may be under/overestimated. Therefore, when government makes decision, the government needs to take into account the constraints which include the availability and accuracy of data.

#### Body Paragraph 5: Constraints

Government needs to take into consideration the possible constraints they might face when deciding on the HS2 rail network.

- Extract 1 suggests that estimation of the cost and benefits may not be accurate and that government may have under-estimated the cost while over-estimating the benefits. Thus, government needs to recognise that the availability and accuracy of information may affect their decision-making.
- Added to the lack of information and accuracy of information, the limited funds might restrict or constrain the decision to build HS2.
- UK has rising government debt and this might prevent government from implementing the HS2. The high and rising government debt would also mean that UK government will face greater difficulty in borrowing funds for their spending and this would further restrict access to funds to build HS2.

Thus, government will also have to consider the constraints they face when deciding whether to build HS2.

#### Conclusion

- Government will have to consider the cost and benefit of building the HS2 as well as the constraints they face.
- If the cost is within the constraints, the government can consider the HS2 project. For example, if the cost of building the HS2 is within their limited budget, the UK government could consider the project.
- And if there is net benefit, where the cost is at least equal or less than the benefit, the UK government should build the HS2 rail network.
- UK government also need to consider not just current cost and benefit, but also future cost and benefit. If future revenue could more than pay off the cost of

constructing the HS2 and repay any loans made to finance the project, then the government might want to consider constructing the HS2.

Level	Descriptor	Marks
L2	<ul style="list-style-type: none"> <li>Well-developed analysis of the factors government needs to consider in their decision to build the HS2 rail network.</li> <li>Good use of evidence from the extract.</li> </ul>	4 – 6
L1	<ul style="list-style-type: none"> <li>Superficial analysis of the factors government needs to consider in their decision to build the HS2 rail network.</li> <li>No evidence or inadequate evidences cited or evidence cited incidentally.</li> </ul>	1 – 3
E	<ul style="list-style-type: none"> <li>Make a reasoned judgement on UK decision to build the HS2 rail network.</li> </ul>	1 – 2

(d) Explain whether the UK rail ticketing strategies could be considered an example of price discrimination. [4]

Price discrimination is the practice of firm charging a **different price** for the **same product** when the price difference cannot be explained by differences in costs of production.

### Example of price discrimination

#### Advance tickets

- Travellers who are buying 'Advance' tickets are planning ahead. This group of travellers has the option of buying early ('Advance' tickets) or buying just before boarding the rail. They could buy 'Anytime' tick if they want to travel anytime or buy 'Off-peak' tickets if they are travelling during off-peak hours.
- Given the various options available, travellers have many substitutes to choose from. Thus, their **demand is more price elastic** compare to other groups of traveller → 'Advance' travellers are charge a lower price.
- It is also possible to identify the 'Advance' travellers as this group of travellers are buying their tickets in advance (up to the day before the day of travel).
- Resale of 'Advance' tickets is not possible as the ticket would include the name, time and destination of travel. Thus, it is impossible for travellers to buy 'Advance' ticket at lower price and sell it at higher price to another traveller.
- There is no different COP as the 'Advance' travellers will be enjoying the same rail service as other group of travellers such as travellers travelling using the 'Anytime' tickets.

OR

#### Anytime tickets

- Travellers who are buying the 'Anytime' tickets could be individuals who need to travel at short notice because of sudden emergency or a business meeting called at the last minute. Such last-minute travellers have a more price inelastic demand → 'Anytime' travellers will be charged a higher price
- It is also possible to identify the 'Anytime' travellers as this group of travellers will not be buying their tickets in advance and likely to buy them at the last minute or any time of the day of their travel.
- Resale of 'Advance' tickets is not possible as the ticket would include the name, time and destination of travel.
- There is no different COP as the 'Anytime' travellers will be enjoying the same rail service as other group of travellers such as travellers travelling on 'Advance' tickets.

**Not an example of price discrimination**

Higher price for indirect route ticket

- Ticket prices for indirect route is higher and this could be attributed to the higher COP
- Indirect route requires travellers to switch to another rail, with the possibility of multiple stops → thus there could be longer travelling distance and thus higher COP → higher ticket prices

OR

Higher prices for First Class Anytime ticket

- Ticket prices for First Class Anytime is higher and this could be attributed to the higher COP
- Travellers who buy first class tickets are offered additional free Wi-Fi, complementary food and drinks. There is higher COP when Wi-Fi, food and drinks are offered to the consumers. Thus, the higher COP is passed on to the consumers in the form of higher prices.

<b>(e)</b>	Discuss whether UK should renationalise or to adopt Japan's model of privatisation of its rail network. <span style="float: right;">[10]</span>
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Introduction

Briefly explain current UK's mode of privatisation

- Railway is split up along regional line
- Govt breaks up railway operations into three components: tracks, trains, and train operations. Each component is owned by different private companies.

Briefly explain the two options available for UK rail network

1. Renationalise: government to take over all the operation (tracks, trains and train operation) of UK rail network
2. Japan's model of privatisation: railway is split up along regional line and all operation (tracks, trains and train operation) is owned by private company

Body Paragraph 1: Using profit to improve services

**UK might want to consider renationalise the rail network instead of adopting Japan's model of privatisation of its rail network because it allows the UK government to keep the profit and use it to improve the quality of service**

- Under privatisation system, foreign firms could own the rights to operate the regional line. These foreign firms are actually owned by foreign governments (Extract 2).
- Since foreign governments (Extract 2) own foreign firms, UK government might as well take over the operation and renationalise the rail network instead.
- Given that foreign governments operate some regional rail network, any profit earned would likely be sent back overseas to fund their countries' government spending (Extract 3). Thus, it might be more beneficial if UK government operate the rail network and keep the profit in UK as part of their government revenue. This could reduce the outflow under the primary income balance in the current account, improving the BOP.
- If government renationalise the rail network, the profit earned from rail operation could be reinvested in the rail transport to ensure quality rail services. This is unlike privatisation where private rail operators may not invest in new trains as seen in Extract 2 that about a third of passengers are standing during rush-hour train services in London. Thus renationalisation could reduce such problem.

Thus, renationalisation of the rail network might be a better option.

Body Paragraph 2

- However, this benefit is assumed that there is profit to be earned from rail operation. Whether there is profit to be earned depends on government's management because there is a possibility that UK government may face rising cost due to complacency or lower revenue due to lower fares charged.

Body Paragraph 3: Allocative efficiency and lower prices, higher output

**UK might want to consider renationalise the rail network instead of adopting Japan's model of privatisation of its rail network because the government could charge a lower fare and produce at higher output.**

- Under Japan's model of privatisation, fares have never risen once in 31 years, except once when there was a consumption tax hike (Extract 3). It may suggest that Japan's model of privatisation is successful in keep rail fares constant over 3 decades. But it may be worthwhile to also consider the cost of providing rail services in Japan.
- There could be a possibility where cost of producing rail services is falling yet fares are constant. Over the past 31 years, technology has improved tremendously with faster and larger trains. And trains are getting more and more energy efficient → reducing the cost required to provide rail services. Furthermore, rail companies are also able to better exploit iEOS → reducing the AC as the cost is spread over a larger output.
- If cost of producing rail services is falling and yet rail fares are constant, it could suggest that private rail companies are not passing the cost saving to consumers in the form of lower price. Thus renationalisation would be a better option, as UK government could pass the cost saving to the consumers in the form of lower price.

- Furthermore, under Japan's model of privatisation, private firms would maximise profit at  $MC=MR$  and produce at output  $Q_m$ . At that output, rail fares would be  $P_m$ , which is higher than  $MC$ . Thus under the model of privatisation, firms would be allocative inefficient and charge a fare that is higher than  $MC$ , even though rail fares have not risen.
- However, should UK government choose to renationalise it, the government could adopt AC-pricing or MC-pricing.
- With MC or AC-pricing, the fare charge would be lower than the fare charged by profit maximising private firms and output would be higher than profit maximising level,  $Q_m$ .
- Should government choose MC-pricing, the government could charge fares at  $P = MC$  and produce rail services at the allocative efficient level.
- Since government's aim is not to maximise profit, they would be more willing to provide rail services to less popular areas/routes. Unlike privatisation, profit maximising rail companies may not be keen to provide rail services to these areas given that the companies could earn subnormal profit in the long run.

Thus, re-nationalisation would have been a better option than Japan's model of privatisation.

#### Body Paragraph 4

- If government aims to lower pricing by charging  $P=MC$ , the government owned rail company will be earning subnormal profit.
- Thus, government may need to subsidise the company → increase government spending → could worsen the UK government debt.
- However, lower fares would reduce inequity, ensuring that low income group has access to public transportation.

#### Body Paragraph 5: Efficiency and Prices

**UK might want to consider Japan's model of privatisation of its rail network instead of renationalisation.**

- When government renationalise the rail network, government intends to be the sole provider, with no intention of allowing new company to enter the market. Thus, the market is not contestable. Given this, government could be complacent and less likely to find the most cost efficient way of providing rail services. Thus, there is a possibility of X-inefficiency.
- Cost of producing the rail services may be higher → fares maybe higher instead.
- However, under the Japan's model of privatisation, government sold the rights to run the region railway to private companies. The market would be more contestable as new firms could win the right to operate the marker. Thus, private firms might aim to produce at the lowest cost possible → the fares would be low. This is evident in Extract 3 where it mentions that fares in Japan have never risen once in 31 years, except once when there was a consumption tax hike.

Thus, UK might want to consider Japan's model of privatisation as it could prevent X-inefficiency.

#### Body Paragraph 6:

- However, it is worthwhile to note that under Japan's model of privatisation, it could create a monopoly. If UK government decided to adopt Japan's model, UK government must ensure that the market remains contestable so that the private firms will minimise cost and pass them on to the consumers.

#### Body Paragraph 7: Innovation

**UK might want to continue with privatisation of its rail network instead of renationalisation as privatisation may bring about innovation in the rail industry.**

- Privatisation allow private companies, both domestic and foreign, to bid for the right to operate the rail services. This allows for rail companies from around the world to bring new ideas and innovation to Britain's railways (Extract 2).
- Transport companies all over the world are using big data treatment to better understand travellers travelling patterns. This helps rail companies to better plan their rail services. This could be in the form of whether to increase/decrease the train frequency.
- Thus, under the privatisation model, private companies could transfer such ideas from other countries into UK, something that may not happen if the rail service is renationalised and owned by the UK government.

Given the benefit of privatisation, government should consider privatisation instead.

#### Body Paragraph 8:

- While privatisation could bring about innovation, it really depends on the willingness of private firms to carry out the innovation. Even if firms are willing to carry out innovation, it may be at the cost to the government.
- According to Extract 3, firms are seeking subsidies from government to improve their services despite the fact that the firms are earning profit.

#### Conclusion

- Current model of privatisation is not efficient and fares are rising. Thus, there is a need for government to make changes to the existing rail industry.
- Rather than debating whether renationalisation or Japan's model of privatisation is better, it might be helpful for the UK government to first examine the problems in the UK rail industry and identify the root cause of the problems before implementing the right solutions to the problems.
- UK government might not necessary choose one of the two options proposed (renationalisation or Japan's model). UK government might instead keep the existing model of operation but implement changes that could solve the existing problems.
- For example, the rising rail fares may not necessary be a result of privatisation. It could be caused by rising COP such as rising wages and oil prices.
- It might also be worthwhile to note that under Japan's model of privatisation, the constant fares could be due to falling/stagnant cost of production. Inflation in Japan is close to zero, suggesting that COP could be stagnant and thus there is no need for the firms to increase the fares. Unlike UK, the country saw healthy inflation for the past few years, indicating rising COP. Thus, the rising fares.

- Thus, it may not be accurate to state that Japan's model is better base on the fact that Japan's rail fare has been constant for 31 years.

Level	Descriptor	Marks
L2	<ul style="list-style-type: none"> <li>• Well-developed analysis on whether UK should renationalise or to adopt Japan's model of privatisation of rail network.</li> <li>• Good comparison between renationalisation and Japan's mode of privatisation of rail network.</li> <li>• Good use of evidence from extracts to support the answer.</li> </ul>	5 – 7
L1	<ul style="list-style-type: none"> <li>• Superficial analysis whether UK should renationalise or to adopt Japan's model of privatisation of rail network.</li> <li>• Weak/no attempt at comparison between renationalisation and Japan's mode of privatisation of rail network.</li> <li>• No evidence or inadequate evidences cited or evidence cited incidentally</li> </ul>	1 – 4
E2	<ul style="list-style-type: none"> <li>• Judgement is based on analysis that reaches a conclusion based upon the analysis offered.</li> </ul>	2 – 3
E1	<ul style="list-style-type: none"> <li>• Judgement is may not be supported by analysis.</li> </ul>	1

**ACJC H2 Econs Paper 1 Question 2 – Answer scheme**

<b>(a)</b>	Explain the economic relationship between steel and automobiles.	[2]
<p>Demand for steel is a derived demand for the production of automobiles. Or steel is a factor of production to produce automobile</p> <p>Direct relationship – increase in demand for automobiles will lead to an increase in demand for steel</p>		
<b>(b)</b>	Using a diagram, explain how rising wage costs in the US steel industry led to increasing steel imports.	[4]
<p>Rising wages means rising labour cost in the US, raising the cost of production in the steel industry, thereby lowering the supply of domestically produced steel.</p> <div style="text-align: center;"> </div> <p>From figure 1, at the world price <math>P_w</math>, the domestic quantity demanded is at <math>Q_2</math>. This is met by domestic quantity supplied of <math>0Q_1</math> and import of <math>Q_1Q_2</math>.</p> <p>Rising wage costs increase steel production costs, causing domestic steel producers to cut down production, thereby shifting the domestic supply curve to the left from <math>S_{dom1}</math> to <math>S_{dom2}</math>. With the cut down in domestic supply from <math>0Q_1</math> to <math>0Q_3</math>, imported steel now increases from <math>Q_1Q_2</math> to <math>Q_3Q_2</math></p>		
<b>(c)</b>	Consider whether the US government should continue to pursue protectionistic trade policies to save the steel industry.	[8]

### Approach:

- Why US has been adopting protectionist trade policies to protect its steel industry since before 1960s (Extract 4)
- Why, to save the US steel industry, protectionist trade policy on steel industry should be limited

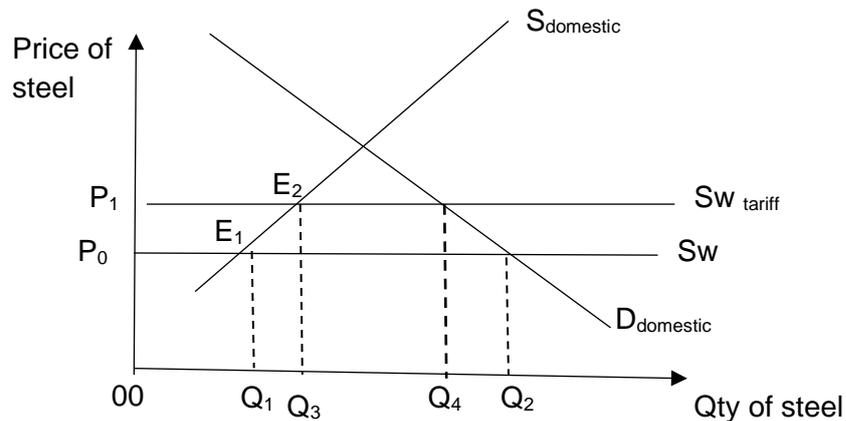
### Suggested answer:

The US has been adopting trade restriction since President Johnson's time in the 1960s to protect the country's steel industry, which was deemed to be very important to the economy, ensuring employment and higher income among the steel workers.

### Why US has relied on protectionist policies in the steel industry

#### 1) Protect the domestic steel workers

Protecting the industry from strong competition from cheaper import will ensure continued production of steel hence maintain high employment in the industry and ensuring high income for the steel workers and shareholders.



From diagram above, import tariff on steel will increase price of steel in the US from  $P_0$  to  $P_1$ , enabling domestic suppliers to increase quantity supplied from  $Q_1$  to  $Q_3$ , hence increasing their revenue from  $OP_1E_1Q_1$  to  $OP_2E_2Q_3$ .

#### 2) Inability to compete with cheaper steel imports

The cheap steel imports are viewed as unfair competition, especially from countries like China which has much lower labour costs. Tariffs, such as anti-dumping tariffs, are imposed to protect the domestic steel industry from their trading partners' unfair trade practices such as currency manipulation and excessive subsidies to their producers.

### Reasons why government should limit its protectionist trade policy on steel in order to save the steel industry

#### 1) Complacency has stifled efficiency in the industry

The long-term protection of the steel industry has led to **complacency in the industry**. Allowing for rising labour costs and hence rising price of domestically produced steel to ensure the high income in the industry has not helped in providing industry players with the incentive to innovate or increase technology in the industry. This has caused the steel industry to lag behind other countries

such as China in investing in casting facilities and technology development in the steel industry (Extract 1), hence its inability to match China's productivity and capacity to increase production at low costs. This has caused the US to lose its competitive advantage in steel both in the global market and in its own domestic market.

## 2) Loss of consumer welfare

Also, protecting the steel industry would harm its consumers, such as the automakers. The high steel prices, and lack of access to better quality imported steel, can lead to **higher costs for the automakers and other industries that require steel**, and hence reduce their competitiveness in the global market. The decline of these industries would lead to further decline in the steel industry.

### Evaluation

- The government has to **weigh the benefits of protectionist policy on steel industry against the long-run costs** of the policy on the steel industry as well as the costs incurred on other related industries.
- Protectionist will not allow the government to revitalize the industry

However, the protectionist policies have been adopted for too long, allowing complacency to be entrenched within the industry, causing innovation and technology development within the industry to lag behind other countries. Hence there is a **need to revitalise the industry** to improve its competitive advantage and regain its comparative advantage.

  - There is a **need to increase investment in the steel industry** to improve its infrastructure and technology development in order to increase productivity and productive capacity, hence lower production cost.
  - However, such supply-side policies will **require large funding and involves time-lag**.
  - **Protectionist trade policies should be a short-term measure** to protect the steel industry from strong competition to give it time to develop, improve and gain back its comparative advantage.
- **A better policy to save the steel industry is to increase competition in the industry** and reduce the level of protection, so that firms are more motivated to innovate and move towards more cost efficient production methods to be able to compete effectively against their foreign competitors.
  - Taking away the protection that has been going on for a long time **can lead to large resistance among the steel producers and the workers**. But to save the industry and bring it back to its former glory, reducing protectionist policies has to be done.
  - To reduce the protectionist policies, **the government will have to accept the fall in employment and closing down of some unprofitable and inefficient firms** in the steel industry. However, the negative impact opening the industry to competition will be only short-term.

Level	Description	Marks
L2	<ul style="list-style-type: none"> <li>• Sound analysis of the pros and cons of pursuing protectionist policy to save the US steel industry, using relevant economic concepts</li> <li>• Use of relevant case information to support analysis</li> </ul>	4-6
L1	<p>Answer that describes the pros and cons of protectionist policies without addressing whether government should pursue protectionist policy to save the steel industry</p> <p>Or</p> <p>Answers that attempts at considering the pros and cons of pursuing protectionist policy to save the steel industry, but superficially explained</p> <ul style="list-style-type: none"> <li>• Contains major conceptual errors</li> </ul>	1-3
Evaluation		
E2	<p>Evaluative judgment that reaches to a conclusion based on consideration of the analysis.</p> <p>E.g. An answer that comes to a conclusion that weigh the benefits and costs of protectionist policies in saving the US steel industry</p>	2
E1	<p>Superficial/simplistic evaluation</p> <p>Or</p> <p>Evaluative judgment without explanation or elaboration</p>	1
<b>(d)</b>	(i)	Describe the change in Vietnam's trade balance between 2013 and 2017. [2]
		<p>Vietnam's trade balance has worsened Its trade <b>surplus worsened into a rising deficit in between 2015-2017</b></p> <p><b>Note:</b> Students need to calculate the Trade Balance (Exports – Imports) in order to answer this question</p>
	(ii)	Using the information given, explain how free trade agreements could account for Vietnam's economic growth. [4]
		<p>Free trade agreements are treaties between countries to reduce trade barriers and promote trade and investments between countries.</p> <p>Vietnam's rising economic growth from 5.4% in 2013 to 6.8% in 2017 (Figure 1), one of the fastest growth in southeast Asia (Extract 7 Para 2), can be attributed to its free trade agreements despite the worsening trade balance during the same period.</p> <p>The FTAs have brought in large amounts of foreign investments and rising exports into the country (Extract 7 Para 1). This is reflected in the rising Gross Fixed</p>

	<p>Capital formation and exports in Figure 4. The Large investments from China have flowed into Vietnam, creating jobs and developing its manufacturing industries (Extract 6 Para 3). These increase in I and X leads to rising AD → increase production, employment and national output → increase economic growth.</p> <p>The influx of foreign investments and import of technology and capital goods as well as the increasing imported resources (Extract 7 Para 2) have led to the expansion of the country's productive capacity, increasing its LRAS → increase economic growth</p>	
<b>(e)</b>	Discuss the policy options for the Vietnamese government to manage her budget deficit whilst sustaining her economic growth.	[10]
<p><b>Approach:</b></p> <ul style="list-style-type: none"> <li>• State the context <ul style="list-style-type: none"> <li>- Vietnam has high and rising economic growth and a healthy albeit rising inflation rate.</li> <li>- Vietnam government's large and rising budget deficit had led to increasing public debt</li> </ul> </li> <li>• Explain, analyse and evaluate the policy options to manage government budget deficit whilst sustaining economic growth</li> </ul> <p><b>Introduction:</b></p> <p>Vietnam's high economic growth has outpaced other countries in the region, Vietnam's government has been having budget deficit is also among the highest in the Asia. The high budget deficit has added to its high public debt that has already exceeded 63% of its GDP. Therefore need measures to lower its budget deficit. (extract 4)</p> <p>Government budget deficit is when government spending exceeds government revenue.</p> <p><b>Body:</b></p> <p><b>Policy 1: Reduce government spending without causing significant fall in AD</b></p> <ul style="list-style-type: none"> <li>• Cutting down on government spending will <b>reduce its budget deficit</b>.</li> <li>• While reducing government budget deficit can lower AD and hence contract economic growth, <ul style="list-style-type: none"> <li>○ The fall in AD will <b>slows down the rising inflation rate</b>, hence prevent economic overheating</li> </ul> <p>Given Vietnam's high and rising economic growth and its inflation rate creeping to above 3% in recent years (figure 1), reducing government spending will release the country's resources for the private sector. This will reduce the strain on the country's resources, hence slows down rising cost of resources.</p> <p>Keeping inflation rate low will ensure price stability, hence further improve business confidence and attract more investments into the country</p> <li>○ Figure 1 shows that <b>government's spending has a much smaller proportion the country's GDP compared to the other components of GDP.</b></li> </li></ul>		

Furthermore, Table 4 shows that the **country's rising economic growth is largely driven by the much larger investment, household expenditure and export**

- Hence cutting down on government spending will not have significant impact on economic growth
- **Reducing government spending seems to be a better option than continuously increasing taxes.**
  - Further increasing taxes will turn off investors and lower household spending which will lower the country's AD.
  - Raising indirect taxes will increase costs, escalating the rising inflation rate and lower the country's export competitiveness.

Evaluation:

- **However, the cut in government spending cannot be significant because government will need to spend** on improving not just infrastructure such as roads and other forms on telecommunications but also develop the country's legal and banking sectors. The country's poor infrastructure is beginning to cause investors to lose business confidence (Extract 7 Para 3). Therefore, **there is an urgent need to improve the country's infrastructure** to retain both foreign and domestic investments in the country.
- Hence cutting down government spending in the midst of developing the economy is not an easy task, but concerted effort and discipline is needed to reduce its budget deficit.

**Policy 2: Privatization / selling of government-owned companies**

- The government has already sold off some of its state-owned companies, including the oil and gas firm PetroVietnam. **The proceeds from the sale of more state-owned firms will not only add more to its revenue but also an increase in the government's source of tax revenue** annually.
- Selling off these inefficiently run state-owned firms will also **relieve the government from the burden of having to bear the high operating costs** of these firms.
- Sale of state-owned firms will **garner for domestic and international investment** into the country. Privatisation of firms can be viewed by investors as the precedence towards liberalization of the industries, promoting competition and attracting more investments into the country.
- Allowing **these state-owned firms to be run by the profit-driven private sector would transform them to be more efficient.** The private firms would be more motivated to stream-line the production methods, reduce wastage to lower costs and even increase investment on innovate technology development, turn the inefficient firms into more productive and profitable ones. The government will then gain more tax revenue from these firms.

Evaluation:

- Government **loses control over production of essential products such as oil and gas.** Hence, there is a need to put in place legislation on these firms to ensure consumer welfare is protected.

- The private sector’s restructuring of these inefficient previously state-run firms may take a long time and very likely would **require large financial help from the government in the form of subsidies and grants, especially the domestic firms.**
- Also, turning these inefficient previously state-run firms into profitable private companies will take a long time. Therefore **it will be a few years before the government can reap the much needed higher tax revenue** from these firms.
- Privatisation of firms to encourage competition in the industries will require an efficient infrastructure and confidence in the country’s banking sector. Hence **there is a need for the government to spend on improving the country’s weak infrastructure** especially the banking sector.

**Synthesis 1:**

- There is a need **for the government to be more reliant on private-sector growth** for it to reduce its budget deficit and yet sustain the country’s high economic growth.
  - Both the above policies are needed for Vietnam to move towards the much needed private –sector growth to remain robust and hence sustain economic growth.
  - However, moving from government-led growth to private-sector led growth (i.e. reducing government spending and greater dependence on private sector to achieve higher growth) will lead to **loss of government control over the economy** and greater **economic vulnerability to external factors**, since much of these private sector investments are foreign investments. Although there has been a large increase in Vietnam’s export (figure 1), it is to be noted that Import has been rising at a faster rate than export.
  - To counter this vulnerability, there is a need to increase domestic investment. Government spending will be needed to promote/help develop the domestic firms.
- For both policies to be effective, there is a **need for the government to improve its weak infrastructure**, particularly its banking sector.
  - Hence government spending is needed to build and strengthen the country’s infrastructure, especially its banking sector to support its policies.
  - Government **needs to ensure that these government spending are short-term** with the aim to reap higher government revenue in the long run.
  - Concerted effort has to be made that increase in government spending to build its infrastructure **does not further worsen its budget deficit.**

Level	Description	Marks
L2	<ul style="list-style-type: none"> <li>● Answers that provide varying policies addressing both budget deficit and sustaining high economic growth</li> <li>● Use of relevant economic concepts</li> <li>● Use of relevant case information</li> </ul> <p>Max 5 marks for answer that discuss only 1 policy</p>	5-7

L1	<ul style="list-style-type: none"> <li>Answers that provide superficial and explanation of policies to reduce government budget deficit, with little explanation on “sustaining economic growth”</li> </ul> <p>Or</p> <p>Answers that provide policies that address either budget deficit or sustaining economic growth.</p> <ul style="list-style-type: none"> <li>Major conceptual errors</li> </ul>	1-4
Evaluation		
E2	<ul style="list-style-type: none"> <li>Evaluative judgment that reaches a conclusion based on the analysis offered.</li> </ul> <p>E.g. considers how high economic growth can still be sustained through reduction in government budget deficit.</p> <p>Or considers the effectiveness of the policies in reducing government budget deficit and whilst sustain the high economic growth.</p> <ul style="list-style-type: none"> <li>Discussion of policies is in the context achieving both objectives</li> </ul>	2-3
E1	<p>Superficial/simplistic evaluation</p> <p>Or</p> <p>Evaluative judgment without explanation or elaboration</p>	1

[Total: 30 Marks]

**ANGLO-CHINESE JUNIOR COLLEGE**  
**2019 JC2 PRELIMINARY EXAMINATIONS**



**ECONOMICS**

**9757/02**

**Higher 2**

2 September 2019

Paper 2: Essay Questions

2 hours 15 minutes

Additional materials: Answer paper

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**READ THESE INSTRUCTIONS FIRST**

Write your index number and name on all the work you hand in.

Write in dark blue or black ink pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid / tape.

Begin each question on a **fresh** sheet of paper.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

At the end of the examination, fasten your answers for **each** question **separately** using the cover sheets provided.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **3** printed pages (excluding the cover pages).  
Please check that your question paper is complete.

Answer **three** questions in total.

### Section A

**One or two** of your three chosen questions must be from this section.

- 1** Global rice prices are expected to increase sharply by 2050 due to factors ranging from a rise in world consumption, greater use of feed rice for animal feeding, to falling crop yield levels in major rice-producing countries. With Singapore importing most of its rice from Thailand and Vietnam, concerns over long-term food security have prompted the creation of the country's first and only rice variety – Temasek Rice – in 2018.

Explain why global rice prices are expected to increase sharply and discuss the policies that the Singapore government can adopt to keep domestic rice prices stable. [25]

- 2** Amidst the liberalisation process of Singapore's retail electricity market, five licenced retailers have exited the market. There are now 13 firms supplying electricity in the residential retail market, once monopolised by Singapore Powers.

Source: The Business Times, 13 March 2019.

**(a)** Explain what determines whether a firm should exit the market in the face of strong competition from other firms. [10]

**(b)** Discuss whether market liberalization is always the solution to misallocation of resources caused by a monopolistic firm. [15]

- 3** According to Zero Waste SG, a non-governmental organization, the government has introduced a few campaigns to encourage people to use less single-use plastic bags. If it is just voluntary and encouragement, there is going to be hardly any impact. The group called on the government to do more to tackle the chronic plastic over-use problem.

Source: Channel NewsAsia, March 2016

**(a)** Explain how rational decision-making by the government may result in their intervention in the market for single-use plastic bags. [10]

**(b)** Discuss whether the Singapore government should implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags. [15]

**Section B**

**One or two** of your three chosen questions must be from this section.

- 4** After years of surging foreign manpower growth, the Singapore government moved to tighten the labour market in 2009 as part of its efforts to reduce reliance on low-skilled labour to encourage innovation and automation, especially among small and medium enterprises.

In 2017, the Singapore economy grew 3.5%, more than double the initial forecast.

Source: The Business Times, 5 February 2018

- (a)** Explain the factors that are likely to contribute to Singapore's actual and potential economic growth. [10]
- (b)** Discuss the impact of tightening foreign labour supply on living standards in Singapore. [15]
- 5** A stronger domestic growth outlook, coupled with a possible Goods and Services Tax (GST) hike, may accelerate inflationary expectations and warrant the Monetary Authority of Singapore to potentially tweak its currently neutral stance to a slight appreciation. While global growth prospects are brightening, there is still considerable uncertainty about inflation due to subdued oil prices.

Source: Channel NewsAsia, 14 February 2018

- (a)** Explain the factors that the Singapore government needs to consider in deciding whether to change its monetary policy stance to a slight appreciation. [10]
- (b)** Discuss whether failure to achieve price stability in Singapore is more likely to be caused by domestic or international factors. [15]
- 6** Millions around the globe may have taken to the streets in recent years to protest against the impact of globalisation on their jobs and communities - and this backlash is likely to keep growing.

Source: BBC, 1 February 2017

In view of the macroeconomic challenges arising from rapid globalisation, discuss the various policy approaches different countries could adopt to manage these challenges. [25]

## Suggested Answers to ACJC 2019 H2 Economics Essay Question 1

Global rice prices are expected to increase sharply by 2050 due to factors ranging from a rise in world consumption, greater use of feed rice for animal feeding, to falling crop yield levels in major rice-producing countries. With Singapore importing most of its rice from Thailand and Vietnam, concerns over long-term food security have prompted the creation of the country's first and only rice variety – Temasek Rice – in 2018.

Explain why global rice prices are expected to increase sharply and discuss the policies that the Singapore government can adopt to keep domestic rice prices stable. [25]

### Question Approach

- Explanation of both demand and supply factors leading to a sharp rise in global rice prices, with reference to the preamble provided, economic concepts learned (such as PED and PES) and contextual knowledge where appropriate.
- Discussion of policies that the Singapore government can use to keep domestic rice prices stable, contextualised to the Singapore context.

### Introduction

- In any market, the price of the good is determined by the interaction of demand and supply forces. At the market equilibrium price, the quantity demanded is exactly the same as the quantity supplied, suggesting that there is neither surplus nor shortage in the market.
- The increase in global rice prices can be explained by an increase in global rice demand coupled with a decrease in global rice supply.
- Given that rice is a necessity, its price inelastic demand would cause global rice prices to increase sharply when there is a decrease in global rice supply.
- In addition, with rice having a price inelastic supply due to its long gestation period, any increase in global rice demand will cause global rice prices to increase sharply.
- To keep domestic rice prices stable, the Singapore government can adopt these policies:
  - Stockpiling of imported rice
  - Expanding domestic rice supply sources
  - Maintaining a modest and gradual appreciation of the Singapore dollar

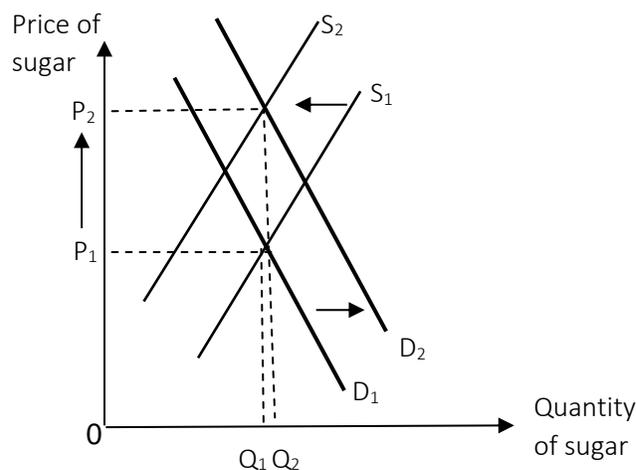
### 1. Explain demand factors contributing to the sharp increase in global rice prices.

- As mentioned in the preamble, global rice demand has risen due to an increase in world consumption, possibly caused by an **increase in world population size or income**. With rice being a normal good, an increase in household income would cause consumers to demand for more rice. This is particularly true in large emerging economies such as China and India where both purchasing power and population size have been rising in recent years.
- **Demand for rice is price inelastic as it is a necessity required for survival and a staple food for most Asians.** Any increase in price due to changes in supply will therefore only bring about a less than proportionate decrease in quantity demanded, ceteris paribus. To clear the shortage at the original equilibrium price, global rice prices will end up rising sharply.

## 2. Explain supply factors contributing to the sharp increase in global rice prices.

- As mentioned in the preamble, there has been a **fall in crop yields** in major crop-producing countries. This could be due to factors such as poor weather conditions affecting harvest and falling land productivity.
- When rice-producing countries impose an **export ban** due to domestic shortages (e.g. Thailand), world supply will also decrease accordingly,
- **With all agricultural food items requiring time to grow, the supply of rice is price inelastic** as rice producers are not able to increase rice production immediately in response to an increase in price caused by an increase in demand. This means that an increase in price will only cause quantity supplied to increase less than proportionately, ceteris paribus. Hence, global rice prices will end up rising sharply.

Figure 1: Global Rice Market



## 3. Explain the combined impact of supply and demand shocks on global rice prices

- The increase in global rice demand (shown by the rightward shift of the demand curve from  $D_1$  to  $D_2$ ) coupled with price inelastic supply, as well as the decrease in global rice supply (shown by the leftward shift of the supply curve from  $S_1$  to  $S_2$ ) coupled with price inelastic demand, will cause a **huge shortage** at  $P_1$ , hence exerting strong upward pressure on price, eventually leading to a sharp increase in global rice prices from  $P_1$  to  $P_2$  while equilibrium quantity rises minimally from  $Q_1$  to  $Q_2$ .

## 4. The Singapore government should continue to stockpile imported rice as a buffer against short-term rice shortages:

- Singapore currently stockpiles a three-month supply of rice by requiring rice importers to import a minimum of 50 tonnes every month and to maintain two months' worth of imports in government warehouses for up to a year.

- This policy ensures that there can be an increase in the supply of rice in the market during times of short-term rice shortages, thus effectively stabilising domestic rice prices until the stockpiled rice supply runs out.
- **However, stockpiling of rice is subjected to the availability of land required for the building of warehouses, trade policies of rice-exporting countries (e.g. they may impose an export ban), and excessive stockpiling can lead to losses from spoilage.** For instance, if there is a global shortage of rice due to poor weather conditions, rice-exporting countries may limit rice exports to ensure self-sufficiency, hence reducing the amount available for Singapore to import for consumption and stock-piling purposes.
- **In addition, there is a concern that the stockpiled rice may eventually run low, causing rice shortages to return. In view of this, stockpiling is at best a short-term measure.**
- **More importantly, stockpiling does not address Singapore's continued exposure to fluctuations in global rice prices due to a lack of self-sustainability.**

**5. In the event that stockpiling of imported rice runs low, the Singapore government can use the strength of the Singapore dollar (SGD) to reduce the extent of imported inflation when importing rice from overseas.**

- Being a small and import-dependent economy, Singapore is a price-taker in global markets of goods and services. This means that Singapore is not able to influence world prices and can only take world prices as given. Rising global rice prices will thus eventually pass through to domestic consumers via higher import prices paid by rice importing firms.
- Maintaining a modest and gradual appreciation of the SGD can help to reduce the extent of domestic rice prices rising due to the increase in global rice prices.
- Unlike a price ceiling policy, modest and gradual appreciation will not lead to rice shortages as the domestic rice market continues to operate without distortions.
- **However, if rice-exporting countries were to significantly reduce their export quantity due to supply disruptions, the modest and gradual appreciation of the SGD might not be sufficient to act as a buffer against the sharply rising global rice prices.**
- In addition, whether or not the SGD can be appreciated is dependent on the economic conditions and extent of inflationary pressures faced by the country. **If there are downside risks to the country's economic growth coupled with weakening inflationary pressures, the Monetary Authority of Singapore will choose to adopt zero appreciation,** where the currency is allowed to depreciate, instead of a modest and gradual appreciation, despite rising global rice prices. This is because continuation of the modest and gradual appreciation policy will decrease the country's export competitiveness.
- **In view of the constraints faced when adopting the modest and gradual appreciation policy, the government should explore supply-side policies that can help to address both short-term and long-term rice shortages.**

**6. As a long-term approach, Singapore should explore domestic production of rice to enhance the country's ability at mitigating changes in global rice prices.**

- **In view of the vulnerabilities caused by Singapore's reliance on rice imports, it is important for the government to look into how Research & Development (R&D) can be used to develop domestic rice varieties.**
- Encouragement of R&D can be done via the government giving **subsidies** to absorb part of the high R&D costs incurred or by promoting **public-private partnerships** among local agricultural firms.
- In 2018, scientists at the Temasek Life Sciences Laboratory have successfully developed Temasek Rice, an organic and whole grain rice variety that can help contribute to longer-term food security in Singapore, after 8 long years of R&D work.
- **However, not only is a long time period required for R&D to take effect, substantial financial resources are also needed by the government to subsidise these R&D efforts.** Faced with the need to support economic restructuring and a rapidly ageing population, the Singapore government may not have sufficient tax revenue to channel into the R&D of domestic rice varieties.
- **In view of these constraints, the government's fastest policy against external price fluctuations is actually its exchange rate policy of maintaining a modest and gradual appreciation of the Singapore dollar.**

### **Synthesis**

- In conclusion, there are several policies that the Singapore government can undertake to stabilise domestic rice prices. However, not all policies are equally feasible and effective.
- As it is not feasible to reduce the domestic demand for rice given that it is a necessity, implementing supply-side policies is necessary and should be urgently looked into to ensure that the country can address rice shortages when they happen.
- With poor weather conditions expected to worsen in the future, the vulnerabilities faced by farmers in rice-exporting countries suggest that continuous dependence on imported rice will only expose Singapore to greater price fluctuations in the future.
- Thus, R&D should be poured into the creation of rice varieties that can withstand extremely dry and weather for extended periods of time. R&D can also help to increase crop yield and enhance resistance against diseases.
- Although Singapore does not have favourable rice-growing conditions domestically, technological advances in the agricultural field can help local agricultural firms to grow crops using methods such as vertical farming, therefore successfully overcoming the geographical constraints faced.
- All in all, the Singapore government should prioritize supply-side policies, continue to adopt a modest and gradual appreciation of the SGD alongside stockpiling of imported rice.

<b>Knowledge, Understanding, Application and Analysis</b>		
<i>Level</i>	<i>Descriptors</i>	<i>Marks</i>
High L3	<ul style="list-style-type: none"> <li>• Address both parts of the question</li> <li>• Clear, accurate and comprehensive use of demand and supply analysis (including elasticity concepts) in explaining the sharp rise in global rice prices</li> <li>• Policy discussion is conceptually sound and developed, with consideration of the limitations and constraints faced by the Singapore government in adopting the various policies</li> <li>• Well-substantiated by examples that are contextualized to Singapore</li> </ul>	18 – 20
Low L3	<ul style="list-style-type: none"> <li>• Addresses both parts of the question</li> <li>• Clear, accurate and comprehensive use of demand and supply analysis (including elasticity concepts) in explaining the sharp rise in global rice prices</li> <li>• Policy discussion is conceptually sound as a whole</li> <li>• Answer may contain minor conceptual inaccuracies</li> </ul>	15 – 17
High L2	<ul style="list-style-type: none"> <li>• Addresses both parts of the question but unbalanced</li> <li>• Demand and supply analysis (may or may not include elasticity concepts) is used to explain the sharp rise in global rise prices, and is mostly clear</li> <li>• Some knowledge of the policies that the Singapore government can adopt to stabilise domestic rice prices but may not be sufficiently developed in terms of economic reasoning</li> <li>• Some attempts to use the context given</li> <li>• Answer may contain minor conceptual errors</li> </ul>	12 – 14
Low L2	<ul style="list-style-type: none"> <li>• Answer demonstrates an accurate understanding of the question and tries to address both parts but does so rather unevenly / briefly</li> <li>• Demand and supply analysis (may or may not include elasticity concepts) is used to explain the sharp rise in global rise prices, but is not very clear or accurate at times</li> <li>• Some knowledge of the policies that the Singapore government can adopt to stabilise domestic rice prices but not well-developed and may lack scope in terms of policy discussion</li> <li>• Answer may contain conceptual errors</li> </ul>	9 – 11
High L1	<ul style="list-style-type: none"> <li>• Unable to demonstrate an accurate understanding of the question</li> <li>• Points made appear incidental and does not fully address both parts of the question</li> <li>• Some knowledge and attempt in explaining the sharp rise in global rice prices using demand and supply analysis (without elasticity concepts) but very scanty knowledge of the policies that the Singapore government can adopt to stabilise domestic rice prices</li> <li>• Mere listing of points with limited use of Economic concepts</li> <li>• Answer may contain conceptual errors</li> <li>• Limited use of the context given</li> </ul>	5 – 8
Low L1	<ul style="list-style-type: none"> <li>• Unable to demonstrate an accurate understanding of the question</li> <li>• Points made are mostly incidental and do not address the question</li> <li>• Answer contains significant conceptual errors</li> <li>• Mere listing of points with no Economic concepts applied.</li> </ul>	1 – 4

<b>Evaluation</b>		
<i>Level</i>	<i>Descriptors</i>	<i>Marks</i>
E3	<ul style="list-style-type: none"> <li>• Sound use of valid evaluation criteria in examining the policies that the Singapore government can adopt</li> <li>• Providing a considered overall judgement</li> </ul>	4 – 5
E2	<ul style="list-style-type: none"> <li>• Some attempts in examining the policies that the Singapore government can adopt, with attempts of using valid evaluation criteria but may lack clarity</li> <li>• May not provide a considered overall judgement</li> </ul>	2 – 3
E1	<ul style="list-style-type: none"> <li>• Simple evaluative statements are made, but they remain largely unsubstantiated</li> </ul>	1

- 2 Amidst the liberalisation process of Singapore's retail electricity market, five licensed retailers have exited the market. There are now 13 firms supplying electricity in the residential retail market, once monopolised by Singapore Powers.

Source: The Business Times, 13 March 2019.

- (a) Explain what determines whether a firm should exit the market in the face of strong competition from other firms. [10]
- (b) Discuss whether market liberalization is always the solution to misallocation of resources caused by a monopolistic firm. [15]

- (a) Explain what determines whether a firm should exit the market in the face of strong competition from other firms. [10]

**Approach:**

- Explain strong competition – likely to have many firms on the market. Strong competition will mean each firm is faced with lower demand and price elastic demand.
- Explain condition for firm to shut down in the short run and long run.
- Note: Not necessary for students to explain using diagrams.

**Suggested answer:**

**Introduction:**

- Firm aims to maximize profit, hence will set price and output at profit maximizing level  $MR = MC$ .
- More firms in markets that produce similar products like the energy market would lead to strong market competition. In a **market with strong competition**, each of the firms in the market would have smaller market share. Hence **each firm's demand is low and price elastic**. The firms have to compete not only for consumers' demand but also for resources.
- Whether to shut down or not, depends on whether its revenue can cover its cost, either in the short-run or long run, and market outlook.

**Body:**

- 1) In the short run, firm should shut down when its Average Revenue (AR) cannot cover Average Variable Cost (AVC).

- In the **short run where there is at least 1 fixed factor**, the firm's Average Cost (AC) is made up of both Average Variable Cost (AVC) and Average Fixed Cost (AFC). For the energy retail firm, its fixed cost includes cost of operating and maintaining its power grid. Variable costs include billing and meter-reading as well as energy cost that it pays the power generator firm.
- The firm makes **normal profit when its Average Revenue is equal to its Average Cost (AR=AC)** i.e., when its average revenue can covers both its average fixed and variable costs.

- In the short run, it is possible for the firm to continue production and remain in the market even when it earns **subnormal profit where  $AR < AC$** .
  - Its decision whether to remain or leave the market will depend on whether its AR can cover its AVC.
  - Fixed cost will have to be incurred regardless whether the firm shuts down or continues production. Hence if the firm were to shut down, its loss would be the fixed cost it has to incur even without producing anything hence not earning any revenue.
  - On the other hand, continuing production and remaining in the market will provide the firm with some revenue earned. However, it also means having to incur both fixed cost and variable costs.
  - The inability of its revenue to cover its variable costs would mean that it would incur higher loss than if it were to simply shut down.

Hence the firm should shut down if its AR is less than its AVC.

## 2) In the long run, the firm should leave the market once it earns subnormal profit

- In the long run, the firm's production is not constrained by any fixed factors. Hence fixed cost is no longer a factor in its decision-making.
- The decision whether to remain or leave the market depends on whether its revenue can cover its cost. It will shut down immediately once it earns subnormal profit since it is no longer tied down to any fixed cost in the long run. It will not be burdened with any fixed costs if it were to shut down.
- **Hence in the long run, whether to remain in the market depends on the firm's ability to reap higher revenue and lower costs**
  - Increasing demand and making it more price inelastic will ensure higher revenue earned. Coupled with the ability to lower costs, the firm can definitely be ensured profit earned in order to remain in the market.
  - The larger market share gained as a result from closure of smaller non-profitable firms will enable the larger firm to earn higher revenue. Higher revenue can also be gained through the various marketing strategies such as bundling and consumer loyalty.
  - With a large market share, the firm would be able to enjoy large economies of scale such as bulk-buying electricity from power generating companies will enable. Spending on innovation and technology development will improve productivity and lower average cost.

## 3) Decision to remain and leave the market also depends on market outlook.

- For firms earning normal profit in the short-run, the decision to remain in the market in the long run depends on expected market outlook.
- Firms in a market with positive outlook, will look forward to higher demand and hence higher profit → will remain in the industry despite only normal profit earned.
- For the electricity market, for example, the rising use of electric appliances due to increasing affluence and rising population would mean higher sources of revenue for the electricity retailer. Retail electricity firms that depend on renewable energy will gain from the expected fall in cost of sources of energy such as cheaper renewable energy due to technology development.

### **Conclusion**

Even in the face of strong competition, firms aim to maximize profit and so will set its price where its  $MR=MC$ , and make sure it earns enough revenue to cover its costs. When making losses, i.e. when earning subnormal profit, it will maximize profit by minimising its loss. Hence decision on where to leave the industry will depends on whether it is able to gain the revenue to cover its AVC in the SR. and cover its AC in the long run.

Level	Description	Marks
L3	<ul style="list-style-type: none"> <li>• Clear and developed economic analysis of shut down condition showing knowledge understanding of the relevant economic concepts</li> <li>• Good use of relevant examples to illustrate the shut-down condition.</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>• Answer that is relevant to the question but undeveloped explanation of shut down condition</li> <li>• Expect some conceptual errors</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>• Some incidental valid points or Answer is mostly irrelevant or inaccurate</li> <li>• Major conceptual errors</li> </ul>	1-4

**(b) Discuss whether market liberalisation is always the solution to misallocation of resources caused by a monopolistic firm. [15]**

#### **Approach:**

- Explain what is market liberalisation policy and effect of market liberalization on the market
- Explain the misallocation of resources in a monopolistic market
- Explain and analyse why and how market liberalisation can help reduce the inefficiencies in a monopolistic market
- Evaluate the policy

#### **Introduction**

- Monopolies are known to have very high market power, making use of their high monopoly power to set high price in order to make high profit at the expense on consumer welfare.
- The lack of competition in the monopolistic market can lead to misallocation of resources and large inefficiencies in the market, including allocative, productive and dynamic inefficiencies.
- To ensure better allocation of resources and hence consumer welfare are protected, government measures are needed to reduce the monopoly powers of monopolistic firms, particularly in the case of natural monopolies in markets like telecommunications and electricity.

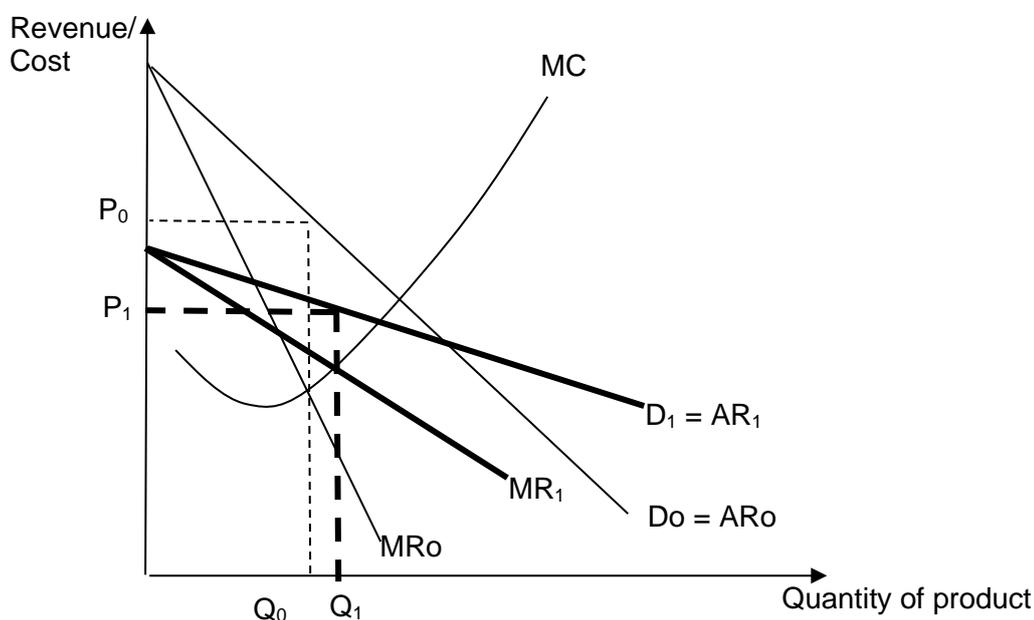
- Governments seem to see increasing competition in the industry is the way to ensure more efficient allocation of resources in the industry. One such competition policy is market liberalisation.
- **Market liberalisation is the opening up of market to greater competition. It involves the introduction of competition in the market.**

### Body

**How market liberalisation reduce misallocation of resources in the market, hence increase efficiency in the market.**

#### **1) Lower price, increase productive and allocative efficiency, lower price and increase consumer surplus**

- The entrance of more firms into the market will increase market supply, thereby lowering the market price of the product. Hence consumers enjoy larger consumer surplus and wider choices.
- More firms in the market will check the market share of the large incumbent firms such as SP in the electricity retail market, restricting their dominant market position which can damage consumer welfare.
- As seen in the figure below, Liberalisation of market will reduce market share of the incumbent firm causing its demand to be lower and more price elastic demand from  $D_0$  to  $D_1$ . This lowers the firm's price from  $P_0$  to  $P_1$ , reducing the firm's allocative inefficiency as seen in the smaller difference between price and MC at quantity  $Q_1$  compared to the initial quantity  $Q_0$ .



- Market liberalisation will exert pressure on the firms to offer their products at the lowest possible price to attract and retain their customers. This provides the firms the incentive to be more productively efficient, i.e. reduce their costs to the minimum. The firms will attempt to lower costs by reducing wastage, improving management processes and using better and cost-saving technologies.

**2) Greater competition promotes innovation and technology providing consumers with better quality products and greater choices.**

- More firms in the market increases competition will promote dynamic efficiency as firms are motivated to innovate and embark on technological development not only to increase productivity and hence cheaper production methods, but also to improve the quality of their product and provide variety of their product to cater to different tastes and needs of the different consumers.
- The fear of losing its market power will induce the incumbent firm to innovate and embark in technological development to protect its large market power and ensure its ability to reap large economies of scale.

**3) Positive unintended benefits of market liberalisation:**

- Liberalization of markets of essential products like energy and telecommunication will ensure lower prices that benefit not only the households but also firms.  
The lower electricity price, for example, lowers their business costs of manufacturing firms in other industries, increasing their market competitiveness in the global market.
- To compete better, firms will have to find ways to lower costs. Some firms in the electricity retail market, for example, may take advantage of the subsidies on clean technology. This will promote the use of clean technology, hence moving the market towards social efficiency level. Liberalisation of public transport market can lead to better quality and more affordable transport services, thereby reduce road congestion and pollution as drivers are more willing to switch to public transport.
- Capital spending by local firms adds to increase in both AD and AS in the long run, leading to long-term growth

**Limitation of liberalisation policy**

**1) Market liberalisation of natural monopoly market with high costs and large MES may worsen the inefficient allocation of resources.**

- Natural monopolies have high Marginal Efficiency Scale (MES) hence needs to have a large market to be able to enjoy the economies of scale needed to spread its cost over a large output. It is not efficient to have more than one firm in such natural monopoly market as the market size is not big enough for more than one firm be cost efficient in production. Each firm may not have enough market share to earn the revenue to cover its cost, hence will require government support to survive.
- Many firms in the market fighting for a small share of the market. May lead to duplication and wastage as firms embark in unnecessary marketing strategies and artificial production differentiation in attempt to increase market share.

**2) Breaking up a natural monopoly into pieces may not lead to the desired level of competition that can lead to better allocation of resources.**

- **Large firm's advantage over the smaller firms**
  - The larger firms with larger market share will have lower average costs due to the benefits of large economies of scale. This allows them to adopt predatory pricing, driving its competitor out of the market.
  - Also large firms the advantage of availability of funds from their supernormal profit to embark in product development and technology to improve their production method. This enable them to compete better in the market.

- **Smaller firms may not be able to survive the competition.**
  - May not have the demand size to earn the revenue to cover cost. For firms to remain in the market, there must be an ability to earn at least normal profit in the long run. The inability to have the market share to earn enough revenue to cover cost.
  - Smaller firms may have problems covering their high costs. They may not have enough fund to innovate and experience to compete effectively. Hence they may not be able to survive the competition.
- Eventually in the long run, there may be closure of smaller firms and firms unable to operate at efficient level, ending up with few large firms in the market.
- **Evaluation:**  
Dues to high costs, smaller firms may need government's help to fund their start-up costs and to compete effectively against the larger firms. However, such financial support to firms may lead to complacency and cause the competition to be less intense. Hence government support in the attempt to ensure larger number of firms in the market should not be long term.

**3) Effectiveness of the policy depends on consumers' responses to the new firms in the market.**

- The consumer loyalty of the incumbent firm may affect the effectiveness of the policy. Having long served by the incumbent firm, consumers may decide to remain consuming from the existing firm despite its higher price. In the electricity market, for example, consumers are apprehensive to switch to the new electricity supply because unsure of the quality of electricity they will be getting. Afraid of power cuts and supply of electricity in the event the firm shuts down.
- Hence the incumbent firm will remain the dominant firm with high market power despite the existence of other firms in the market.
- **Evaluation:** Need for government to provide assure consumers to gain their confidence in the new firms by providing them information on the new firms and the benefits of competition in the market.

**4) Tendency for firms with such large costs producing the almost the same product like energy to collude to gain higher profit.**

Strong competition in the market, especially in market where product differentiation is minimal like electricity, may induce firms to find subtle ways to coordinate their combined market supply to keep price high to keep their profits high. Such collusive behavior is at the expense of consumer well and efficient allocation of resources in the market.

**Synthesis:**

- Competition is essential for innovations, both by existing firms and by new entrants. Without competition, there is little incentive for firms to devote their profits towards improving the quality of their products or developing new products, services, or processes. Competition provides the opportunities to shift towards better technologies and products, and to displace inefficient players from the market, leading to increased productivity and economic growth
- Market liberalisation involves increasing the number of firms in the market. However, increasing the number of firms does not always lead to increase in the level of competition. In industries like telecommunication and public transport and electricity

where fixed cost is high, it is only feasible to have few large firms serving the market, given Singapore's small market size.

- Therefore, what is more important to allocate resources efficiently in a market is not so much to increase the number of firms in the market, but more to ensure there is competition in the market and the threat of competition among the larger firms that serves as motivation to ensure efficiency in production.
- Hence there is a need to substantiate government's liberalization policy with other policies that can promote healthy market competition to ensure that even the smaller firms would have a fair chance to survive and compete effectively in the market.

Level	Description	Marks
L3	<ul style="list-style-type: none"> <li>• Clear and developed economic analysis on market liberalization policy to reduce misallocation of resources in a monopoly market.</li> <li>• Good use of relevant economic concepts and economic reasoning</li> <li>• Good use of relevant examples</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>• Answer that explains the benefits and problems of market liberalization but limited consideration on effect on allocation of resources or efficiency.</li> <li>Or</li> <li>• Answer that looks at benefit and problems of market liberalization to reduce misallocation of resources but with limited use of relevant economic analysis</li> <li>Or</li> <li>• one-sided answer</li> <li>• Expect some conceptual errors</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>• Some incidental valid points about market liberalisation</li> <li>or</li> <li>• Answer that contains relevant economic concepts but is mostly irrelevant or inaccurate</li> <li>• Major conceptual errors</li> </ul>	1-4
<b>Evaluation</b>		
E3	<ul style="list-style-type: none"> <li>• Well-developed synthesise the pros and cons of market liberalization policy to reduce inefficient allocation of resources to arrive at a well-reasoned judgement on the liberalization policy, with good use of relevant economic explanation.</li> <li>E.g. answer that considers the benefits of market liberalization policy and suggests/recommends other policies to improve on the market competitiveness to stimulate firms to achieve efficiency thereby reduce the misallocation of resources in the market.</li> <li>Or</li> <li>• Judgement that consider the underlying assumption of market liberalization</li> <li>E.g. answer that consider the assumption that more firms in the market is necessarily more efficient than a monopoly market</li> </ul>	4-5

E2	Some attempt at evaluation or summative conclusion that is relevant to government's market liberalization policy to reduce misallocation of resources, but not elaborated or explained E.g. how liberalization policy increases competition that is needed to improve efficiency in the market.	2-3
E1	<ul style="list-style-type: none"><li>• Sweeping judgement without explanation</li></ul>	1

### Question 3

According to Zero Waste SG, a non-governmental organization, the government has introduced a few campaigns to encourage people to use less single-use plastic bags. If it is just voluntary and encouragement, there is going to be hardly any impact. The group called on the government to do more to tackle the chronic plastic over-use problem.

Source: Channel NewsAsia, March 2016

- (a) Explain how rational decision-making by the government may result in their intervention in the market for single-use plastic bags. [10]
- (b) Discuss whether the Singapore government should implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags. [15]

### Question 3(a)

#### Introduction

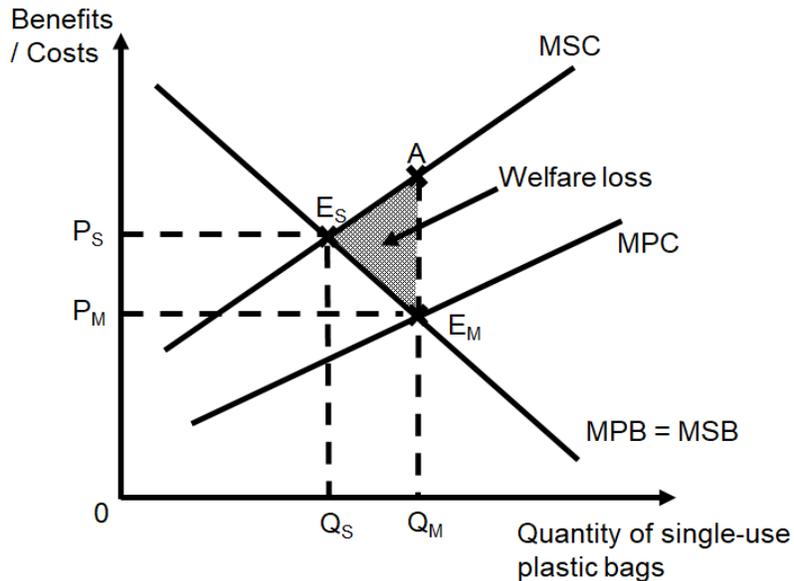
- In the decision-making, government would consider the cost and benefit to the society.
- Rational government aims to maximize society welfare where  $MSC = MSB$
- But under the free market, usage of single-use plastic bags generates MEC, leading to  $MSC > MSB$ . Thus the decision to intervene in the market in order to maximize society's welfare.

#### Body Paragraph 1: Cost and Benefit of using additional single-use plastic bags to the society

In the decision making, rational government would take into the consideration the **cost** and **benefit** of using **additional** single-use plastic bags to the society.

- MSB takes into consideration the benefits of using additional single-use plastic bags to the society. Assuming that there is no positive externality, the  $MSC = MPB$ .
- MPB: single-use plastic bags provide convenience and ensure proper hygiene for the users. For example, single-use plastic bags are used to pack raw meat. This ensures that there would not be any contamination with raw food and the single-use plastic bags could be discarded once used, without having the users having to clean the single-use plastic bags. It also allows firms much convenience as firms could easily package their products into packs for easy sale.
- In addition of looking at the benefits of using additional single-use plastic bags to the society, government has to consider the cost of using additional single-use plastic bags to the society. MSC takes into consideration the MPC to the consumer and producers as well as MEC to the third parties.
- MPC: price of single-use plastic bags
- Usage of single-use plastic bags generates negative externality. Negative externalities arise when the production or consumption of single-use plastic bags affects the well-being of a third party negatively and the affected-party does not receive any compensation for bearing the negative effect.

- MEC: usage of single-use plastic bags → plastic pollution as the plastic disintegrate into micro plastic and is digested by fishes → consume by human. Singaporeans are consuming 1 credit card worth of plastic per week (5g) → health issues and incur medical cost
- Thus rational government would take into the consideration the cost and benefit of using additional single-use plastic bags to society.



### Body Paragraph 2: Weighing the MSC and SCB to the society

Government would weigh the MSC and MSB to the society and intervenes in the market for single-use plastic bags because society's welfare is not maximize.

- In a free market, consumers would maximize their satisfaction at  $MPC = MPB$ , thus consuming  $Q_m$  units of single-use plastic bags.
- However, at  $Q_m$ ,  $MSC > MSB$ . There is net cost to the society, illustrated by  $AEm$ . Society welfare is not maximize and thus there is a need for government to intervene in the market.
- To maximize the society welfare, society would only consume  $Q_s$  unit of single-use plastic bags where  $MSC = MSB$ .
- However, in the free market, any consumption of single-use plastic bags beyond  $Q_s$  will lead to  $MSC > MPC$ , leading to welfare loss to the society. Thus there is over consumption of single-use plastic bags by  $Q_s Q_m$  under the free market.

Thus rational decision-making by the government may result in their intervention in the market for single-use plastic bags.

### Body Paragraph 3: Constraints

Given that society welfare is not maximized, there is a need to intervene in the market for single-use plastic bags. However, rational government will also have to consider if they have the ability to intervene in the market. Thus government has to consider their constraints

- Government would have to consider if they have the budget to intervene. While society's welfare may not be maximized, government may not intervene if they do not have sufficient budget to intervene.

- Government may also consider the receptivity of the public. If the public are not receptive towards the idea of reducing single-use plastic, government may be more cautious in their decision to intervene despite the welfare loss in the society.

Thus, in addition to the weighing the cost and benefit of additional usage of single-use plastic bags, government will have to consider the possible constraints they might face.

### Conclusion

Rational government decides to intervene in the market for single-use plastic bags because the cost is more than the benefit of using **additional** single-use plastic bags. Thus government intervenes in the market to maximize society welfare where  $MSB = MSC$ .

<b>Knowledge, Understanding, Application &amp; Analysis</b>		
<i>Level</i>	<i>Descriptors</i>	<i>Marks</i>
L3	<ul style="list-style-type: none"> <li>• Develop analysis of how rational government decides to intervene in the market for single-use plastic bags.</li> <li>• Answers are well-organized and coherent, with good use of examples.</li> </ul>	8 – 10
L2	<ul style="list-style-type: none"> <li>• Undeveloped explanation of how rational government decides to intervene in the market for single-use plastic bags.</li> <li>• Answers are largely supported by economic analysis</li> <li>• Theoretical answer not supported by examples</li> </ul>	5 – 7
L1	<ul style="list-style-type: none"> <li>• Points are largely irrelevant</li> <li>• Descriptive answer lacking economic analysis or contains many conceptual inaccuracies.</li> </ul>	1 – 4

### **Question 3(b)**

#### Introduction

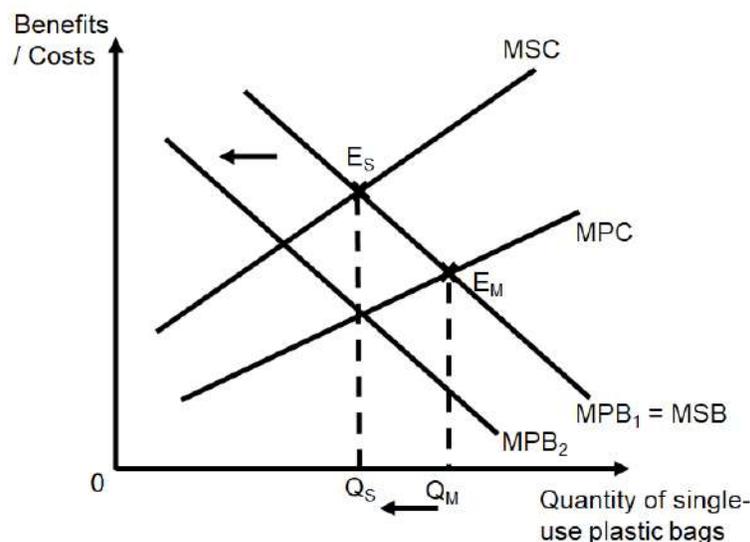
- Briefly explain the existing policy Singapore government has adopted.
- Briefly explain why existing policy is not sufficient and that more policies are needed to achieve efficient allocation of resources in the market for single-use plastic bags.
- Briefly explain addition policies that government could adopt – taxation
- Briefly explain your stand [optional]:  
Whether government should implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags depends on
  - Receptiveness of the public
  - Immediacy of the impact

**Body Paragraph 1: Current policy could achieve efficient allocation of resources in the market for single-use plastic bags**

Singapore government **may not** need to implement more policies as current policy could achieve efficient allocation of resources if the public is receptive of the current policy

- Singapore government has implement a few campaigns to encourage people to use less single-use plastic bags
- Campaigns, a form of public education, aim to educate the public on the harmful effect of using single-use plastic bags on third party. For example, government has launched a 'Year Towards Zero Waste' campaign in 2019 which aims to get public to cut down on waste such as single-use plastic and choose more sustainable products.
- In line with Singapore government's campaign of 'Year Towards Zero Waste', Supermarkets such as Cold Storage, Market Place and FairPrice have offered shoppers reward points and rebates for using reusable bags.
- Thus if the public is receptive towards such campaigns, it could effectively reduce the demand for single-use plastic bags such that MPB will shift left and intersect MPC → usage will be at the socially optimal level  $Q_s$

Thus, Singapore government could depend on existing campaigns to achieve efficient allocation of resources in the market for single-use plastic bags.



**Body Paragraph 2: Whether current policy could achieve efficient allocation of resources**

- However, whether the campaign could achieve allocation of resources depends on the receptiveness of the public.
- Current policy could only achieve efficient allocation of resources if public is receptive towards the campaign. The more receptive the public is, the more likely the market is to achieve efficient allocation of resources.
- However, not everyone is receptive towards campaigns. And for certain groups of people, single-use plastic bags maybe essential for the production process. Thus, these groups of people are unlikely to reduce usage of single-use plastic bags despite the campaigns.

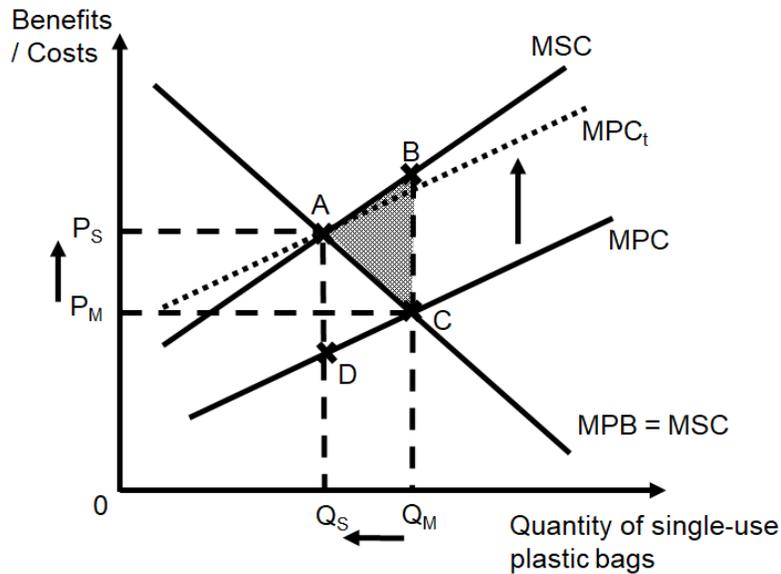
- Due to convenience or cleanliness, some may continue to use single-use plastic bags. For example, for cleanliness purpose, many are still using single-use plastic bags to place raw meat. It is also easier to obtain single-use plastic bags from the retailers rather than bring along our own biodegradable bags. Thus, it may be difficult for government to rely on only public education to convince people to reduce usage of single-use plastic bags to the socially optimal level. Government may need to implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags.

**Body Paragraph 3: Singapore government may need to implement more policies**

Since Singaporeans are given the freedom to choose whether to use single-use plastic bags, the market may not achieve efficient allocation of resources. Thus government may need to implement more policies such as taxation to reduce usage of single-use plastic bags to the socially optimal level.

- External cost is not accounted for by households and firms in their market decisions.
- Taxes placed will therefore force households and firms to internalise the externalities in their consumption and production of goods and services.
- Taxes will make them pay for the cost imposed on third parties. This will make external cost become part of the private cost.
- Initially, the market equilibrium is at C, with a market price of PM and quantity of QM.
- The amount of tax imposed is equal to the marginal external cost incurred at socially-optimum output Qs (AD).
- The tax will increase the cost of production and shift the MPC (supply curve) to the left to MPCt.
- Output will be reduced from Qm to Qs.
- The imposition of the tax has caused the market output to be reduced to coincide with the socially optimal output, thereby eliminating the welfare loss ABC.
- With the tax, producers such as NTUC Fairprice could pass on the higher cost to the consumers by charging consumers for the usage of single-use plastic bags.

Thus, Singapore government would need additional policy such as tax to achieve efficient allocation of resources.



**Body Paragraph 4: Comment on taxation**

- This policy is needed in addition to the existing campaign because of the immediacy of the results. By using the campaigns alone, consumers who are not receptive will still continue to use the single-use plastic bags. But once the tax is implemented, consumers could feel the pinch on their wallets as they are charged for using single-use plastic bags. Thus consumers who are not receptive might be more willing to reduce usage of single-use plastic bags immediately as they are charged.
- Furthermore, if left to campaigns alone, it will take a long time before the society could see a result. Thus taxation could help achieved the results quicker if implemented together.
- While Singapore may not have adopted such measures, other places such as Britain, Hong Kong and Northern Ireland have. And due to this policy, the amount of single-use plastic bags in Northern Ireland has decrease from 101.2 million in 2016 to 93.5 million in 2019, thus showing the effectiveness of the policy.
- However, taxation will drives up COP. Single-use plastic bags are used at various stages of production. Such tax would increase COP and prices of final goods and services would increase. This would have a serious impact on the consumers, especially the low income families.
- Furthermore, the demand for single-use plastic bags is price inelastic as it is a necessity for daily usage. Any attempt to increase the price of single-use plastic bags will only lead to less than proportionate decrease in the quantity demanded of single-use plastic bags. Thus a small amount of tax may not be sufficed in achieving allocative efficiency. Substantial amount of tax may be needed instead.

**Body Paragraph 5: Ban the use of single-use plastic bags**

Instead of implementing more policies together with campaigns, Singapore government may want to just focus on using one policy to achieve efficient allocation of resources. Singapore could ban the use of single-use plastic bags instead.

- The external cost of single-use plastic bags could be large enough that some governments may perceive efficient allocation of resources to be zero in the market for single-use plastic bags.
- More than 90 countries (Tanzania and New Zealand etc.) around the world have recently implemented their own bans.
- If Singapore government implements such policy, there will be no allocation of resources to the market for single-use plastic bags and single-use plastic bags will not be allowed to be used in the market.

Thus, instead of relying on multiple policies, government could instead ban the usage of single-use plastic bags and correct market failure.

**Body Paragraph 5: Comment on whether Singapore government should ban the usage of single-use plastic bags**

- It has been reported that on average, Singaporeans are consuming 1 credit card worth of plastic per week. This has serious implication on human's health.
- Banning of single-use plastic bags would provide an immediate solution to the worsening plastic pollution, which taxation and campaigns could not. Thus, banning of single-use plastic bags does have its merit.
- However, any decision by government should not made just by looking at the benefits. Government would also need to consider the possible cost and constraints of they face.
- Ban of single-use plastic bags would mean that households may have to turn to alternative substitutes such as biodegradable bags. These biodegradable bags required as much resources to produce as single-use plastic bags. Thus biodegradable bags may not be as environmentally friendly as one assumes.
- Furthermore, given that most stay in high rise building and rubbish is disposed via the rubbish chute, single-use plastic bags are needed to contain the waste, especially if it is liquid waste.
- Added to this, single-use plastic bags may be essential for hygiene purpose. Single-use plastic bags may be needed to pack raw food. If biodegradable bags are used to contain the raw food, households would have to wash it after each use, which could lead to more water wastage. If the biodegradable bags are not cleaned thoroughly, there could be food poisoning. Thus ban may be too drastic a measure in Singapore.

**Conclusion**

- Plastic pollution is worsening and there is a need for change and immediate change is needed to prevent the situation from going beyond the point of no return.
- While existing policy such as public education could change the mindset of the people, it may take time. At the same time, the public education may not reach everyone in the society and even if the public is aware of the harmful effects, there will still be individuals who might prioritise convenience over the harmful effects of single-use plastic bags.
- If left to campaigns alone, it will take a long time before the society could see a result and by then, it may be too late. Thus, plastic tax may be a quicker solution is needed.

<b>Knowledge, Understanding, Application &amp; Analysis</b>
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Level	Descriptor	Marks
L3	<ul style="list-style-type: none"> <li>Developed and balanced explanation on whether Singapore government should implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags</li> <li>Answer is well supported by economic analysis.</li> <li>Answers are well-organized and coherent, with good use of examples.</li> <li>Good use of diagrams to illustrate the answer.</li> </ul>	8 – 10
L2	<ul style="list-style-type: none"> <li>Developed but one-sided answer: Singapore government should implement more policies <u>OR</u> government should not implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags</li> <li>Undeveloped but balanced answer. Answers are supported by some economic analysis.</li> <li>Limited use of examples.</li> </ul>	5 – 7
L1	<ul style="list-style-type: none"> <li>Points are largely irrelevant</li> <li>Descriptive answer lacking economic analysis or contains many conceptual inaccuracies.</li> </ul>	1 – 4

E3	<ul style="list-style-type: none"> <li>Judgement is based on well-developed analysis that reaches a conclusion based upon the analysis offered.</li> </ul>	4 – 5
E2	<ul style="list-style-type: none"> <li>An evaluative assessment based on some analysis.</li> <li>But lacks synthesis to wrap up the arguments.</li> </ul>	2 – 3
E1	<ul style="list-style-type: none"> <li>Arguments evaluated but is superficial &amp; not based on sound evidence and principles</li> </ul>	1

4. After years of surging foreign manpower growth, the Singapore government moved to tighten the labour market in 2009 as part of its efforts to reduce reliance on low-skilled labour to encourage innovation and automation, especially among small and medium enterprises.

In 2017, the Singapore economy grew 3.5%, more than double the initial forecast.

Source: *The Business Times*, 5 February 2018

(a) Explain the factors that are likely to contribute to Singapore's actual and potential economic growth. [10]

### **Suggested approach**

- Use the conceptual framework of AD/AS analysis to explain what contributed to Singapore's actual and potential economic growth.
- Using real-world examples that is contextualized to Singapore, examine the internal and external factors that causes changes in aggregate demand and aggregate supply.

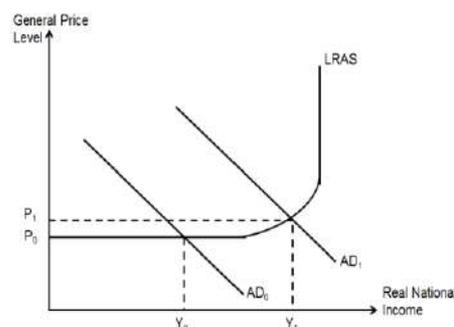
### **Introduction: Framing – unpacking actual and potential growth**

- Actual economic growth: refers to an increase in a country's real national income or GDP, and could be caused by an increase in either AD or/and AS as real national output is determined by the interaction of aggregate demand and aggregate supply forces.
- Potential economic growth: refers to an increase in a country's productive capacity, and can be illustrated by an increase in a country's LRAS, that is usually due to an increase in quality and quantity of factors of production, to ensure growth is sustained in the long-run.

### **Body:**

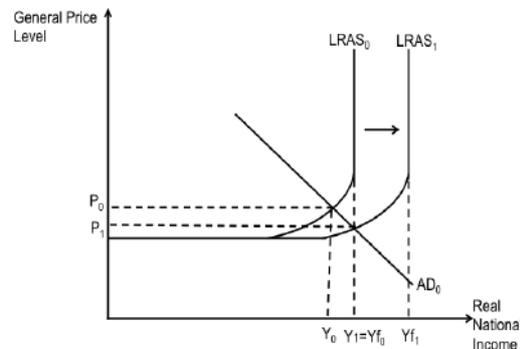
#### **A: Internal factors**

- One possible factor is an increase in consumer sentiments due to better job prospects and sound government policies e.g In recent years, Singapore sees largest rise in consumer confidence across S-E Asia in 2017. This leads to greater willingness to spend and hence leads to higher consumer spending → ↑C.
- This will lead to an increase in aggregate demand as  $AD = C + I + G + (X - M)$ . This is illustrated by the shift in AD rightwards from  $AD_0$  to  $AD_1$ .
- Diagram:



- **Explain multiplier effect:** Hence firms have to draw on inventories of goods that are produced in the past to meet the increase in aggregate demand. Firms will increase output in the next production cycle in attempt to restore their inventories to their optimal level. Firms enter the factor market to demand for more factors of production, including labour, paying out more factor income. As national income (output) rises, income-induced consumption increases, causing another round of increase in AD, adding to the circular flow of income, setting off the multiplier effect where additional spending creates additional income which induces more spending. Eventually the multiplier process will end when the initial injection = withdrawals.
- Assuming that the economy is operating in the intermediate range where there is spare capacity, an increase in AD will lead to a multiplied increase in real GDP from  $Y_0$  to  $Y_1$  → actual growth.

- Another possible factor is government policies. Supply-side policies can help to raise economic growth through an increase of AD/SRAS or productive capacity.
- The Singapore government has encouraged firms to **expand innovation and R&D efforts to increase efficiency level** since Singapore is also very open to global competition. For example, the Singapore government has poured in \$19billions into the **Research Innovation Enterprise 2020 Plan (RIE2020)** which seeks to support and translate research into solutions that address national challenges, build up innovation and technology adoption in companies, and drive economic growth through value creation.
- Increase in **quality** of labour: Policies to improve skills and productivity of the workforce (e.g. Skills Future, Adapt and Grow Initiative, TechSkills Accelerator etc.)
- Increase in **quantity** and quality of capital: Attract FDI, encourage R&D and innovation through funding and tax incentives etc.
- An increase in the quantity and/or quality of factors of production will lead to an increase in productive capacity causing a rise in LRAS from LRAS<sub>0</sub> to LRAS<sub>1</sub>.
- Diagram:



- This causes an increase in the full employment capacity of the economy from  $Y_{f_0}$  to  $Y_{f_1}$  → potential growth.
- While an increase in LRAS leads to potential growth, it COULD also lead to actual growth from  $Y_0$  to  $Y_1$  if the economy is operating close to full employment.

### B: External factors

- Another possible factor is growth in external demand markets such as China and Eurozone.
- As countries like China and Eurozone are experiencing economic growth, this means that they have higher national income and thus greater purchasing power to increase demand for Singapore's exports such as semiconductors and semiconductor equipment, and externally oriented service sectors such as finance and insurance, transportation and storage, and wholesale trade.
- This leads to an increase in net exports due to Singapore's trading partners experiencing higher economic growth and this has a large impact, especially for small and open economies like Singapore which has one of the highest trade to GDP ratio in the world in excess of 300% → ↑(X-M).
- Also, there could be an inflow of foreign direct investment, such as Dyson and Nestle, as they are attracted by the sound economic fundamentals, good network and infrastructure, strong legal framework and attractive tax system in Singapore (e.g. US\$58 billion of foreign direct investment entered Singapore in 2017, Singapore stand out as attractive BRI (Belt and Road Initiative) destination for Chinese investors) → ↑I.
- Hence the ↑(X-M) & I → ↑AD → multiplied ↑NY due to the multiplier effect, leading to actual growth.

## Conclusion

- While Singapore is an export-driven economy, internal factors such as domestic consumption and domestic cost are important in contributing to Singapore's economic growth rate.
- These factors are usually interrelated and there would be simultaneous shifts in both AD and AS curves, affecting the growth rate of the economy.

Level Descriptors for 4(a)		Marks
L3	<ul style="list-style-type: none"><li>• Conceptually accurate and well-developed explanation on how 3 factors – <b>both</b> demand and supply-side factors lead to actual <b>and</b> potential economic growth in Singapore.</li><li>• Good use and explanation of <b>AD/AS conceptual framework</b>.</li><li>• Good use of <b>appropriate examples</b> in relation to <b>Singapore</b>.</li></ul>	8-10
L2	<ul style="list-style-type: none"><li>• Developed (comprehensive and well-explained) analysis on:<ul style="list-style-type: none"><li>○ <b>either</b> actual <b>or</b> potential economic growth</li><li>○ <b>either</b> demand <b>or</b> supply factors that caused a slowdown in Singapore's economic growth <u>OR</u></li></ul></li><li>• Under-developed analysis on both demand <b>and</b> supply factors that led to Singapore's actual and potential economic growth.</li><li>• Conceptual framework of AD/AS is used but there are a few inaccuracies.</li><li>• Limited use of <b>appropriate examples</b> in relation to <b>Singapore</b>.</li></ul>	5-7
L1	<ul style="list-style-type: none"><li>• Descriptive answer without any conceptual framework</li><li>• Answer contains many conceptual inaccuracies.</li></ul>	1-4

**(b) Discuss the impact of tightening foreign labour supply on living standards in Singapore. [15]**

## Suggested approach

- Students need to consider the impact of tightening foreign labour supply on both material and non-material standard of living in Singapore.

## Introduction:

- **Tightening foreign labour supply:** Its aim is to reduce reliance on low-skilled labour and encourage innovation and automation. This is done by implementing foreign worker levies, minimum salary levels for foreign worker passes and issuing less work permits for low skilled, untrained workers, especially in construction & shipbuilding sectors.
- **Living standards** refer to the quality of life; the welfare of the population and this consists of both material and non- material aspect of living standards.
  - Material – amount of goods and services that individuals in the country have available for consumption
  - Non-material– amount of leisure time, life expectancy, standard of education, amount of pollution
- Context of **Singapore:** Small and open economy and a great reliance on foreign manpower due to our small and ageing population.

## Body:

**Argument:** Explain how tightening of foreign labour supply can raise living standards in Singapore.

- Due to the tightening of foreign worker supply, businesses, especially SMEs, have been forced to innovate and automate their processes to increase productivity, to cope with the manpower shortage.
- This is because by restricting foreign labour, this will decrease the supply of labour and increase the wage cost. Hence, firms will be incentivised to substitute labour for automation and switch

away from labour-intensive methods of production towards more capital-intensive method of production to increase labour productivity and decrease unit cost of production at the same time.

- The Singapore government has also committed \$2.5 billion over the period of 2010 to 2015 to schemes like Continuing Education and Training (CET) and production innovation credits to help firms drive productivity growth.
- These schemes will lead to lower cost of production and lead to an increase in SRAS and thus national income will increase, while reducing inflationary pressure.
- Also, when producers pass on the fall in cost of production to consumers, this will lead to lower prices of domestic goods and exports. Assuming demand for exports is price elastic, the more price competitive exports will bring about greater export revenue and hence AD rises → NY increases.
- The increase in AD and SRAS will result in an increase in real national income and thus greater purchasing power → leading to an increase in material standard of living.
- In the long run, the adoption of automation and technology will increase the productive capacity of the Singapore economy, thereby helping to achieve potential growth and dampens DD-pull inflation, maintaining a healthy rate of inflation. In the past, Singapore has a problem of low productivity due to the reliance on low skilled workers. Thus, targeting higher productivity can lead to higher actual & potential economic growth for Singapore → leading to an increase in material living standards.
- In addition, as there are stricter rules on immigration, this will result in less overcrowding in public spaces such as public transport, this will result in less stress on the public amenities, thus this could appease the locals' unhappiness → non-material standard of living could rise.

### Transition

- While businesses in certain industries have been able to automate their processes, it is not as easy and sometimes not possible, in the service and construction industries, which is very labour intensive. Hence tightening of foreign labour supply may be detrimental to those industries.

**Counter-Argument:** Explain how tightening of foreign labour supply can cause a fall in living standards in Singapore.

- Due to the restructuring towards productivity-driven growth, firms may adopt more labour-saving technology, where jobs are replaced by machines. This will lead to a falling demand for lower skilled workers and a higher demand for higher-skilled workers. The lower skilled workers may be less educated and thus lack the knowledge and skills to take up jobs that require knowledge of information technology. Furthermore, retraining to equip workers with new skills takes a long period of time and older and less educated workers may also be less receptive towards the use of technology. Hence, this may result in rising structural unemployment → fall in material standard of living.
- This may also worsen income inequity as there is a higher demand for higher-skilled workers, resulting in higher wages, and lower demand for lower-skilled workers, resulting in lower wages. This could result in greater tensions among groups in society → fall in non-material standard of living.
- In the short run, it is likely that the restriction in foreign labour will cause wages to rise faster than labour productivity. This is because productivity takes a long time to increase. Efforts to improve the work flow and finding and implementing appropriate technology to speed up the work flow takes time. Hence, in the short run, while the wage cost has increased, labour productivity may have increased less than proportionately, hence, unit labour cost will rise.
- Yet, not every industry is able to automate and substitute labour, especially in service oriented industries. Due to the lower supply of foreign workers and the lack of Singaporeans willing to do

more manual work, this will result in higher wages for blue-collar workers. Business owners have to pay higher wages to hire foreign workers due to the foreign worker levies, or turn to hiring Singaporeans who demand for higher wages, but less productive, resulting in higher cost of production → SRAS decreases → This causes the general price level to increase from  $P_0$  to  $P_1$ , causing inflation. This will raise cost of living, resulting in purchasing power of locals to decrease, resulting in a fall in material standard of living.

- While there is an increase in domestic cost due to government policies, it could be offset by productivity growth. An increase in productivity through automation can help to reduce average cost. However, as it takes time for business to change their mindset and business processes, living standards will only improve in the long run. For those who embrace automation and technology will benefit more and be able to adapt better when the economy restructures.

### Synthesis:

- Instead of tightening all foreign labour supply, perhaps the government should loosen policies targeting lower-skilled foreign workers who do jobs that locals do not wish to, especially as the resident workforce becomes higher-skilled over time. To ensure that there is a substantial labour force, the Singapore government has also increased the retirement age from 62 to 63 by 2022, and 65 by 2030 to slow down the shrinking labour force due to the falling birth rate and ageing population. This will help to increase labour supply and mitigate the negative impact of higher cost of labour on firms and hence cost of living may not increase drastically.
- To reduce no. of lower-skilled foreign workers in labour intensive jobs as an attempt to improve labour productivity is not easy to achieve. This is because; it requires education and retraining which may not be effective if workers are not receptive. Though CET was implemented from 2010, its success has largely been limited with productivity falling in certain years and coupled with ageing population, where older workers mindset could be hard to change. To counter this, the Singapore government advocated for 'lifelong learning' and made systemic changes to the educational landscape and introduced the Skillsfuture package to encourage lifelong learning for all Singapore Citizens. Thus in the future, we would expect to see a change in the receptiveness of workers and this limitation will be less pertinent. Nevertheless, this policy on tightening foreign manpower on low skilled workers to improve labour productivity may only be more beneficial in raising living standards in the long run, but it's likely to have a negative impact on living standards in the short run.

Level Descriptors for 4(b)		Marks
<b>L3</b>	<ul style="list-style-type: none"> <li>• For a well-developed and balanced answer that analyses the impact of tightening foreign labour supply on material and non-material living standards.</li> <li>• Well-contextualised to Singapore with good use of examples.</li> </ul>	<b>8 - 10</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>• For a one-sided but developed answer that analyses either the positive <b>or</b> negative impact on living standards <u>OR</u></li> <li>• For a two-sided but undeveloped answer that analyses both positive and negative impact on living standards.</li> <li>• Limited or no use of examples and application to the context of Singapore.</li> </ul>	<b>5 - 7</b>
<b>L1</b>	<ul style="list-style-type: none"> <li>• Answer is mostly irrelevant or theoretical.</li> <li>• May contain several conceptual inaccuracies.</li> <li>• Descriptive answer without any conceptual framework.</li> </ul>	<b>1 - 4</b>
<b>Evaluation</b>		
<b>E3</b>	Well-reasoned judgement that is based on economic analysis that arrives at a conclusion of the impact of tightening foreign labour supply on living standards.	<b>4-5</b>
<b>E2</b>	For an answer that makes some attempt at evaluation or a conclusion, but may not be well-reasoned.	<b>2-3</b>
<b>E1</b>	Mainly unexplained and unsupported judgements.	<b>1</b>



5. A stronger domestic growth outlook, coupled with a possible Goods and Services Tax (GST) hike, may accelerate inflationary expectations and warrant the Monetary Authority of Singapore to potentially tweak its currently neutral stance to a slight appreciation. While global growth prospects are brightening, there is still considerable uncertainty about inflation due to subdued oil prices.

Source: Channel NewsAsia, 14 February 2018

(a) Explain the factors that the Singapore government needs to consider in deciding whether to change its monetary policy stance to a slight appreciation. [10]

### **Suggested Approach**

#### **Introduction:**

**Current policy stance that MAS adopts:** neutral stance – zero appreciation

**Objective of government:** To achieve macroeconomic goals such as price stability to achieve sustainable economic growth.

**Context:** Singapore's central bank, MAS, reviews its monetary policy twice a year - in April and October - to ensure that it is consistent with economic fundamentals and market conditions. It changes the slope, width and centre of that band when it wants to adjust the pace of appreciation or depreciation of the Singapore currency.

#### **Body:**

##### **Constraints:**

- One of the factors that the Singapore government needs to consider is whether there are any constraints in changing its monetary stance.
- The health of balance of payments is a crucial factor that MAS needs to consider as it affects the exchange rate and the amount of foreign reserves is available. When Singapore experiences a balance of payment surplus, this will result in an accumulation of foreign reserves. However if the country is facing a persistent balance of payment deficit, this will result in the withdrawing of foreign reserves to finance the deficit and limit the availability of foreign reserves, which could constrain the MAS's ability to influence its exchange rate.
- The MAS needs to consider if there is availability of foreign reserves to intervene in the exchange rate market. In order to appreciate currency, MAS will need to buy SGD using its foreign currency reserves to ensure that it maintains its stance of slight appreciation. Singapore generally has a substantial amount of foreign reserves and hence this does not really constrain its decision.

##### **Current state of economy:**

- Another factor it needs to consider is the current state of Singapore's economy and whether its monetary policy stance will be **beneficial** to the economy.
- If the Singapore economy is facing rising inflation, then it will be beneficial for MAS to change its monetary stance to appreciate its currency to reduce inflation.
- There is a stronger domestic growth outlook and a possible sales tax hike which is likely to contribute to higher inflationary expectations.
- However, whether MAS should change its monetary stance or not, depends on the current level of inflation. An increase in inflation is not always a cause for concern. If the current inflation rate is negative or very low – hovering close to zero – MAS may not need to shift its monetary policy stance, as it should allow inflation rate to increase to a healthy level of 1-3%.
- But if the inflation rate is already quite high (higher than 1-3%), further increase in inflation rate from this level may cause inflation to creep upwards by setting off an inflationary spiral. If the cause of inflation is due to external reasons, such as high import costs or higher demand or exports, then the MAS should consider changing its monetary stance to a slight appreciation to manage the inflation rate.

### Future state of economy:

- Also, MAS needs to consider whether inflation is likely to be prolonged or is temporary.
- MAS needs to consider how domestic and global events such as global growth prospects, subdued oil prices, are likely to influence future inflation rates and act before macroeconomic problems arises.
- If inflation is likely to be temporary as subdued oil prices is likely to reduce inflation rates, then Singapore government may not necessarily change its monetary policy stance.

**Benefits of changing its monetary stance:** In April 2018, the central bank slightly increased the slope of the policy band from zero per cent to allow for “[modest and gradual](#)” appreciation in order to manage inflation.

- Slight appreciation of SGD → Price of exports will be more expensive in foreign currency, price of imports will be cheaper in domestic currency.
- Assuming demand for exports & imports is price elastic → X revenue falls and M expenditure increases → (X-M) falls → AD falls → General price level falls → Reducing inflation.
- As Singapore imports many raw materials, the fall in price of imports will cause cost of production to decrease → SRAS increases → General price level falls → Reducing inflation.

### Costs of changing its monetary stance:

- It is important that MAS does not keep changing its exchange rate stance, as this could result in volatility of the value of SGD, that may cause investors to lose confidence in the currency due to its unpredictability.
- Also, the appreciation of SGD will make prices of exports more expensive in foreign currency and if demand for Singapore’s exports is price inelastic → X revenue could increase → AD increases → General price level increases → worsening inflationary pressures.
- Singapore government also needs to consider the impact of changing its monetary policy stance on its other macroeconomic goals.
- By appreciating its currency, this could also result in AD falling → NY falls, causing negative economic growth if it was not close to full employment (*Diagram*).
- The appreciation of SGD could also increase the cost of setting up for foreign investors, and this could cause foreign direct investments to fall in the long run.
- Thus MAS needs to weigh the costs and benefits of changing its monetary policy stance to slight appreciation – whether it should prioritise managing inflation over economic growth.

### Conclusion:

Thus the Singapore government needs to consider its constraints, costs and benefits of changing its monetary stance. It needs to ascertain the current and future level of inflation before deciding whether to change its monetary stance as this will have implications on the economy.

Level Descriptors for 5(a)		Marks
L3	<ul style="list-style-type: none"><li>• Well-developed analysis of the factors that will influence the government’s decision to change its monetary stance to maintain price stability.</li><li>• Well-explained answer that address constraints, benefits and costs of changing its stance.</li><li>• Well-contextualised to Singapore.</li></ul>	8-10
L2	<ul style="list-style-type: none"><li>• Under-developed analysis of the factors that will influence the government’s decision to change its monetary stance to maintain price stability.</li><li>• Scope is limited in explaining various factors that affect government’s decision to change its monetary policy stance.</li><li>• Limited contextualisation to <b>Singapore</b>.</li></ul>	5-7

L1	<ul style="list-style-type: none"> <li>• Descriptive answer without any conceptual framework</li> <li>• Answer contains many conceptual inaccuracies.</li> </ul>	1-4
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*b) Discuss whether failure to achieve price stability in Singapore is more likely to be caused by domestic or international factors. [15]*

### **Suggested Approach**

#### **Introduction:**

Price stability: It refers to the general price level of the economy to be relatively stable at relatively low levels from 1-3%.

Context: Singapore's economy is generally export oriented and reliant on imports.

Failure to achieve price stability could be caused by domestic factors, international factors, or a combination of both factors.

#### **Body:**

**Thesis:** Failure to achieve price stability could be caused by domestic factors.

#### **Body paragraph 1: domestic factor – stronger domestic growth outlook & possible GST hike**

- A stronger domestic growth outlook → increase consumers' and investors' confidence that the economy will experience growth, and hence anticipate higher income → increases their willingness to consume and invest more → Increase in C & I
- **Possible** Goods and Services Tax (GST) hike → consumers anticipate that prices will rise in future and thus is more likely to spend more now → Increase in C
- $AD = C+I+G+(X-M)$ , Thus an increase in C&I → increase in AD against a rigid AS, lack of spare capacity → increase in GPL and hence DD-pull inflation → failure to achieve price stability
- Failure to achieve price stability is **more likely** due to domestic factors rather than international factors.

#### **Transition**

*Singapore's limited land space and labour pool make it challenging for Singapore government to achieve price stability. The rigid AS also increases the likelihood for Singapore to experience DD-pull inflation.*

#### **Body paragraph 2: domestic factor -Supply-side constraints**

- Increase in consumption could increase AD. However, if there is sufficient spare capacity, an increase in AD might not lead to DD-pull inflation in Singapore. Thus AS plays an important role in contributing to the failure to achieve price stability.
- Ageing population → labour force may grow at a slower rate. This is further exacerbated by the restriction on intake of foreign workers. Thus quantity of resources increase at a lower rate → productive capacity may expand at a slower rate → slower increase in LRAS.
- While Singapore government has attempted to increase productivity through the use of SS-side policies such as SkillsFuture, the result has yet to be seen. Productivity growth was low in 2017. This would mean minimal growth in production of output per unit time → productive capacity may expand at a slower rate → slower increase in LRAS.
- Thus if there is a surge in AD, the rigid AS could lead to high inflation in Singapore.
- Hence failure to achieve low rates of inflation in Singapore could also be due to domestic factors.

#### **Transition**

*However, given Singapore's dependence on trade, it is unlikely that domestic factors have a dominant role in affecting price stability. Singapore has a small domestic market and depends heavily on export for economic growth. Her exports and imports (X+M) form 300% of its GDP while other components, domestic consumption, government expenditure and investments each constitute less than 50% of its GDP. Hence a rise in domestic consumption is not likely to have significant impact on AD as the components constitute a smaller proportion (less than 50%) of the GDP. Thus given the nature of Singapore's economy, Failure to achieve low rates of inflation in Singapore is likely due to international factors rather than domestic factors.*

**Anti-thesis: However, international factors could also result in failure to achieve price stability.**

**Body paragraph 3: International factor – increase in exports**

- Singapore's major trading partners such as USA and China were experiencing strong economic growth → higher income per capita and higher disposable income → higher purchasing power → likely to see an increase in DD for goods and services produced by Singapore → increasing export revenue for Singapore.
- Economic growth and growth in affluence in countries like China and Indonesia sees an increase in tourist arrivals in Singapore → increasing Singapore's export revenue. The number of Chinese tourists visiting Singapore tripled from 2010 to 2017.
- Increase in Singapore's export revenue → a rapid increase in AD against a rigid AS → increase in GPL and hence DD-pull inflation → failure to achieve price stability
- Failure to achieve price stability is **more likely** due to international factors rather than domestic factors given the **nature of Singapore economy**.

Transition

*Besides being a small and open economy that depends on trade for economic growth, Singapore also relies on imports for survival. Singapore is a small country with limited resources and thus has to rely on import of basic necessities such as water and food for survival. Not only that, Singapore also imports raw materials such as oil, and intermediate goods so that Singapore could value-add to the products and re-export to other countries. The nature of Singapore economy means that Singapore would also be vulnerable to imported inflation/deflation.*

**Body paragraph 4: international factor – fall in oil prices**

International factors → subdued oil prices → affects COP, (X-M)

- Singapore imports raw materials and factors input such as crude oil. Oil refinery is a major sector in Singapore and Singapore imports crude oil and refines it for re-export.
- Subdued oil prices due to the influx of supply of oil → fall in COP as oil is an input for production → SRAS increases → general price level falls.
- Hence failure to achieve price stability in Singapore is likely due to international factors.

**Synthesis/Conclusion**

- The relative importance of factors causing the failure to achieve price stability does depend on the nature of the economy.
- For small and open economies heavily reliant on trade, eg. Singapore, export revenue and FDI constitutes a large proportion of the country's AD, hence the failure to achieve price stability would more likely be caused by international factors.
- Furthermore, the nature of the economy affects the ability of the government to avoid or mitigate the impact of international factors. For instance, Singapore is a price taker in the global market and hence any attempt by Singapore to influence the SS and DD of goods such as crude oil and rice will have no impact on price. While Singapore could use exchange rate policy to manage the impact of global prices, such policy will have limited and short term impact. There is an extent to

how much and how long Singapore could strengthen her Sing dollar before causing harm to her economy. However, the government definitely has more control in influencing domestic prices.

- Increasingly, globalization has led to the increasing impact of international factors on Singapore's price stability as countries are more connected with each other. Through global supply chains in production and international capital flows and investment, countries are easily economically shocked by external factors and the more open the economy is, the greater the degree of vulnerability. Hence failure to achieve price stability in Singapore is likely due more to international factors compared to domestic factors.

Level Descriptors for 5(b)		Marks
L3	<ul style="list-style-type: none"> <li>For a well-developed and balanced answer that analyses how domestic and international factors could result in the failure to achieve price stability.</li> <li>Good attempt in comparing the relative importance of domestic and international factors.</li> <li>Well-contextualised to Singapore with good use of examples.</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>An underdeveloped explanation of how both domestic and international factors could result in the failure to achieve price stability <u>OR</u></li> <li>A developed but one-sided answer on how <b>either</b> domestic or international factors could result in the failure to achieve price stability.</li> <li>Weak attempt at comparing between domestic and international factors.</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>Answer is mostly irrelevant or theoretical.</li> <li>May contain several conceptual inaccuracies.</li> <li>Descriptive answer without any conceptual framework.</li> </ul>	1-4
<b>Evaluation</b>		
E3	A well-reasoned judgment on whether domestic or international factors is more likely to result in the failure to achieve price stability, clearly substantiated by economic reasoning based on criteria (e.g. nature of the economy, time period).	4-5
E2	For an answer that makes some attempt at evaluation or a conclusion, but may not be well-reasoned.	2-3
E1	Mainly unexplained and unsupported judgements.	1

- 6 Millions around the globe may have taken to the streets in recent years to protest against the impact of globalisation on their jobs and communities - and this backlash is likely to keep growing.

Source: BBC, 1 February 2017

In view of the macroeconomic challenges arising from rapid globalisation, discuss the various policy approaches different countries could adopt to manage these challenges. [25]

### Question Analysis

- Focus/topics covered: Globalisation, macro problems, macro and trade policies
- Skill required/Command word: Discuss
  - Students should first identify and explain the macroeconomic challenges arising from globalization
  - This should be followed by a discussion of various policy approaches that could include (but not limited to):
    - A protectionist approach
    - Rebalancing an economy
    - Embracing free trade and using supply side policies to boost exports
- Context: rapid globalisation, backlash against globalisation

### Introduction:

Define and explain key terms

- Globalisation refers to the development of an increasingly global economy. It is characterised by trade of goods and services, international flows of capital, and labour mobility.
- While globalisation has benefited and led to economic growth in many countries, it has also resulted in challenges for some countries.
- Governments have to intervene to manage the macroeconomic challenges arising from globalisation.

### **Body 1: Explain the macroeconomic challenges arising from rapid globalisation.**

Students to explain how rapid globalisation could result challenges for the economy in terms of failing to achieve the 4 macroeconomic goals.

### **Topic sentence: Rapid globalisation could lead to a loss of comparative advantage**

- Rapid globalisation has resulted in lower trade barriers and an increase in both exports and imports globally.
- Developed countries such as the US or UK now face an increase in competition in trade from developing countries such as China or India.
- Developing countries such as China have an abundance of labour and other resources. This allows for a much lower cost of production compared to the more advanced economies, especially in labour intensive industries such as manufacturing.
- Therefore, goods produced by the developing countries are lower in price compared to those produced by developed countries.
- Exports produced by developed countries are unable to be price competitive due to the higher labour cost.
- For example, the US used to have the comparative advantage in producing electronics, but due to opening up of China's economy to trade, the comparative advantage has shifted to China.

- Developed countries such as the US experience a fall in export revenue, while import expenditure increases as US consumers switch to consuming the cheaper imported goods.
- Overall, this leads to a fall in AD/dampen increase in AD and negative or slow growth in the economy.
- There could be a loss of jobs in these export industries as demand shifts to developing economies. Therefore, unemployment increases, creating challenges for the government.

**Topic sentence: Rapid globalisation could lead to lower wages and higher rates of unemployment**

- Rapid globalisation has led to increased flows of labour between countries.
- This can be seen especially between developing and developed countries. Labour has moved from developing to developed countries as workers in developing countries seek higher wages in the developed economies. For example, there may be a large migration of workers low skilled workers from Mexico into the US.
- This increases the supply of labour in the US, resulting in a downward pressure on wages.
- If the demand for labour does not keep up with the increase in supply of labour (for example if the increase in LRAS is not matched by an increase in AD), workers may also have difficulty finding jobs.
- Local workers may be replaced by cheaper foreign labour, resulting in higher domestic unemployment creating challenges for the government.

**Topic sentence: Rapid globalisation could lead to increased vulnerability to external shocks and imported inflation.**

- For small and trade dependent countries such as Singapore, the increase in trade and investment flows from rapid globalisation also result in increased vulnerability in as the world economy gets more volatile.
- Singapore is an export driven economy, and is greatly affected by external shocks. For example, during the Great Financial Crisis of 2008, major economies such as the US and Europe suffered from severe recessions.
- As a result, Singapore experienced a fall in exports, as demand from these major economies fell.
- Singapore's economy contracted significantly in that year, as the fall in exports lead to a fall in AD and reduced economic activity (fall in GDP). This is because Singapore has a small domestic market, and exports take up a large proportion of the GDP. Thus the negative growth poses a challenge for the government.
- Similarly, Singapore is also dependent on imports due to the lack of scarce resources in the economy.
- Singapore is vulnerable to imported inflation, as almost all raw materials, intermediate goods as well as final consumer goods are imported from other countries.
- When there is an increase in the global price of commodities such as oil produced in other countries, Singapore experiences cost push inflation as the cost of importing these goods increases. Thus high inflation is also a challenge arising from rapid globalisation.

*Note: Students can also discuss other challenges arising from globalisation, for example, the increase in capital (FDI) flows resulting in pollution or environmental degradation in developing countries due to over extraction of minerals etc.*

## Body 2: Discuss the use of a more protectionist approach to address these challenges

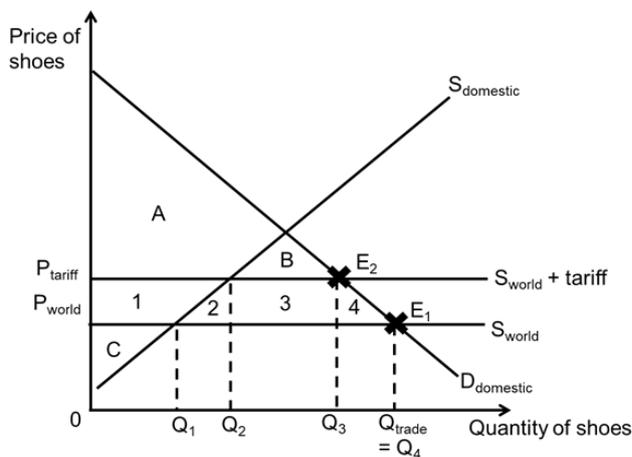
**Topic sentence: The government could adopt a protectionist approach to manage the above challenges that arise from globalisation. (US)**

### Use of Tariffs:

- Some economies adopt a protectionist approach to slow down the impact of globalisation to give the economy time to adjust.
- For example, countries like the US have experienced a loss of jobs as a result of globalisation (as explained above) and have imposed import tariffs to reduce the inflow of imports and increase the demand for domestic goods and services.

Explanation of how tariffs can help manage the challenges from globalisation:

- Tariff is a tax that is imposed on imported goods. The effect of a tariff on imported goods such as shoes can be seen in the following diagram:



- The tariff reduces the supply and the supply curve shifts up from  $S_{\text{world}}$  to  $S_{\text{world}} + \text{tariff}$ . Shoe prices will therefore increase from  $P_{\text{world}}$  to  $P_{\text{tariff}}$  (Figure 4). Importers will now pay a higher price of  $P_{\text{tariff}}$  for shoes.
- At this higher price, more domestic firms are willing and able to sell shoes, and domestic production increases from  $Q_1$  to  $Q_2$ . Overall, the volume of imports will fall from  $Q_1$ - $Q_4$  to  $Q_2$ - $Q_3$ . Hence, import tariffs allow domestic firms to enjoy higher domestic demand and gain higher revenue from the domestic market.
- As consumers switch from imported to domestically produced goods, there is a fall in import expenditure and an increase in consumer expenditure on domestically produced goods. Overall, there is a fall in M and increase in C, leading to an increase in AD.
- As AD increases, there is economic growth as national income increases through the multiplier effect.
- Jobs are created directly in the domestic industries, and other industries also benefit through the multiplier effect.

### Use of Domestic Subsidies:

- In addition to tariffs, governments may further provide support for domestic industries by giving out subsidies.
- For example, in the US, the production of sugar is heavily subsidised by the government to ensure sugar producers in the UK remain competitive.
- By subsidising the sugar farmers, this lowers the cost of production for farmers so that their goods remain price competitive in the global market.
- Such policies will further increase domestic consumption, as domestically produced goods are artificially cheaper than foreign imports due to the subsidies.

- This once again increases C and reduces M, resulting in growth and creation of jobs in the economy.
- Thus this address the challenges of unemployment and slow growth resulting from rapid globalisation.

#### Short-comings and evaluation of the protectionist approach:

- However, protectionism may not be an appropriate approach as it may be ineffective or harmful to the economy in the long run.
- Protectionism encourages inefficient allocation of resources in the market. Inefficient domestic industries can become over reliant on government protection, and remain inefficient.
- This results in a wastage of resources, especially for subsidies, where a high opportunity cost is incurred because the resources could have been allocated to more productive areas.
- It also results in higher prices for consumers due to the increased inefficiency. For example, in the use of tariffs, there is a welfare loss to consumers as illustrated by areas 1, 2, 3 and 4 in the diagram above.
- In addition, protectionism often results in retaliation by trading partners or beggar thy neighbour effect on the economy.
  - For example, when US placed tariffs on imports from China, China retaliated and also placed tariffs on US produced soybeans. This was extremely harmful for US soybean farmers whose largest market is China where there is a high demand for soybeans.
  - The trade war between China and US has escalated and affected many other economies such as Singapore as well. With a fall in national income in other economies, US trading partners will also be less able to export to these countries.
  - Due to the above reasons, export revenue may fall and the US may not experience an increase in net exports.
- Thus, protectionism may not address the challenges of globalisation and may even worsen the situation.

### **Body 3: Discuss the use of rebalancing to address these challenges (China)**

In light of the above, countries may choose a less protectionist approach instead. Some economies have chosen to strengthen their domestic market while still remaining open to globalisation and trade. One example is China. With a large domestic economy and an abundance of resources, China has been trying to rebalance their economy to reduce their reliance on exports and foreign investments. This addresses the challenge of being vulnerable to external shocks and imported inflation.

The rebalancing is achieved through several policies:

#### Use of Fiscal Policy:

- Fiscal policy can help to rebalance the economy by increasing domestic consumption expenditure. The government can use expansionary fiscal policy and reduce taxes while increasing government expenditure.
- A decrease in income taxes increases the disposable income of consumers, increasing their purchasing power increase consumption expenditure.
- A decrease in corporate taxes increases the after tax of profits, encouraging more domestic firms to increase investment expenditure.
- At the same time, the government can provide subsidies to consumers and firms to further increase consumption and investment expenditure.

- With an increase in C and I, these help to encourage economic growth and reduce demand deficient unemployment caused by globalisation.
- With a stronger domestic demand, countries like China will be less affected by external shocks. Even if there is a fall in external demand due to a global recession, the increase in consumption and investment can offset the fall in export revenue.

#### Use of Monetary Policy:

- Similarly, monetary policy can be used to strengthen the domestic economy.
- A decrease in interest rate will lower the cost of borrowing for consumers and firms, resulting in increase in consumption and investment expenditure respectively.
- As explained for fiscal policy, this would reduce the reliance on external demand and prevent a large negative impact from external shocks, ensuring stability in the economy.

#### Short-comings and evaluation of rebalancing an economy:

- However, the government may not always be effective in rebalancing the economy.
- For the case of China, the government may experience a long time lag in rebalancing the economy. This is because the people may have a culture and mind set of saving, and the increase in consumption may not be significant enough to offset a fall in export revenue. It takes a long time to change such societal and cultural norms, and the government will have to ensure a strong social security system before households are willing to increase expenditure.
- Smaller countries such as Singapore are also unable to adopt this approach due to the reliance on external demand. Since Singapore's domestic market is small, consumption expenditure can only increase by a limited amount.

#### **Body 4: Discuss the use of supply side policies and free trade to address these challenges (Singapore)**

For countries like Singapore, the protectionist and rebalancing approach are not viable options. As such, these small countries would have to embrace globalisation and implement policies that maximise the gains from globalisation, while addressing the challenges that arise.

#### Use of supply side policies to increase export competitiveness:

- The government may use supply side policies such as investing in R&D or subsidising skills upgrading programmes.
  - Governments may choose to develop industry clusters, where firms are able to gain external economies of scale to gain a comparative advantage.
- Such policies will encourage firms to be more efficient and innovative.
- Through R&D, firms can adopt new technologies or new methods of production, for example 3D printing, to mass produce goods at a lower cost.
- At the same time, the economy will be able to produce higher value added goods with increased quality.
- For example, Singapore's government provides support for innovation in sectors such as electronics and pharmaceuticals, which help these industries gain a comparative advantage globally.
- With a lower cost and better quality, export are now more competitive. This prevents the loss of comparative advantage to developing countries that could take place as a result of rapid globalisation.
- This will increase export revenue, leading to growth in the economy and the creation of jobs in these sectors.

### Use of Free Trade Agreements to boost trade further and diversify:

- Small economies should also sign more free trade agreements to maximise the benefits of globalisation and overcome the challenges.
- Signing free trade agreements removes existing barriers to trade, making it cheaper to import goods from other countries.
- For small countries like Singapore, this is beneficial as resources are scarce domestically. With a lower cost of importing raw materials such as oil, cost of production will be lowered, leading to an increase in SRAS and growth in the economy.
- With more FTA, vulnerability to imported inflation is reduced, as the same raw materials can be imported from different sources. Even if there is inflation in one country, the same goods can still be imported cheaply from other countries.
- In addition, FTAs allow export to be sold more cheaply in foreign markets. If a country's goods are competitive in terms of price and quantity, this should lead to an increase in export revenue.

### Short-comings and evaluation of embracing globalisation:

- In order for this approach to be effective, and economy would have to keep pace with advancements in technology globally. There would be constant restructuring and the nature of jobs will always be evolving rapidly.
- For example, Singapore is always investing into new areas of comparative advantage. The focus could shift from manufacturing electronics to the biomedical industry, resulting in a displacement of workers who do not have to relevant skills for the newer industry. These workers will suffer from structural unemployment, and the government would have to ensure they are equipped for such changes in the economy. This can be done through policies such as skills upgrading.
- In addition, supply side policies often have a long time lag, as time is needed for innovation and R&D to be successful. Thus, the economy, may still face challenges from globalisation in the short run.
- These policies are also costly, and only viable for economies with sufficient budget.

### **Overall Evaluation:**

The approach chosen by a government is likely to depend on several criteria:

1. The nature of the economy: For larger economies, the protectionist approach and rebalancing of the economy are feasible options. This is because they have a large domestic market to rely on.
  - The protectionist approach is likely to be more short term in nature as it leads to more harmful consequences in the long run.
  - Rebalancing an economy is a more long term approach, as it is likely to have a longer time lag.
2. The constraints of the government:
  - Not all economies will be able to use policies like supply side policies, as these are costly and not all governments have sufficient budget to finance these.
3. The root cause of the problem faced/level of development in the economy:
  - Globalisation results in different challenges for different economies. For a developed economy, globalisation is more likely to result in a loss of comparative advantage. In such cases, economies should try to develop a new comparative advantage using supply side policies.
  - However, in view of the time lag needed to do so, a more protectionist approach may also be used in the short run to prevent high unemployment.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3 (High)	<ul style="list-style-type: none"> <li>• <b>Thorough</b> knowledge of facts and theory displayed through well elaborated economic analysis</li> <li>• Analysis is explained in a logical and reasoned manner</li> <li>• Excellent use of examples from <b>relevant current situations</b></li> <li>• The challenges arising from globalisation are correctly identified and well explained.</li> <li>• Answers in this range should address the issue of an <u>approach</u> rather than just individual policies to deal with the challenges of globalisation. Each approach should be <u>well evaluated</u></li> </ul>	18 – 20
L3 (Low)	<ul style="list-style-type: none"> <li>• <b>Good</b> knowledge of facts and theory displayed through well elaborated economic analysis</li> <li>• Analysis is explained in a logical and reasoned manner</li> <li>• Good attempts to use relevant examples to support explanations</li> <li>• Candidate may focus on individual policies instead of broader approaches, but the policies are thoroughly explained and well evaluated.</li> </ul>	15 – 17
L2 (High)	<ul style="list-style-type: none"> <li>• Some knowledge of facts and theory but the economic analysis may be incomplete or insufficiently elaborated on</li> <li>• Some use of examples but may not be the most relevant for the context of the question</li> <li>• Candidate may focus on individual policies instead of approaches, with some attempt to evaluate these policies</li> </ul>	12 – 14
L2 (Low)	<ul style="list-style-type: none"> <li>• Some knowledge of facts and theory but may have some conceptual errors</li> <li>• Attempts at economic analysis may be incomplete or lack logical presentation</li> <li>• Little use of examples to support points, answer may be more theoretical in nature</li> <li>• Candidate may have an explanation of various policy tools with little attempts to evaluate them</li> </ul>	9 – 11
L1 (High)	<ul style="list-style-type: none"> <li>• Some knowledge of facts and theory, but has basic conceptual errors and inadequate development of analysis</li> <li>• Answer is descriptive and lacking in development of economic analysis.</li> </ul>	
L1 (Low)	<ul style="list-style-type: none"> <li>• Conceptually inaccurate</li> <li>• Answer is mostly irrelevant or only contains a few valid points made incidentally</li> </ul>	1 – 8
E3	<ul style="list-style-type: none"> <li>• Evaluation and judgement is made using a relevant criteria, and build on appropriate economic analysis</li> <li>• Answer recognises unstated assumptions and evaluates their relevance</li> <li>• Candidate synthesises economic arguments to arrive at well-reasoned judgement and decisions</li> </ul>	4 – 5
E2	<ul style="list-style-type: none"> <li>• For an answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis.</li> </ul>	2 – 3
E1	<ul style="list-style-type: none"> <li>• For an answer that gives an unsupported evaluative statement(s)</li> </ul>	1



**ANDERSON SERANGOON JUNIOR COLLEGE  
JC2 PRELIMINARY EXAMINATION 2019**

**ECONOMICS  
Higher 2**

**9757/01**

Paper 1

**29 August 2019**

**2 hours 15 minutes**

Additional Materials:      Answer Booklet

**READ THESE INSTRUCTIONS FIRST**

Write down your name and class in the boxes of the answer booklet.  
Please write clearly and use capital letters.

Write in dark blue or black pen.  
HB pencil may be used for graphs and diagrams only.

DO **NOT** WRITE ON ANY BARCODES.

Write your answers in the answer booklet. Use both sides of the paper. Please leave two blank lines in between your answers to each question.

Write the number of the question you are responding to in the first margin. If the question you are responding to also contain parts, for example 1a, write the question part in the second margin.

Do all your rough work in pen using the answer booklet and cross it through without making it illegible.

Do not tear out any part of the answer booklet provided.

All work must be handed in. If you have used any additional booklets (including graph paper booklets) please insert them inside the answer booklet.

Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **7** printed pages and **1** blank page

## Question 1

## The Pharmaceutical Industry

Figure 1: List Price of Humalog brand Insulin (US\$)



Source: Truven Health Analytics, accessed 15 July 2019

**Extract 1: Why Insulin defies the normal rules of Economics and keeps getting more expensive**

Here's a basic economic principle: The price of a product usually falls over time. That's often because competitors offer alternatives, or new advances make past breakthroughs less valuable. Yet none of the typical pressures have driven down the price of insulin, a life-saving drug for diabetics.

"Insulin manufacturers charge so much for a really simple reason: because they can," said Shannon Brownlee, co-chair of the Lown Institute's Right Care Alliance, a Brookline nonprofit that advocates for affordable health care.

Here's one explanation for why life-saving drugs like insulin defy normal consumer economics: If a good is too expensive, consumers can hold off buying, but with insulin, Brownlee says, "Where is the downward pressure? Customers can't put downward pressure on it because they can't walk away. If they don't take insulin, they'll die."

According to Joseph Doyle, co-director of the Initiative for Health Systems Innovation at MIT's Sloan School of Management, a driver for insulin prices and other drug prices, is patents. He points out that patent laws allow the few dominant insulin makers to minimise competition by patenting incremental changes to their products, which makes it hard for cheaper generics to enter the market.

Talk of profit margins can seem a bit cold when lives are at stake. But drug companies wouldn't pursue lifesaving therapies if there weren't financial rewards, said Amitabh Chandra, director of health policy research at Harvard's Kennedy School of Government. The Massachusetts Biotechnology Council contends that pharmaceutical firms' ability to make large profits can actually save money in the health care system, overall. "If a drug can cure somebody and keep them out of the hospital, it will save trillions of dollars in the long run," said MassBio CEO Bob Coughlin. "And that's what we really need to focus on."

Source: Boston's NPR News Station, 25 June 2019

## **Extract 2: What drives mergers & acquisitions in the pharmaceutical industry?**

The pharmaceutical industry probably sees more merger and acquisition (M&A) activity than any other industry, both in the number of deals and the amount of money spent on acquisitions and mergers. One example would be the merger between two giants, Pfizer and GlaxoSmithKline. A merger between these two large firms would make them the global leader in over the counter drug sales. The proposed transaction is also expected to realise substantial cost synergies, with the joint venture expected to generate substantial total annual cost savings by 2022.

The single most important driver for changes in the pharmaceutical industry is the ever-increasing cost of drug development. Most companies can no longer afford to carry out research and development (R&D) to find innovative compounds. The most-quoted study of drug development costs states that on average, the development of a new drug costs around \$1.4 billion. It usually takes ten years from synthesis to approval, thus incurring \$1.2 billion capital costs, which results in average total cost of \$2.6 billion to develop a new drug.

The other driver for the development costs is the ever-increasing regulatory requirements. Today, a company needs to invest between \$2-4 billion per year in R&D to have a meaningful portfolio of drug development programs. Putting this in perspective, in the long-term, pharmaceutical companies spend 20% of their revenue from high-margin original drugs on R&D. Thus, only companies with revenue of \$10 billion or higher from original drugs can afford to have a substantial drug development program. Since it is almost impossible for small companies to have revenue of that size, mergers seems a natural option for many.

Meanwhile, payers and regulators strive to replace as many off-patent original drugs as possible with generics. Generics are copies of brand-name drugs, with the same pharmacological effects as the original. They can enter the market once the patent, which typically lasts between 15 and 20 years from the date the application is filed, has expired on the original drug.

This underscores a perennial problem for the pharmaceutical industry: what to do when successful medicines lose patent protection and revenues evaporate. Sanofi is trying to offset declining sales of its top-selling insulin, Lantus, which has lost market share following the introduction of cheaper “biosimilar” versions. Celgene is preparing for the loss of patent protection on its top cancer medicine, Revlimid, which will face generic competition from 2022 at the latest. “As firms are confronted with drugs going off patent and weak research and development pipelines, they have no choice but to do significant acquisitions” said Frank Aquila, a senior corporate lawyer at Sullivan & Cromwell.

Source: Contract Pharma, January 2018

## **Extract 3: Pharmaceutical industry profits and Research and Development (R&D)**

When the challenge of affording prescription drugs is raised, pharmaceutical manufacturers often argue that steps to reduce prices will lead to less innovation in the future. This response presumably applies to policies that use the market, such as shortening periods of exclusivity and making approvals of generics more rapid, as well as regulatory tools such as price controls.

The manufacturers’ argument has validity in that expectations of lower revenues will lead to less investment in R&D. Pharmaceutical innovation has produced an enormous amount of social value. Those benefits from pharmaceutical innovation stem in great measure from patent policy and the granting of marketing exclusivity to new drug products.

The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry. This means that the cost of bringing a new drug to market is very high and the process is risky, while the cost of producing an extra unit of a product that is on the market is frequently “pennies a pill”. In addition, for many drugs, the costs of imitation are low. It is simple and low cost for a firm that did not develop the drug to produce a copy of a new drug. This means that if free competition were permitted, firms spending hundreds of millions of dollars to bring a new drug to market would be unlikely to recoup those investments, as competition would drive prices down to production costs (“pennies a pill”).

It is these features of the economics of new drug development that make the establishment of intellectual property rights through the patent system and regulation of marketing exclusivity so important to promoting innovation in prescription drugs. Establishing temporary monopoly power for makers of new prescription drug products enables innovator companies to raise prices above the level of production costs and realise economic profits to compensate for the investment in pharmaceutical R&D.

The fact that patents are granted and marketing exclusivity for new drugs is established does not mean there is no competition. Competition between patented drugs that treat the same medical conditions does occur, but it is based on the clinical features of the drugs and to a more limited extent on price. This is referred to as “differentiated” product competition. One feature of such competition is that manufacturers of the products can raise prices above production costs.

Source: Various

### Questions

- (a) With reference to Figure 1, describe the trend in the price of insulin. [2]
- (b) (i) Define contestability and state how the expiry of a patent will affect the contestability of the pharmaceutical industry. [2]
- (ii) Using a diagram, explain how the expiry of a patent would lower the profits of a major insulin producer such as Humalog. [4]
- (c) “The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry.”  
Using relevant examples, explain the difference between fixed and variable costs. [4]
- (d) With reference to the data, discuss the factors that are likely to influence firms’ decisions on whether to merge. [8]
- (e) Discuss whether a government should be concerned with market dominance in the pharmaceutical industry. [10]

[Total: 30]

**Question 2:****Trade Issues in the United States****Table 1: US trade balance in millions U.S. dollars (\$)**

<b>Year</b>	<b>Exports</b>	<b>Imports</b>
2014	1,621,874	2,356,356
2015	1,503,328	2,248,811
2016	1,451,460	2,186,786
2017	1,546,474	2,339,884
2018	1,665,992	2,540,806

Source: The United States Census Bureau

**Extract 4: Understanding the decline in manufacturing employment**

The US manufacturing sector started shedding jobs in huge numbers in the early 2000s, coincident with a sharp appreciation of the dollar and a widening trade deficit. Yet, statistics seem to show the sector's output keeping up with the rest of the growing economy. Many economists saw this as a sign that high productivity growth allowed manufacturing output to expand even as the workforce dwindled. This view points to automation, not rising consumption of imports, as the main cause of manufacturing's job losses.

However, Vice-President and Director of Research of the Upjohn Institute, Susan Houseman, cited recent research suggesting otherwise. People have been buying more manufactured products but these products are increasingly made overseas where cost of production is lower. This shift to buying imports is further compounded by an appreciating exchange rate which makes domestic manufactured products more expensive to local buyers and also hampers the export competitiveness of these products.

The Economic Policy Institute's research director, Josh Bivens addressed the importance of managing the exchange rate to minimise damage to the economy. "There needs to be real credibility that the US is now committed to never again allowing the dollar to just destroy the US manufacturing sector," Bivens said. He also echoed Houseman's call to expand vocational training programmes to improve the skills of workers in manufacturing.

But it is not all bad news for workers in the manufacturing sectors. Technology-driven innovation makes workers more productive and productivity has translated into wage gains. Automation has created winners and losers. Regardless of the rate of technological automation, the US needs to do more to help workers make transitions between jobs and occupations. The failure to give workers skills and assistance to move into new jobs or occupations not only contributes to higher structural unemployment, but also breeds resistance to innovation and automation.

Source: W.E. Upjohn Institute for Employment Research, June 2018

### **Extract 5: Trump's tariffs: European Union gears up for trade war**

European Union officials have said they will respond "firmly" if US President Donald Trump presses ahead with his plan for steep global duties on metals. International condemnation has greeted the US President's Thursday announcement that he plans to impose a 25% tariff on steel imports and 10% on aluminium next week.

Canada, Mexico and the EU combined exported \$23 billion worth of steel and aluminium to the US last year - nearly half of the \$48 billion total steel and aluminium that the US imported in 2017.

European Commission head Jean-Claude Juncker promised to react firmly. The EU has drawn up a target list of 100 US goods worth \$3.5 billion for its retaliatory tariffs. The list includes Bourbon whiskey, Florida orange juice, jeans, cosmetics. It could lead to many everyday items becoming more expensive for shoppers in the UK, as shops pass on increased import prices. Canada, Mexico, China, Japan and Brazil also say they are considering retaliatory steps.

Since Mr Trump's announcement, companies in the US that buy metals have already reported higher steel prices and complained that US producers do not have the ability to meet demand. Many US companies also expressed alarm, including beer brewers, which use aluminium for canned beverages. Anheuser-Busch InBev NV, the world's largest beer maker, warned that Mr Trump's plan is "going to put jobs at risk and would be against the US consumer".

Mr Trump has lamented the decline of the US steel industry, which since 2000 has seen production drop from 112 million tons to 86.5 million tons in 2016. The number of employees working in the sector has fallen over the same period from 135,000 to 83,600.

But experts say far more Americans work in industries that depend on steel products, than are employed in steel plants. Steel mills in 2015 employed about 140,000 Americans, according to census data. But 6.5 million Americans work for manufacturers who make things using steel. Critics argue that the tariffs would fail to protect American jobs and ultimately raise prices for consumers.

Source: BBC News, 2 March 2018

### **Extract 6: Singapore exports show shifting trade patterns**

Singapore's exports rose at a faster pace in September from a year ago but the outlook remained murky as shipments of electronics continued to decline. The latest data also reflect the strength of the US economy and the disruptions caused by the trade war between Washington and Beijing.

According to trade agency Enterprise Singapore, exports to the US continued to soar, rising 41.5% on year in September while those to China plunged 17.8%, matching the previous month's rate of decline. Among Singapore's other major export destinations, shipments to the European Union grew 21.6% but those to South Korea, Taiwan, Japan and Hong Kong slipped.

"Since the start of the year, the US and European Union have replaced China as the key drivers for Singapore's exports," Maybank's Kim Eng said in a note.

Selena Ling, head of treasury research and strategy at Oversea-Chinese Banking Corp., said the US economy was in a "sweet growth spot," while there was a diversion of production and trade flows from China. To avoid tariffs imposed by the US on Chinese goods, some companies have begun shifting manufacturing and final assembly of goods to other countries. In a commentary published in the South China Morning Post, George Yeo, Singapore's former foreign minister, said that South Korea will reap a windfall from the shift in trade and investments.

Singapore's data showed shipments of electronics declined 0.9% year on year in September, the 10th consecutive month. However, the decline was offset by stronger shipments of pharmaceuticals. "Were it not for another stellar performance by the pharmaceutical industry, exports overall would have looked dreadful," said Robert Carnell, ING's chief economist and head of research for the Asia-Pacific, pointing to a 67.5% increase in pharmaceutical exports last month.

The increasing importance of the pharmaceutical sector is partly due to the Singapore government's long-term ambition of developing innovative pharmaceuticals, which includes funds and infrastructure support. The setting up of the Biopolis, an international research and development centre for biomedical sciences in Singapore, is such an example.

Source: Nikkei Asian Review, 17 October 2018

### Questions

- (a) (i) With reference to Table 1, summarise the trend in the US trade balance between 2014 and 2018. [2]
- (ii) Explain one possible factor that might account for the trend. [2]
- (b) With reference to Extract 4:
- (i) Explain why the US is concerned with its trade balance. [4]
- (ii) Explain the statement "Automation has created winners and losers." [4]
- (c) Assess how far the concept of comparative advantage can help to explain the changes in Singapore's patterns of trade as described in Extract 6. [8]
- (d) Discuss whether tariffs is the best policy the US could adopt to address her trade imbalance. [10]

[Total: 30]

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Copyright Acknowledgements:

Question 1 Extract 3

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# ANDERSON SERANGOON JUNIOR COLLEGE

## JC2 Preliminary Examinations 2019

**ECONOMICS  
Higher 2**

**9757/02**

**Paper 2**

**16 September 2019**

**2 hours 15 minutes**

Additional Materials:      Answer Booklet

### READ THESE INSTRUCTIONS FIRST

Write down your name and class in the boxes of the answer booklet.

Please write clearly and use capital letters.

Write in dark blue or black pen.

HB pencil may be used for graphs and diagrams only.

DO **NOT** WRITE ON ANY BARCODES.

Write your answers in the answer booklet. Use both sides of the paper. Please leave two blank lines in between your answers to each question.

Write the number of the question you are responding to in the first margin. If the question you are responding to also contain parts, for example 1a, write the question part in the second margin.

Do all your rough work in pen using the answer booklet and cross it through without making it illegible. Do not tear out any part of the answer booklet provided.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Begin your answer to **each question** on a fresh page of the answer booklet.

All work must be handed in. If you have used any additional booklets (including graph paper booklets) please insert them inside the answer booklet.

The number of marks is given in brackets [ ] at the end of each question or part question.

Indicate on the answer booklet the **question numbers** of the **three** questions you have attempted.

This document consists of **3** printed pages and **1** blank page.

Answer **three** questions in total.

**Section A**

**One or two** of your three chosen questions must be from this section.

- 1** Healthcare inflation in Singapore rose 10% in 2018, 10 times more than the Singapore economy's estimated 2018 inflation rate of 1%, according to Mercer Marsh Benefits 2019 Medical Trends Around the World report. The study noted that Singapore's healthcare inflation is partially driven up by supplier-led factors such as high-cost medical equipment as well as demand factors such as its ageing population.

Source: *The Straits Times*, 28 Jun 2019

- (a) Explain the demand and supply factors that could have caused the rapid increase in prices of healthcare services in Singapore.  
[10]
- (b) Discuss the policies that the Singapore government could adopt to reduce healthcare inflation. [15]
- 2** Discuss the extent to which government intervention is the main determinant influencing firms' profits in a country. [25]
- 3** The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.
- (a) Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy.  
[10]
- (b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

### Section B

**One or two** of your three chosen questions must be from this section.

- 4** April 2016 marked 18 consecutive months of negative inflation for Singapore arising from lower global crude oil prices and cheaper housing, utilities as well as transport costs. Faced with a challenging external environment, the Singapore economy will also see a slowdown of growth between 1% and 3% this year.

Source: *Singapore Business Review* 24 May 2016

- (a)** Explain the internal and external factors that are likely to have contributed to deflation in Singapore.  
[10]
- (b)** Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth.  
[15]
- 5 (a)** How do economists compare the economic performance of different countries?  
[10]
- (b)** Discuss the extent to which an increase in labour productivity is the key driver to improving living standards in a country.  
[15]
- 6** Discuss the benefits and costs of globalisation to different economic agents in Singapore. [25]

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Sample Answers**

1. In view of an aging population and the sharp rise in prices of medical services, the Singapore government is going to implement policies to reduce healthcare price inflation.
  - (a) Explain the demand and supply factors in determining the sharp increase in the prices of healthcare in Singapore.
  - (b) Discuss the policies that might be used by Singapore government to reduce healthcare price inflation.

**Intro:**

The increase in price of healthcare is due to both demand and supply factors such as aging population and increase in the cost of production. However, the extent of the increase in price is attributed to inelasticity of both DD and SS factors.

**Body:**

**P1:** Singapore is experiencing aging population which brings about an increasing rates of chronic disease. Despite that Singaporeans are living longer, on average, they spend eight years out of 82 in ill health. This will increase the frequency of them utilising the healthcare facilities which results in an increase in demand for healthcare services. This is depicted by a rightward shift of the demand curve from  $D_0$  to  $D_1$ .

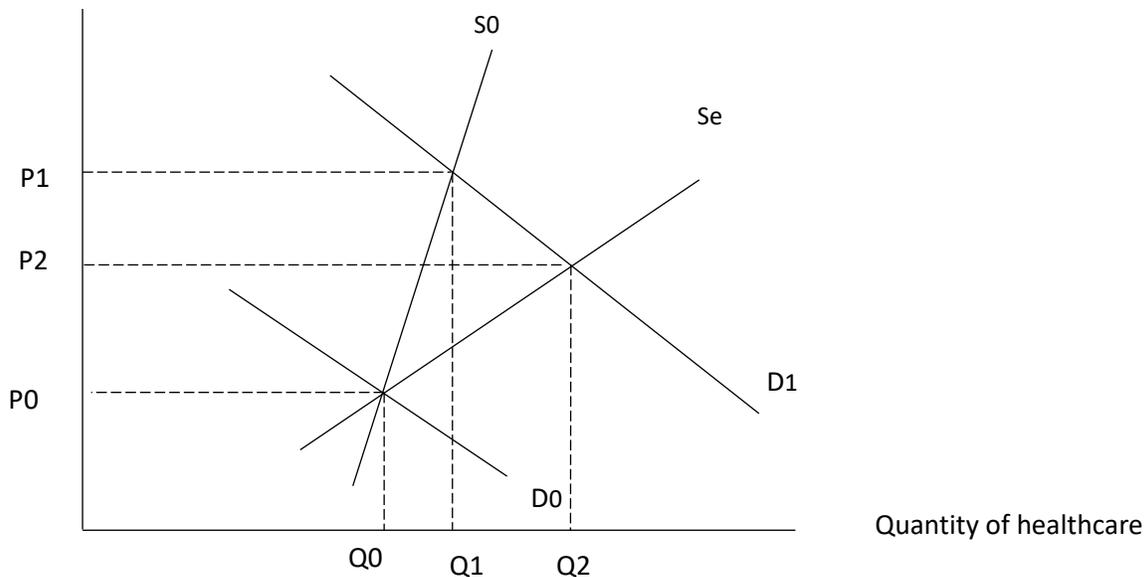
**P2:** One of the main cause of the sharp rise in price is the issue of moral hazard that healthcare insurance brings about. With healthcare insurance that require zero co-payment coverage, the patient need not pay anything for their treatments. The patient will have a greater incentive to seek medical treatments more frequently and opt for more expensive and perhaps riskier services that they would otherwise not required. Such change in behaviour results in the increase in demand for healthcare services. This is depicted by a rightward shift of the demand curve from  $D_0$  to  $D_1$ .

With an increase in demand, there will be a shortage at the original price. Given that supply of healthcare services is limited in the short run ( $PES < 1$ ) as the construction of new healthcare facilities such as hospitals and the training of medical staff (immobility of FOP) is likely to take a long time, there will be a sharp increase in price, from  $P_0$  to  $P_1$  to eliminate the shortage, as the increase in quantity supplied is less than proportionate.



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Sample Answers

Price of healthcare



**P3:** Medical innovations have impact on both demand and supply factors on healthcare services. With new treatment options. It also allows early diagnosis, which will generate greater demand for healthcare services. This is depicted by a rightward shift of the demand curve from  $D_0$  to  $D_1$ .

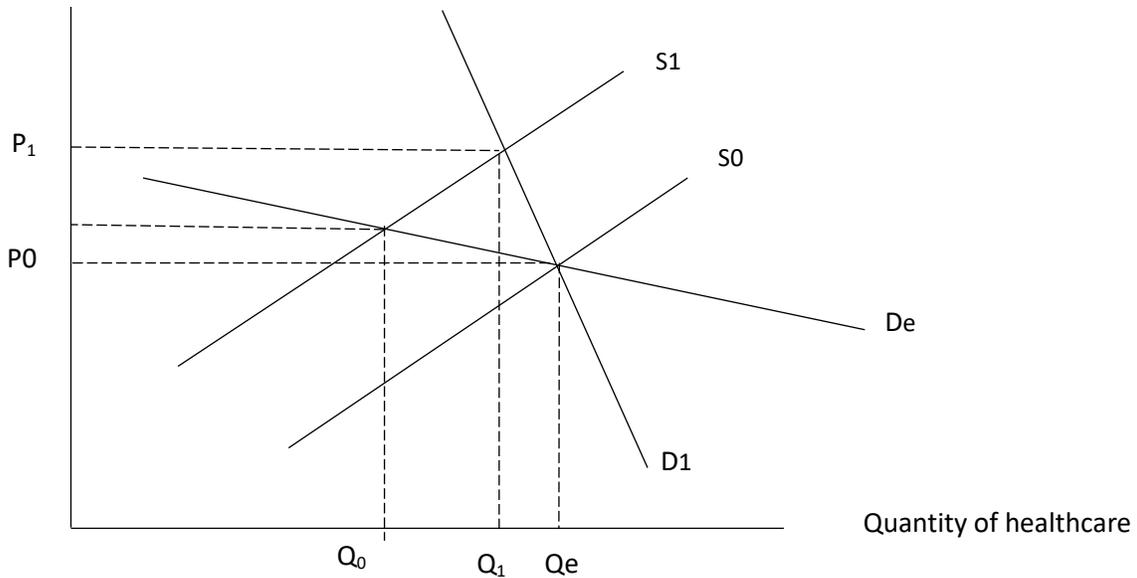
**P4:** At the same time, advances in medical technology could increase cost of production for healthcare services initially. Some innovation may lead to an increase use of medical personnel, material supplies, or training, particularly if they employ a new technique or procedure. This will increase the cost of production, resulting in a fall in supply and this is depicted by a leftward shift of supply curve from  $SS_0$  to  $SS_1$ .

Given that demand for healthcare is price inelastic as it is a necessity. With a fall in supply from  $S_0$  to  $S_1$ , there will be a sharp increase in price from  $P_0$  to  $P_1$  to eliminate the as the increase in quantity demanded is less than proportionate.



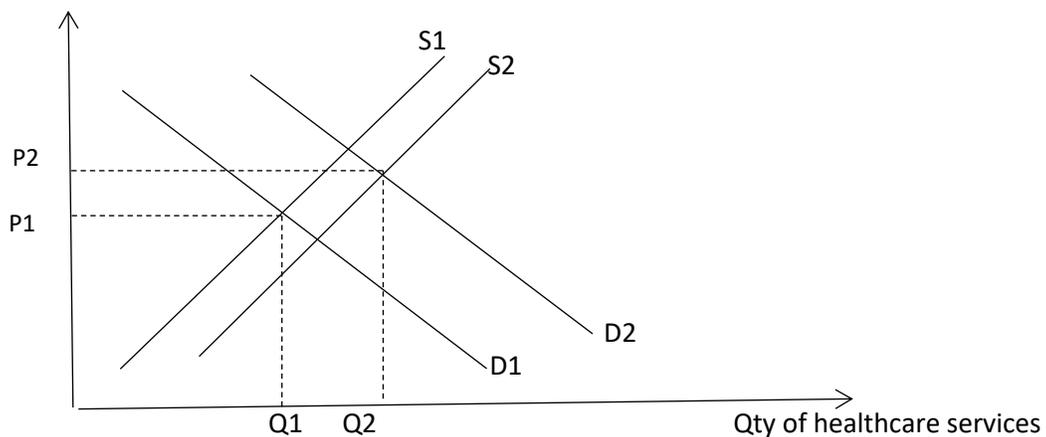
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Sample Answers

Price of healthcare



**P5:** As shown in the diagram below, the increase in demand for healthcare due to aging population will cause demand curve to shift rightwards from  $DD_1$  to  $DD_2$ . At the same time, with the increase in the cost of production for healthcare, there will be a fall in supply which will cause the supply curve to shift leftwards from  $SS_1$  to  $SS_2$ . At the original price, there will be a shortage, which will result in an upward pressure on price from  $P_0$  to  $P_1$ . The magnitude of the increase in price will also be larger as demand and supply are price inelastic.

Price of healthcare





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Sample Answers

**Conclusion**

Overall, due to the sharp increase in price is that brought by the changes in both demand and supply factors, there is a need for government to intervene to bring down the prices to ensure the affordability of healthcare services to Singaporeans.

<b>Knowledge, Application/Understanding and Analysis</b>		
L3	An answer that provides a clear and thorough explanation of the both demand and supply factors. Examples are used to support the explanation. A clear elaboration on the application of either PES or PED.	8 – 10
L2	An answer that provides a good explanation of the both demand and supply factors. Examples are used to support the explanation. Some elaboration on the application of either PES or PED. Cap 7m if only simultaneous shift is explained.	5 – 7
L1	An answer that only regurgitates theoretical understanding of characteristics without any application to context. Answer may also demonstrate weak knowledge and application of the characteristics of market, possibly with multiple conceptual errors.	1 – 4



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Sample Answers

- (b) Discuss the policies that might be used by Singapore government to reduce healthcare price inflation.

### Introduction

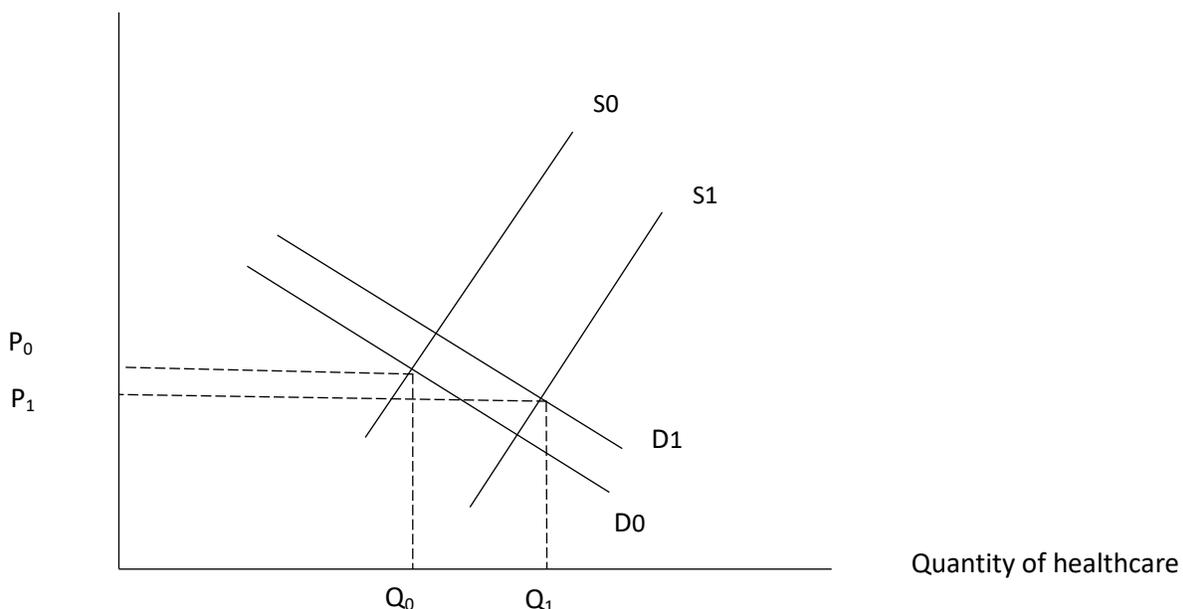
Healthcare inflation is defined as the growth in prices of healthcare goods and services. It has been on the rise for the recent years. It is estimated that it will rise up 10.1% in 2019 compared to Singapore's core inflation 1.4%. Given that Singapore is facing an aging population, it is important for the government to intervene via both demand and supply side policies to reduce healthcare price inflation so as to increase accessibility and affordability for the lower income. Whether the policies are effective is dependent on its ability to tackle the **root cause** of the problem, the **sustainability** of the policies.

### Body

#### P1: Direct Regulation

To reduce the healthcare inflation, the government could intervene via direct regulation. With direct regulation, the government is able to regulate the number of public hospital and the number of doctors. In view of the expected surge in demand from an aging population, government is constructing a new hospital every two years to increase the number of hospital beds to address geographical immobility for the patients. This will result in an increase in supply of healthcare services. Assuming that the increase in supply is greater than the increase in demand, there will be a surplus at the original price level,  $P_0$ . The surplus will exert a downward pressure on price, driving price from  $P_0$  to  $P_1$ . Through direct regulation, the government would be able to reduce the healthcare inflation.

Price of healthcare





### Limitations

To intervene via direct regulation, the government may experience imperfect information. They may overestimate and construct excessive hospitals. Given that demand for doctor is a derived demand, there will be an excessive demand for doctors. This will result in a distortion of labour market as it encourage more qualified students to study medicine than what the country needs, increasing deadweight loss. Moreover, given that government subsidise the training of doctors, there will be over-subsidisation due to imperfect information, resulting in greater deadweight loss. Hence, it take time for the government to calibrate the right balance between the number of hospitals, doctors and nurses.

In addition, healthcare services are supply-driven. By providing more beds, it does not necessarily brings down the price. It may pressurize doctors to admit patients more readily or keep them in hospitals longer than necessary. Given that inpatients cost is one of the driver for healthcare inflation, it might actually bring about greater increase in price of healthcare inflation.

### P2: Subsidy

To reduce healthcare price inflation, the government could intervene via subsidy in primary care, hospitalization, day surgery, treatment at specialist outpatient clinic, home care, nursing home. Through these subsidy in production, it will reduce the cost of production. This will increase supply curve from  $S_0$  to  $S_1$ , assuming that the increase in supply is greater than increase in demand, this will bring about a fall in the price from  $P_0$  to  $P_1$ , reducing healthcare inflation.

### Limitations:

However, subsidizing healthcare impose a drain on government's budget. Subsidies had risen from \$2.6 billion to \$5.6 billion since 2010 to 2016, pushing up government health expenditure, which increased to 2.4 times - from \$3.9 billion to \$9.3 billion. The increase in healthcare spending may not be sustainable for government especially in view of Singapore's aging population. The government may have to increase taxes to fund the healthcare expenditure. This will have an implication on the standard of living for the future. Furthermore, with more resources allocated to healthcare, there will be an opportunity cost incurred for other sectors too which could have an implication on other macro goals.

### P3: Promoting healthy lifestyle campaign

Government can intervene by focusing on preventive healthcare. The purpose is to get people to stay healthy. Government can conduct programs by health promotion board (HPB) or even collaborate with firms to encourage their employees to participate in wellness program. This will reduce the likelihood of the population falling sick, reducing the demand for healthcare services in the long run. This in turn can slow down the rise in healthcare price inflation.

### Limitations

However, with better preventive healthcare. It may actually result in increase in demand for healthcare services due to more informed consumers. This will increase the demand for



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Sample Answers**

preventive healthcare services. In the short run, there will be an increase in healthcare price inflation.

Moreover, it takes a long time for people to change their behavior especially for the older generation. They are accustomed to a certain lifestyles and habits that might not be healthy. Therefore, this policy has to be complemented with a short-term policy that has quick and effective results. Example. To encourage Singaporeans to eat healthier more, every Singaporean was given \$100 Active SG credits to ensure that they exercise more. By giving incentives, it may encourage more Singaporeans to exercise. However, it also comes at a high implementation cost for the government.

### **Evaluation**

[W] With aging population, advancement in technology, the increase in healthcare price will put pressure on the government to intervene. In view of the three policies discussed, with aging population, the amount of tax revenue received by the government will decrease and this will limit the government ability to do direct provision and subsidy in the long run, reducing its effectiveness in sustainability.

Moreover, public education such a preventive healthcare is the most effective policy as it address the root cause of the problem. It takes into account that people are living longer, with life expectancy going up but the numbers of years that people are living in poor health is also going up. Given that Singapore healthcare philosophy is based on the fundamental objectives of nurturing a healthy nation by promoting personal responsibility for one's health. Therefore, preventive healthcare and having the population to stay healthy, it will help to reduce demand for healthcare, addressing the problem of healthcare inflation.



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Sample Answers

<b>Knowledge, Application, Understanding and Analysis</b>		
L3	A balanced and well-developed answer on the policies used by the government to address healthcare price inflation, with consistent use of examples related to Singapore context.	8 – 10
L2	An under-developed, balanced answer on polices deal with healthcare price inflation, with inconsistent use of examples and gaps in analyses. Capped 7m: If answers do not have limitations of the policies. Capped 5m: if the student is able to explain 1 policy very well.	5 – 7
L1	May have many and/or serious conceptual errors. May have relevant points that were made incidentally.	1 – 4
<b>Evaluation</b>		
E3	For an answer that arrives at an analytically well-reasoned judgement about government decision to implement policies to address healthcare price inflation. Might also question any unstated assumptions to arrive at this well-reasoned judgement.	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on government policies to deal with healthcare price inflation.	2 – 3
E1	For an answer that gives an unexplained, unsupported evaluative statement on government policies to deal with healthcare price inflation.	1



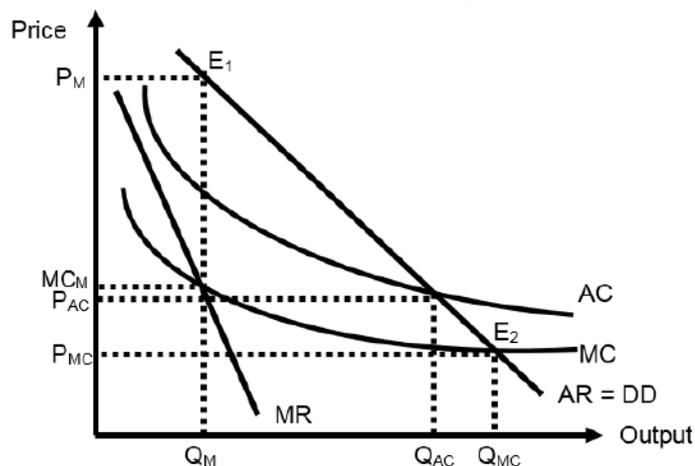
- 2 Discuss the extent to which government intervention is the main determinant influencing firms' profits in a country. [25]

Profits are defined as total revenue less total cost. In theory, it is assumed that firms such as monopolistic competition, monopoly and oligopoly maximise profits. However in reality, there are many factors such as government intervention, degree of barriers to entry influencing firm's profits in a country.

**Thesis:**

**Government intervention is the main determinant influencing firms' profits for most natural monopolies in a country** as these industries are likely to be producing essential goods and services such as electricity, gas and water. These industries are monopolies that have emerged due to significant economies of scale where long run average costs will be lower if the total output is produced by a monopolist rather than two or more large firms. It therefore makes sense for there to be only one firm in the industry. However, these natural monopolies may need to be regulated so that they do not charge excessive prices to the detriment of consumers.

The government might intervene the market with the aim of achieving allocative efficiency. The government can set a price that equals the monopolist's marginal cost of production (*marginal-cost pricing*). If  $P=MC$ , consumers will buy the monopolist's output,  $Q_{MC}$  at  $P_{MC}$  and societal welfare is maximised. Allocative efficiency is achieved.



**Fig. : MC-Pricing and AC-Pricing**

Natural monopolies are characterised by steeply declining long-run average and marginal cost curves such that there is room for only one firm to fully exploit available economies of



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Sample Answers

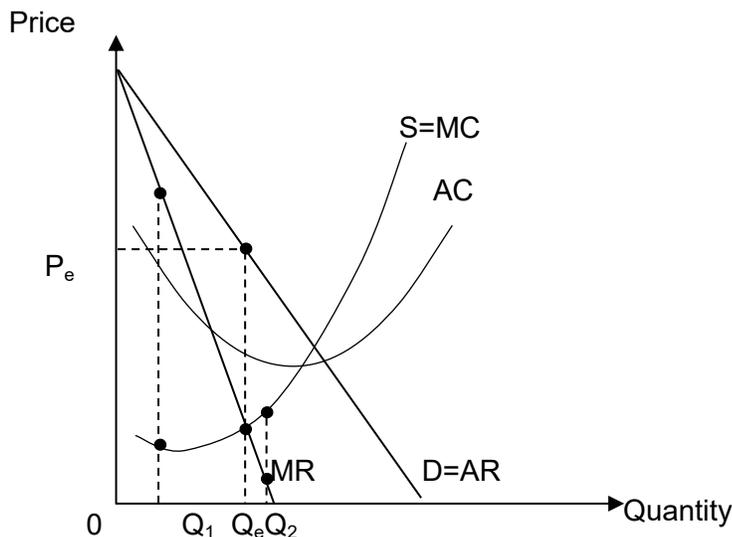
scale and supply the market. Also, when average cost is declining, marginal cost is less than average cost. MC pricing thus results in the natural monopoly making subnormal profits ( $AC > AR$  at  $Q_{MC}$ ). These firms are likely to leave the market, as such, the government may choose to take over such industries (nationalise) instead and absorb the resulting losses out of tax revenues. As industries have been nationalised and no longer profit motivated, there is less incentive to using the least cost method to produce the good and may suffer from X inefficiency, this means that AC incurred are higher, and subnormal profits are likely to be larger.

Government may also regulate price by imposing average cost pricing, this means that the the firm will price the good at  $P_{AC}$  and produce output  $Q_{AC}$ . This allows the firm to make normal profits ( $AC = AR$ ). Although firms may still stay in the market, there is no incentive for them to innovate, this means that they are unlikely to expand their market through R&D to produce better quality products.

**Antithesis:**

**Other factors such as objective of the firms, degree of barriers to entry and business cycles rather than government intervention are determinants of firms' profits.**

The objective of the firm is one determinant that influence firm's profits. Based on self-interest, most firms aim to maximise profits and will set output where  $MR=MC$ . Referring to Figure below, at output quantities below  $Q_e$ , at  $Q_1$ ,  $MR > MC$ . This implies that producing an additional unit of output adds more to the monopolist's revenue than to cost. Thus the monopolist should raise output level to  $Q_e$  to maximise profits. Conversely, at output quantities above  $Q_e$ , at  $Q_2$ ,  $MC > MR$ . This implies that producing an additional unit of output adds more to the monopolist's cost than to revenue. The monopolist should lower output from  $Q_2$  to  $Q_e$  to maximise profits.





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Sample Answers

Thus a profit maximising monopolist should produce  $Q_e$  where **MR=MC**. From the demand curve (AR) the monopolist determines the price consumers are willing and able to pay at this quantity, and set its price at  $P_e$ . In so doing, it earns a maximum profit as shaded in Figure 1.

However some firms in the real world may not be setting prices to maintain profits as they may pursue alternative objectives, e.g. revenue, sales and market share maximization. Revenue maximising firms seek to maximise total revenue (i.e. they set price where marginal revenue = 0), while sales maximising firms seek to maximise output, subject to achieving a minimum profit level or normal profit. Firms which seek to expand their market share might even be willing to engage in predatory pricing or price wars, and make short term losses in order to capture market share from their rivals. Hence, such firms did not maximising profits. Supermarket selling perishables such as sushi are likely to charge a price to maximise revenue rather than maximising profit.

Furthermore, especially in large publicly listed companies in a country, a divorce of ownership and management might imply that owners and managers seek different objectives – owners might seek to maximise profits, while managers maximise sales revenue, which may be more closely related to managers' salaries and hence managerial utility (satisfaction). Therefore, in reality, it is unlikely that managers want to maintain profits. A **principal-agent problem** may arise where the shareholders (principal) who own the company cannot monitor whether the managers (agent) maintain profits or maximise profits and shareholder value. Managers might want to maximise revenue instead of maximising profits.

The degree of barriers to entry is one main factor influencing firms' profits. Barriers to entry prevent or impede the entry of firms into an industry and thereby limit the amount of competition faced by existing firms. These barriers to entry may be natural or created. Natural barriers to entry include the ownership or control of key resources where the firm may have access to natural resources. Created barriers to entry would include legal restrictions such as patents, copyrights and licenses. The barriers to entry influence the degree of competition in an industry, which in turn affects the number of firms or producers in the industry.

Oligopolistic firms have high barriers to entry, is constrained by the downward sloping demand curve, it would set prices at the output level where marginal revenue (MR) equates marginal cost (MC). The oligopolistic firm is able to maintain the price at  $P$  and make supernormal profits even in the long-run because of the strong or high barriers to entry. Potential entrants into the industry may find it extremely difficult to enter to compete away the monopolist's supernormal profits made in the short run due to the significant barriers to entry. For instance, potential entrants may not have the legal rights to do so or are denied access to resources needed for the production of the good or service. No new firm is able to enter the industry to compete away the supernormal profits. Hence, the monopolist is able to continue to set price at  $P$  where it maximises profits, and retain whatever supernormal profits it makes even in the long run.

On the other hand, monopolistic competitive firms such as hawker stalls and fashion shops faced low barriers to entry, other firms can enter and exit the market more easily.



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**Sample Answers**

Suppose a monopolistic competitive firm make supernormal profit in the short run, other firms may enter the market due to low barriers to entry. The MC firm will face a fall in the demand for the goods leading to a fall in the AR and MR and the curves becoming flatter due to an increase in substitutes available. The entrance of firms into the industry will continue until all profits are reaped away from the MC firms. This means that in the long run, it is the degree of the barriers to entry that determines the firms' profits.

In reality, in an open economy such as Singapore, oligopolistic firms tend to be contestable. Firms are likely to engage in research and development to maintain or increase their profits. In order to maintain or increase profits, big firms will have to keep engaging in research and development to create and sustain their artificial barriers to entry to protect their profits. Such behaviour would deter new innovation by new rivals since rivals would have difficulties accessing this patented knowledge to create new products. With high barriers to entry, they are likely to make supernormal profits in the long run.

During a recession, the nature of the product rather than government intervention influence firms' profits. For oligopolistic firms that are producing luxury goods and services such as branded bags and restaurant meals are likely to make lower profits. These firms are likely to be large by nature due to the high barriers to entry. A recession will lead to a fall in consumer incomes, and a more than proportionate fall in demand for these goods and services given that the YED values are likely to be large. This means a significant fall in the AR and MR, influencing the firms' profits negatively. Their profits are likely to fall or even make subnormal profits. On the other hand, for firms producing inferior goods such as poorer quality rice will enjoy an increase in their profits, this is because, a fall in income will lead to an increase in the demand for inferior goods as consumers switch from consuming normal good to inferior goods. This will lead to an increase in AR and MR, assuming costs constant will mean that firms' profits are likely to increase. However, in reality, the values of YED tend to differs from developed countries and developing countries. For example, a good like budget travel is a necessity or even an inferior good in a developed economy but is a luxury good for many people in a developing economy.

**Evaluation:**  
**(W)**

In most countries, government intervention is not the main determinant of firms' profits when the deadweight loss from the underproduction of the good is minimal and the workings of the price mechanism does not lead to significant distributive failure in the market. Other factors such as the objectives of the firms, degree of barriers to entry and business cycles play a larger role in influencing firms' profits. This is because if the government intervenes in these markets, it might lead to greater deadweight loss from overconsumption instead, leading to a more inefficient allocation of resources. The main determinant influencing firms' profits is the degree of barriers to entry as it will have implications on the type of profit they make in the long run. In this case, the type of barriers to entry will influence the contestability of the markets leading to changes in firms' behaviours which would in turn affect their profits.



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<b>Knowledge, Application, Understanding and Analysis</b>		
<b>L3</b>	For a thorough and well-balanced answer that provides good analytical structure to assess whether government intervention influence firms' profits with at least two other factors. Comprehensive illustration of real world examples.	<b>15 – 20</b>
<b>L2</b>	For a balanced but limited and undeveloped answer that has some analysis.	<b>9 – 14</b>
<b>L1</b>	For an answer that is largely descriptive and lacks a clear structure. Largely unexplained list of factor influencing firms' profits	<b>1 – 8</b>
<b>Evaluation</b>		
<b>E3</b>	Judgment is based on economic analysis and adequately substantiated with an evaluative conclusion on whether government intervention is the main determinant influencing firms' profits in a country.	<b>4 – 5</b>
<b>E2</b>	For an answer that makes some attempt at evaluation on whether government intervention is the main determinant influencing firms' profits in a country.	<b>2-3</b>
<b>E1</b>	For an unexplained assessment, or one that is not supported by economic analysis.	<b>1</b>



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3. The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.

a) Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy. [10]

b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

a) Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy. [10]

Introduction:

Given that there is scarcity in resources due to limited resources and unlimited wants, there is a need to allocate resources efficiently to ensure no wastage of resources. In a free market economy which uses price mechanism, resources are allocated based on demand supply market forces.

Direction: This essay aims to explain how price mechanism seeks to answer the three questions of what and how much to produce, how to produce and for whom to produce to ensure economic efficiency is achieved.

Body:

P1: What and how much to produce will ensure that price mechanism achieves allocative efficiency.

E1: In terms of ensuring the right type and the right amount of good produced, the price mechanism would ensure more resources are channeled towards producing goods which fetch a higher price. For example, when there is a rise in demand for laptops, there will be a shortage of laptop. The unsuccessful consumers will bid up the price of laptops which exerts upward pressure on the price of laptops. This will incentivize profit maximizing producers to increase their quantity supplied of laptops since higher price and quantity will bring them greater revenue, assuming cost constant, greater profits. This means that more resources will be channelled towards producing laptops. In contrast, when there is a fall in demand for personal computers, there will be a surplus in the market. The producers will lower the price of the good to get rid of excess stocks through getting consumers to increase their quantity demanded. As price falls, producers will cut back quantity supplied as it is less profitable now and thus channel less resources to production of goods with declining demand. In this way, the price mechanism has ensured the right type of the good is produced in the right amount. Hence, allocative efficiency is achieved.

P2: When price mechanism allocates resources based on the question of how to produce, it can achieve productive efficiency.

E2: Based on prices of inputs in the factor market, profit maximizing producers will produce the good which using the least cost combination of inputs to produce the final goods at the lowest



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possible average cost of production at every given level of output. A combination of inputs with more labour relative to capital is labour intensive method of production whereas a combination of inputs with more capital relative to labour is capital-intensive method of production. Assuming 2 factors of production- capital and labor, to produce 1000 units of a particular good (curry puffs),

Combination	Labour (workers- \$20 each)	Capital (machine - \$100 each)	Output produced (Curry puffs)	Cost of production
1	10	2	1000	\$400
2	3	8	1000	\$860
3	6	4	1000	\$520

there are a few permutations of inputs which the producer can adopt to produce the given level of output. (Refer to Table 1). Profit maximizing producer will choose the first combination of input (labour-intensive method of production) since it is the least cost combination of inputs, thus price

mechanism has helped to ensure that productive efficiency is achieved

Table 1: Combination of capital-labour based on prices of inputs

P3: Through the question of for whom to produce, the price mechanism can ensure no wastage of resources.

E3: Price mechanism will ensure that goods are produced for consumers who truly desire to obtain the good, backed by the ability to do so. In the free market, the consumers who truly want to obtain the good will bid the highest price for the good. In this way, more resources are channeled towards production of this good for this particular group of consumers, and those without the willingness or ability will not be able to obtain the good. In this way, the good is produced for consumers with effective demand, those who truly want it backed by the ability to do so. Thus ensuring resources are not wasted and economic efficiency is achieved.

Conclusion:

Although price mechanism is able to allocate resources efficiently in a free market through the 3 questions, it is based on the assumptions of perfectly competitive market with perfect knowledge and perfect mobility of factors of production. It is also assumed that there are no externalities and the good is rivalrous and excludable. It is worth noting that it is not possible to solve scarcity since resources would always be limited relative to unlimited human wants and price mechanism is only able to reduce it through allocating resources in the most efficient manner to avoid wastage.

Alternative answer based on explanation of how consumers maximize consumer surplus and producers maximize producer surplus is also acceptable.

Answer would be to explain the meaning of scarcity in the allocation of resources, followed by an explanation of the operation of the price mechanism in a free market economy, by tracing through the effects of a change in demand or supply conditions for an exemplar product, and then linked the two together.

**Knowledge, Application, Understanding and Analysis**



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L3	Developed explanation of how price mechanism leads to allocative efficiency through shortage and surplus, productive efficiency (using Table) and no wastage of resources. Consistent link to allocative efficiency, productive efficiency and no wastage of resources.	8-10
L2	Underdeveloped explanation of how price mechanism leads to allocative efficiency, productive efficiency and/or wastage of resources. Incomplete links to either type of efficiency.	5-7
L1	Smattering of valid points. Did not use relevant economic framework. A superficial answer which describes or lists how efficiency is achieved through price mechanism.	1-4

3. The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.

b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

Introduction:

Direction: This essay aims to explain the two different types of market failure in the respective countries and how each approach achieves efficiency in resource allocation, taking into consideration the relative effectiveness, ability to tackle root cause, desirability as well as sustainability of the 2 approaches.

Tourism in Singapore is considered to be generating positive externalities which means there is underconsumption of tourism services in Singapore. As such, Singapore government gives subsidies to increase consumption to socially optimum output level.

In contrast, tourism in Italy is deemed to be generating negative externalities so this means there is overconsumption of tourism services in this country. As such, the government imposes tourist tax to cut back consumption to socially optimum output level.

Body:

P1: The tourism sector in Singapore generates positive externalities which cause under consumption of tourism services in the country.

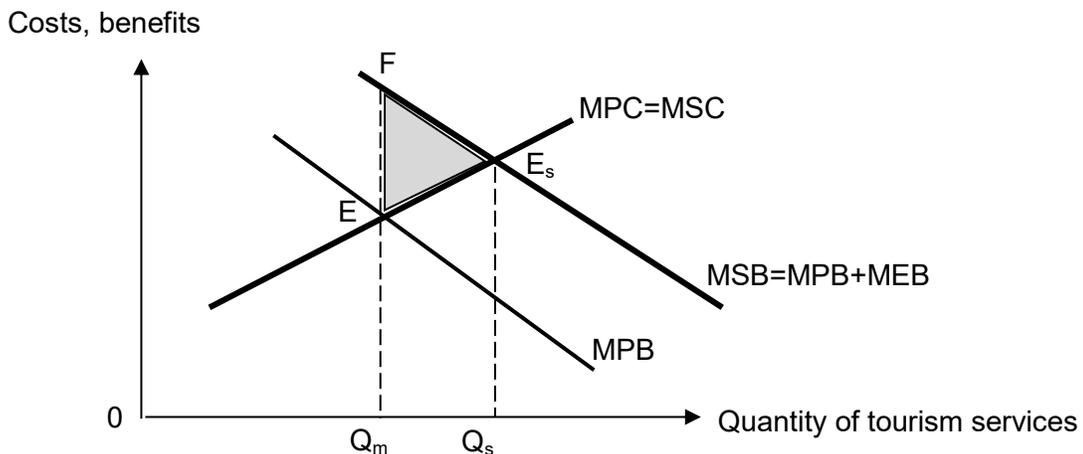
E1: Tourism sector in Singapore generates positive externalities when the tourists visit Singapore. The marginal external benefits is the third party benefits gained by those not directly involved in the economic transaction of tourism service and yet did not pay for the benefits. They could be the firms in tourism related industry such as hotel, retailing and food and beverage firms which earn more income due to more tourists consuming their goods or services. As such, the marginal social benefit is greater than the marginal private benefit as seen in Figure 1. The



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Sample Answers

market equilibrium determined by the producers and consumers of tourism is where  $MPB=MPB$  at  $Q_m$ . The social equilibrium is where  $MSB=MSC$  at  $Q_s$ . There is underconsumption of tourism services as the market output level of tourism services ( $Q_m$ ) is less than the socially optimum output level ( $Q_s$ ). There is a wastage of resources elsewhere as society misses out on what they could have benefitted if they had consumed more at  $Q_s$ . Between the underconsumed region  $Q_m Q_s$ , the total benefit to society exceeds the total cost resulting in a net benefit which was not gained by society (Area  $FE_sE$ ) due to underconsumption. This wastage of resources is deadweight loss, warranting government intervention to raise consumption level to  $Q_s$ .

Figure 1: Tourism services generating positive externalities



P2: The economic case for Singapore government providing indirect subsidies is to increase consumption of tourism services to socially optimum output level.

E2: Subsidy provided through Tourism Development Fund by amount  $MEB$  shifts  $MPC$  curve down from  $MPC$  to  $MPC + \text{subsidy}$  in Figure 2. This lowers cost of producing tourism services, assume revenue constant, there will be higher profits. This will lead to a rise in supply of tourism services which creates a surplus of tourism services exerting downward pressure on price of tourism services. A lower price of tourism services from  $P_0$  to  $P_1$  will lead to a rise in quantity demanded of tourism services from  $Q_m$  to  $Q_s$ , achieving socially optimum output level achieved when  $MEB$  is estimated accurately.



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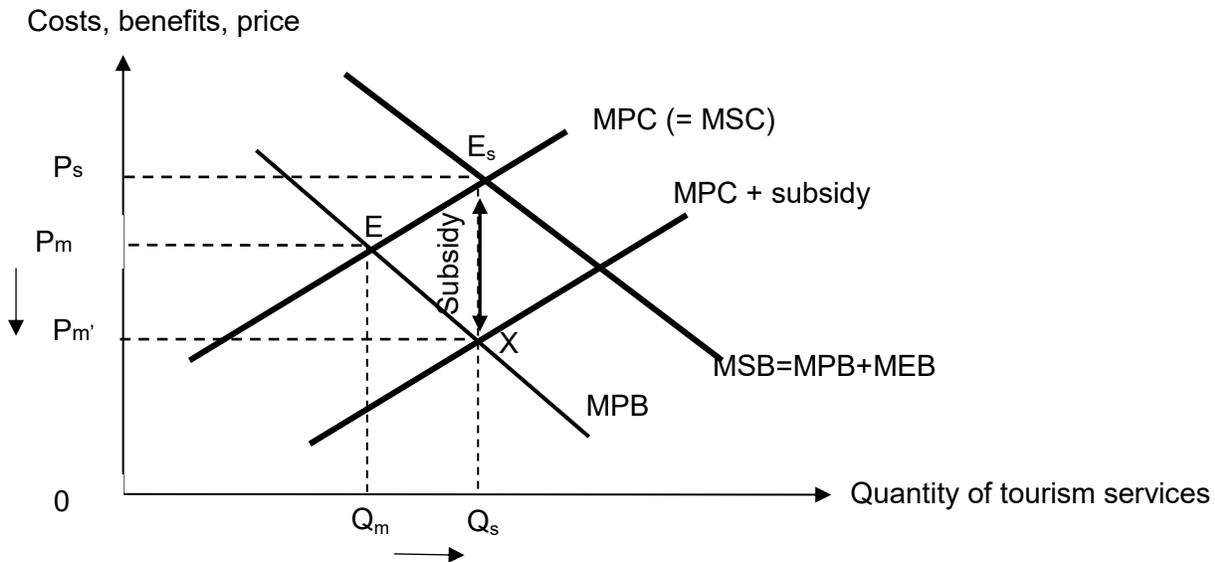


Figure 2: Subsidy to achieve socially optimum level

P3: The economic case against Singapore government providing indirect subsidy to tourism services is that it can greater inefficiency in resource allocation.

E3: The Singapore government has imperfect knowledge and hence, may not estimate MEB accurately as the positive effects of tourism is extensive. Overestimation of subsidy results in price of tourism services reduced too low causing a significant rise in quantity demanded of the services beyond  $Q_s$  which leads to overconsumption of tourism services. This results in a wastage of resources which is considered an inefficiency in resource allocation. Subsidy then, may not be a very effective policy. Singapore government should not provide subsidy if the deadweight loss created is greater than the initial deadweight loss due to underconsumption.

P4: Another economic case against Singapore government providing indirect subsidy is the trade-off compromising other economic goals such as equity in income distribution.

E4: As the government has limited budget reserves, providing indirect subsidy to tourism services will mean less funds available for other economic development programmes such as healthcare or education. There will be opportunity cost in terms of net benefit from the next best alternative foregone, in this case, cheaper healthcare services available. When prices of healthcare get too high, it becomes unaffordable for many people especially the low income group. Having less access to basic necessities due to lack of purchasing power caused by



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rising prices means there is unfair distribution of resources which signals inequity in income distribution. Hence, goal of equity in income distribution is compromised.

Evaluation:

Whether the Singapore government should provide subsidies to encourage consumption of tourism services depends on the extent of MEB and the reason why there is underconsumption. The government also has to weigh the trade-offs and its repercussions on Singapore economy, especially with the more pressing concern of ageing population and its healthcare needs.

It may be the case of even with tourism services made cheaper, consumers may not be very responsive to price cut due to more attractive and cheaper neighbouring Asian destinations like Malaysia or Indonesia → As such, quantity demanded of education rises less than proportionately as Singapore is not seen as a close substitute destination to these neighbouring countries. Hence, the current subsidy may not be very effective in increasing consumption. The Singapore government may need to pump in a substantial amount of subsidy to achieve the desired socially optimum output level which means the trade-off may be greater for Singapore. It may even be the case whereby the costs from inequity and lower SOL due to less access to healthcare exceeds the benefits of achieving efficiency in resource allocation which is a case against subsidy given to tourism services.

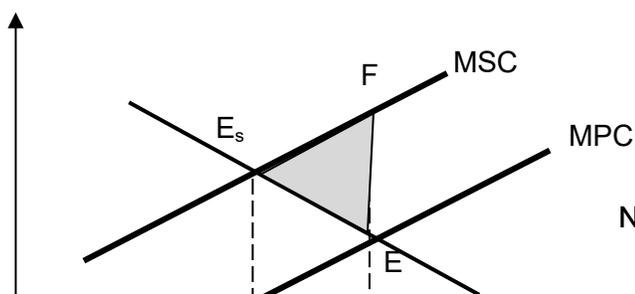
Alternative consideration can include tourism as a large proportion of country's GDP and could be country's potential Comparative Advantage enabling the country to enjoy greater X revenue, employment and economic growth if more resources are channeled towards tourism.

P5: The tourism sector in Italy generates negative externalities which cause over consumption of tourism services in the country.

E5: Tourism sector in Italy generates negative externalities when the tourists visit Italy. The marginal external costs is the third party costs incurred by those not directly involved in the economic transaction of tourism service and are not compensated for. They could be the residents living near places of interest who could be facing land pollution due to tourists littering or water pollution due to many cruise ships causing oil spillage in the water sources. Those who earn income from the water source such as farmers or fishermen may suffer from loss of income. As such, the marginal social cost is greater than the marginal private cost as seen in Figure 3. There is overconsumption of tourism services as the market output level of tourism services ( $Q_m$ ) is greater than the socially optimum output level ( $Q_s$ ). There is a wastage of resources as there is a net cost to society (Area  $F E_s E$ ), warranting government intervention to reduce consumption level to  $Q_s$ .

Figure 3: Tourism services generating negative externalities

Costs, benefits



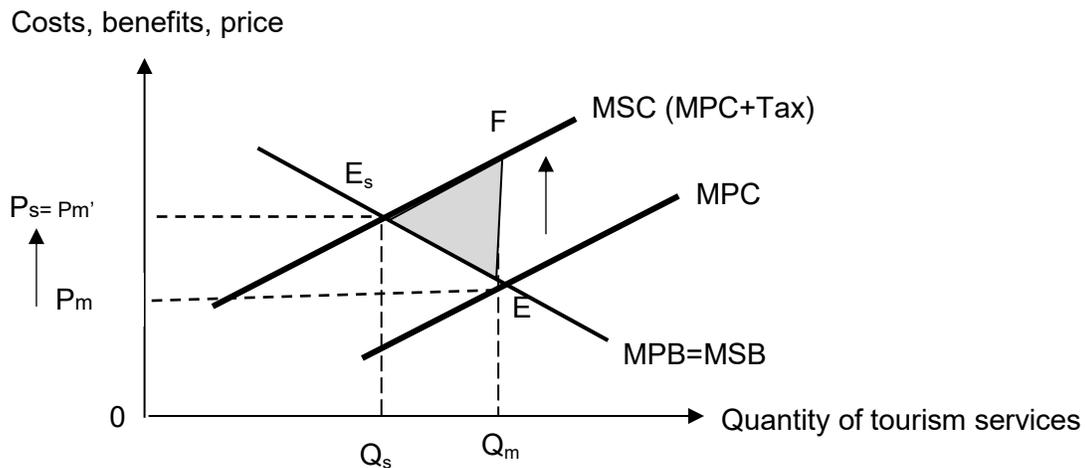


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P6: The economic case for Italy government imposing tourist tax is to decrease consumption of tourism services to socially optimum output level.

E6: Tourist tax by amount MEC shifts MPC curve up from MPC to MPC + tax in Figure 4. This increases cost of producing tourism services which will raise the price of tourism services from  $P_0$  to  $P_1$ . A higher price will lead to a fall in quantity demanded of tourism services from  $Q_m$  to  $Q_s$ . Fewer tourists into the country means less negative externality generated, achieving socially optimum output level achieved when MEC is estimated accurately.

Figure 4: Tourist tax to achieve socially optimum output level



P7: Another economic case for tourist tax is this approach allows the country to sustain its efficiency in resource allocation.

E7: With greater tax revenue collected through tax, the revenue obtained could be channeled towards building infrastructural facilities such as eco-friendly accommodations or hold campaigns to conserve the environment. The externalities created by tourism can be corrected using tax revenue collected. In this manner, the efficiency in resource allocation outcome can be sustained till the long run.

P8: However, tourist tax is not without its limitation as it can lead to trade-offs of lower employment and economic growth which form the basis for the economic case against tax.



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E8: Imposing tax to reduce the number of tourists can result in a fall in export revenue since exporters would be receiving lower price and output. Assuming no change in import expenditure, a fall in net export revenue can lead to a fall in aggregate demand which reduces the country's employment and real national output since production of goods and services is reduced.

Evaluation:

The case for tax would outweigh the case for tax if Italy is facing too large MEC that not only it causes inefficiency in resource allocation, the depletion of resources also impedes sustainable economic growth in future. Having said that, if Italy is highly dependent on its tourism sector for employment opportunities to generate employment and economic growth, imposing tax which curbs the number of tourists may have larger and more severe repercussion when her (X-M) falls and (X-M) is a significant component of GDP if a large proportion of export revenue comes from tourism. The government needs to weigh the pressing concerns in the country in terms of achieving efficiency in resource allocation or greater employment and economic growth in the short run.

All in all, given Italy's current overcrowding issue due to tourism influx as a result of its sinking country and Singapore's current ageing population concerns, it seems that Italy has a stronger case for tax to curb her large MEC compared to Singapore's case for subsidy to correct her MEB problem. Simply because, for Singapore, leisure tourism is not her niche market. Even without subsidy, medical tourism which is a booming industry for Singapore due to her advanced technology and highly skilled medical officers will continue to attract tourists over time. Government budget should in fact be used to subsidise healthcare for the locals to reduce discrepancy in accessibility to advanced medical care between the tourists and locals.

<b>Knowledge, Application, Understanding and Analysis</b>		
L3	Developed explanation of how positive and negative externalities (with diagrams) lead to inefficiency in resource allocation.  Detailed explanation of how subsidy and tax leads to efficiency in resource allocation and at least one case against each approach.	8 – 10
L2	Underdeveloped explanation of how positive and/or negative externality lead to inefficiency in resource allocation  Explanation of how subsidy and/or tax leads to efficiency in resource allocation and one case against either approach.	5 – 7
L1	Smattering of valid points.	1 – 4



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Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgement about whether the case for outweigh or does not outweigh the case against for the 2 different approaches for the respective countries and between the 2 countries	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on whether case for outweigh/does not outweigh the case against for each approach.	2 – 3
E1	For an answer that gives an <u>unexplained, unsupported</u> evaluative statement on whether the case for outweigh or does not outweigh the case against for either approach.	1



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4. April 2016 marked 18 consecutive months of negative inflation for Singapore arising from lower global crude oil prices and cheaper housing, utilities as well as transport costs. Faced with a challenging external environment, the Singapore economy will also see a slowdown of growth between 1% and 3% this year.

Source: *Singapore Business Review* 24 May

2016

- (a) Explain the internal and external factors that are likely to have contributed to deflation in Singapore.  
[10]
- (b) Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth.  
[15]

Introduction:

Deflation is a period of sustained and inordinate fall in general price level of final goods and services in a country.

Direction: This essay aims to explain factors caused by domestic and international changes which lead to a persistent fall in GPL.

Body:

P1: External factors like lower global crude oil prices are likely to have caused a deflation in Singapore.

E1: Singapore has limited resources and thus, is very dependent on imported inputs such as oil to produce fuel and other related goods and services. A fall in global crude oil price means a lower price of imported oil in Singapore which lowers cost of producing final goods and services by large extent, assuming revenue remains unchanged, profits will be higher. Profit maximizing producers increase SRAS of final goods and services significantly. Huge surplus created will exert downward pressure on GPL causing deflation.



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P2: Singapore's deflation can also be caused by external factors like challenging external environment.

E2: Challenging external environment can include economic slowdown of trade partners. When trade partners have a fall in real national income, their purchasing power falls. There will be a fall in demand for Singapore's exports causing a fall in export revenue. As Singapore is trade reliant, export is a significant component of GDP. Any fall in export revenue, assuming import expenditure unchanged, there will be a large fall in  $(X-M)$ . When  $(X-M)$  falls, AD will fall causing GPL to fall persistently resulting in deflation.

P3: Internal factors like cheaper housing, transport costs and utilities are also likely to cause deflation in Singapore.

E3: Cheaper housing, transport costs and utilities would mean that expenditure on these goods and fall since PED is less than one due to housing and utilities being necessities. When price falls, quantity demanded rises less than proportionately, ceteris paribus, leading to a fall in total expenditure. As housing, transport costs and utilities in total take up a relatively large proportion of household's income, it is significant enough to cause a fall in consumption expenditure in the country. When C falls, AD falls as C is a component of AD. Surplus created exerts downward pressure on GPL causing persistent fall in GPL which caused deflation in Singapore.

Conclusion:

It is worth noting that these factors are happening simultaneously which means that both fall in AD and rise in SRAS reinforce each other causing a large persistent fall in GPL. Given Singapore's open nature and highly reliant on trade, it is more likely that external factors have a stronger influence in causing deflation in Singapore compared to internal factors.

<b>Knowledge, Application, Understanding and Analysis</b>		
L3	Developed explanation, using AD/AS framework, of how both internal and external factors caused a persistent fall in GPL in Singapore context.	8-10
L2	Underdeveloped explanation of how internal and/or external factor/s caused a persistent fall in GPL. Largely theoretical answer with some use of AD/AS framework.	5-7
L1	Smattering of valid points. Did not use AD/AS framework. A superficial answer which describes or lists how internal or external	1-4



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	factor/s caused a persistent fall in GPL.	
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b) Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth. [15]

Introduction:

Slow economic growth is a concern as a small rise in real national income may deter investors and households from spending which can in turn cause a fall in employment and economic growth eventually.

While deflation may seem desirable, severe deflation can create a contractionary effect on the economy as the households and investors hold back spending in anticipation of a future price fall and the rise in real debt may also deter borrowing causing further fall in spending leading to a fall in employment and economic growth.

Direction: This essay aims to explain how expansionary fiscal policy can help to raise general price level and real national output, taking into consideration the relative effectiveness, ability to tackle root cause of problems as well as sustainability in comparison with other policies.

Body:

P1: Expansionary fiscal policy can help to raise GPL and real national output when faced with deflation and slow economic growth.

E1: Expansionary fiscal policy involves deliberate increase in government expenditure and/or reduction in tax rate. When government increased spending on infrastructural facilities such as MRT Downtown Line, there will be a rise in AD leading to a rise in real national income. This rise in income will trigger a further rise in induced consumption causing a further rise in AD due to the effects of spending and re-spending causing multiple rise in real national output, boosting economic growth. When more resources are increasingly utilised due to greater production of goods and services, there will be a shortage of final goods and services exerting upward pressure on GPL leading to a rise in GPL, hence, reducing deflation.

Expansionary fiscal policy also involves cut in tax rate such as personal and corporate income tax. Reduction in personal income tax rate can increase the households' disposable income which enables them to increase their consumption expenditure C. The cut in corporate income tax can raise firms' after-tax profits allowing them to spend more on capital goods which



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increases investment expenditure  $I$ . This rise in  $AD$  due to rise in  $C$  and  $I$  will generate similar multiplied effects as explained earlier to boost real national output and  $GPL$ .

This policy is especially effective in tackling root cause when dealing with deflation problem brought about by fall in  $C$  and  $I$ .

P2: Given that Singapore has small multiplier size, expansionary fiscal policy has limited effectiveness on boosting employment and economic growth.

E2: Singapore has small multiplier size due to her high dependency on imports and large savings which leads to large leakage. Being highly dependent on imported inputs to produce most of her final goods and services as she has limited resources, there is a large leakage of imports. Being small, the government has also mandated a compulsory saving scheme, Central Provident Fund, which is a social security system to get the citizens to set aside savings to be self-sufficient so that the country will not be overly reliant on the working population to fund them through tax. As such, for every additional income earned, a large proportion is leaked out, resulting in small amount of income available to be re-spent to generate income and another round of spending. As such, the multiplier effect reaches an equilibrium quickly. This means the multiple rise in real national income is limited causing the expansionary fiscal policy to not be very effective in generating growth. In such a case, the government will combine expansionary fiscal policy with exchange rate policy to boost economic growth to a larger extent.

P3: Adopting a zero-appreciation exchange rate policy is another way to manage the economy during slow economic growth and deflation.

E3: In a zero-appreciation exchange rate policy which is equivalent to a depreciation, Singapore's exports will be cheaper in foreign currency and imports will be more expensive in domestic currency. Assuming  $PED_x$  and  $PED_m$  is greater than 1 due to many close substitutes available, quantity demanded for exports will rise more than proportionately and quantity demanded for imports will fall more than proportionately. As such, there will be a rise in export revenue and a fall in import expenditure causing a rise in net export revenue ( $X-M$ ). A rise in ( $X-M$ ) will cause  $AD$  to rise and as explained earlier, it can boost both real national output and  $GPL$  managing both slow economic growth and deflation problem.

This is especially effective when dealing with deflation and slow growth problem stemming from challenging external environment which caused Singapore's ( $X-M$ ) to fall as it tackles the root cause of the problem.

Evaluation:

During a slow economic growth, it is quite likely that the Singapore government will face some budget constraint since there will be a decline in the rate of increase in tax revenue collected and a small fall in spending on welfare benefits. Should the government decide to borrow from



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bank to finance its spending through expansionary fiscal policy, the demand for loanable funds will rise driving up interest rate. When interest rate on loans rise, cost of borrowing will also increase which will then deter investors and households from borrowing and spending on capital goods and big ticket items respectively. The fall in investment  $I$  and consumption  $C$  expenditure will negate the effect of the rise in  $G$ . As a result, the rise in  $AD$  is a small extent causing small in real national output and general price level. In this context, due to crowding-out effect, expansionary fiscal policy is relatively less effective than zero-appreciation in managing the economy. This is especially so since Singapore being trade dependent has her  $(X-M)$  as a very significant component of GDP which means any rise in  $(X-M)$  due to zero-appreciation will lead to a larger rise in real national output and  $GPL$ , making it a more effective policy than expansionary fiscal policy.

Having said that, zero-appreciation is relatively less sustainable than expansionary fiscal policy for the same reason of Singapore being highly dependent on trade. As Singapore is highly dependent on imported inputs, a zero-appreciation will lead to a large rise in cost of production as price of her imported inputs such as steel and oil rises in domestic currency. This will cause her  $SRAS$  to fall by a large extent which may accelerate the effects of rising  $GPL$  brought about by a rise in  $AD$  as the effects reinforce each other causing a large shortage. At the moment it is not such a serious concern as there is global fall in crude oil prices which means the fall in cost of production can negate this rise in cost to negate the impact of fall in  $SRAS$ . While a rise in  $GPL$  during deflation is required, the extent of the rise and the cause of the rise has to be monitored. A large rise in  $GPL$  which is a sign of high inflation is also not desirable for Singapore since she needs to keep her exports competitively priced to generate external demand and also keep her cost of production low to attract investors. In addition, a rise in  $GPL$  due to fall in  $SRAS$  is not desirable because at the same time, real national output falls reducing the purchasing power of the people to a large extent. As such, expansionary fiscal policy is more sustainable than zero-appreciation since rise in  $I$  can help to increase the productive capacity of the economy as quantity of resources rises. This leads to a rise in  $LRAS$  which will negate the rise in  $GPL$  due to rise in  $AD$ , keeping inflation under control.

P4: Singapore government also manages the economy through interventionist supply side policy to boost potential economic growth and manage deflation in long run.

E4: Interventionist supply-side policies such as training and re-training is ideal during slow economic growth. The government sets up Workforce Development Agency to roll out programmes such as Skills Redevelopment Programme and Skills Future to upgrade the skills of the people. During slow economic growth, there can be a cut down in production activities in some sectors and some workers may be left idle. During this period, government will encourage firms to send them for training courses to equip them with relevant skills for new job opportunities when the economy picks up. By enhancing their productivity as they become more proficient at their jobs, for example, being able to use technology to speed up production process and hence increase output per unit time, the quality of resources increase. This leads to a higher productive capacity which can lead to a rise in  $LRAS$ . When this happens, full



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employment output level rises increasing the country's potential economic growth. The rise in LRAS also can keep inflation rate under control when AD rises.

Evaluation:

Expansionary fiscal policy is more effective than supply-side policies involving training/re-training as the latter has time lag effect. It takes time for workers to pick up skills before they can apply it them in their jobs. This is especially for Singapore which is currently facing ageing population issue and the large proportion of elderly in the workforce may tend to be relatively slower in their ability to pick up new skills. In contrast, spending on infrastructural facilities or reducing tax rate has a relatively more immediate effect in generating spending and boosting AD. In 2009, when Singapore government embarks on expansionary fiscal policy, the real GDP growth rises by 14.7% in 2010. This means that expansionary fiscal policy can tackle the problems of slow economic growth and deflation more immediately.

Having said that, training is a more sustainable policy than expansionary fiscal policy as Singapore has a limited land space so there is only so much government can do in developing and re-developing its infrastructure and it cannot keep reducing tax rate as it will have an adverse consequence on its budget. Yet with ageing population, should the labour skills not match with the new job opportunities created, it may give rise to another set of economic problems such as inflation and structural unemployment.

In my opinion, expansionary fiscal policy is definitely the most effective way to boost real national output and GPL in the short run moderately but it cannot be used on its own as it has its limitations which can only be mitigated by the strengths of other policies. In Singapore's context, while there is a need to manage deflation and slow growth, it is trickier to deal with deflation problem as Singapore cannot afford to have rising GPL to a large extent given her nature of high dependence on exports and investment. It is also important to consider the root cause of the slow economic growth and deflation problem before deciding on appropriate policies to manage the economy effectively.



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Sample Answers

<b>Knowledge, Application, Understanding and Analysis</b>		
L3	Developed explanation, using AD/AS framework, of how expansionary fiscal policy and 2 other policies increase both real national output and GPL	8 – 10
L2	Underdeveloped explanation of how expansionary fiscal policy and/or 1 other policy increases real national output and/or GPL  Missing gaps in analysis and may not use AD/AS framework consistently	5 – 7
L1	Smattering of valid points. Descriptive ideas of expansionary fiscal policy and may not link to both GPL and real national output	1 – 4
<b>Evaluation</b>		
E3	For an answer that arrives at an analytically well-reasoned judgement about whether expansionary fiscal policy is more or less effective than 2 other policies based on Singapore context	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on whether expansionary fiscal policy is more or less effective than another policy.	2 – 3
E1	For an answer that gives an <u>unexplained, unsupported</u> evaluative statement on whether expansionary fiscal policy is more or less effective than another policy	1



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Sample Answers

- 5 (a) How do economists compare the economic performance of different countries?  
[10]
- (b) Discuss the extent to which an increase in labour productivity is the key driver to improving living standards.  
[15]

### Introduction

Economic performance of a country is measured by its ability to achieve the various macroeconomic objectives. These are sustained economic growth, low unemployment, low inflation and healthy balance of payments. One of the key macroeconomic objectives that is looked at to ascertain economic performance of a country is economic growth, the main indicator of this being Gross Domestic Product (GDP). To compare economic performance across countries, however, it is not be enough to just look at the absolute value of GDP. Because of different demography, economic conditions and characteristics across countries, there's a need to factor in these differences for a better comparison of economic performance across countries.

Gross Domestic Product is defined as the sum of the money value of all final goods and services produced within the domestic territory of the country during a specific period of time and sold at organized markets. Looking at GDP value alone however, may overstate the economic performance of a country as high GDP value of a country may be a result of high prices of goods and services and not necessarily due to high quantity of actual output produced. A better indicator to measure the value of national output is real GDP. Real GDP is the value of national output adjusted for the effects of inflation. To compare value of national output across countries, however, real GDP doesn't suffice. A large country having a greater GDP compared to a smaller country is expected due to the size of the respective countries' labour force. Therefore for better comparison of economic performance across economies of different sizes, it is better to look at real GDP per capita. Real GDP per capita is computed by taking real GDP and dividing it by the size of the population. Real GDP per capita of a country indicates whether an average citizen is benefitting from the country's increased economic production more than another country's citizen. Therefore, economists view real GDP per capita as a more accurate indicator to compare economic performance across countries.



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### Sample Answers

However, when comparing GDP per capita of different countries, they are measured in the local currency and thus have to be converted into a common currency at the current exchange rate. But the exchange rate may be a poor indicator of the purchasing power of the currency at home. For example, S\$10 may exchange for, say, 50RMB but S\$10 may not buy the same amount of goods in Singapore as 50RMB in China. To compensate for this, GDP can be converted into a common currency at a purchasing-power parity rate. This is the rate of exchange that would allow a given amount of money in one country to buy the same amount of goods in another country after exchanging it into the currency of the other country. Using such rates gives PPP-adjusted GDP per capita which is a better indicator for comparing economic performance across different countries.

Other than the usual key indicator raised above, another measure that can indicate economic performance of a country is also its unemployment rate. Although PPP-adjusted real GDP per capita is a good indicator to compare economic performance, it may not be holistic. Although a country may be generating high output levels, it may be short of its potential. Another country that may not be producing that high a level of output may be fully utilising its resources. Hence the spread of the economic activity in the country may also be important in determining performance of the economy. Low unemployment rate suggests most of the labour resource in the country have been effectively mobilised/utilised to produce a given level of output.

In addition, when economists compare economic performance across countries, it may also be in their interest to find out whether countries that record high growth are growing at a sustainable rate or whether the growth rates registered are rapid but unsustainable growth rates. For this, economists may turn to look at percentage changes in inflation rate to determine whether a country is overheating and the possible outcome of this on future growth.

The Balance of Payments (BOP) position can also provide an indication of different countries' external economic performance. If a country has a large BOP deficit due to a current account deficit, it may suggest that the country's exports are not competitive and is likely to be drawing down on foreign reserves. Furthermore, with current account deficit, it will cause the exchange rate to depreciate, resulting in unstable exchange rate. This would signal poorer economic performance compared to other countries.

In conclusion, when economists compare economic performance across countries, the indicators mentioned above are a good guide. It also may be necessary for economists to know at which stage of economic development a country is in as it may be an important factor determining growth rates. For instance, developing countries tend to register high growth rates compared to developed countries because the potential for growth may be so much more when a country is at its early stages of industrialisation. Hence, lower growth rates of developed countries compared to developing countries may not necessarily mean that the economic performance of developing countries is always better. Many other considerations have to be taken into account to come to an accurate conclusion regarding the economic performance of different countries.



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<b>Knowledge, Application/Understanding and Analysis</b>		
L3	An answer that provides a clear and thorough explanation using indicators (GDP per capita PPP and 2 other indicators) to compare economic performance of different countries.	8 – 10
L2	An answer that provides a good explanation of the indicators used to compare economic performance of different countries.  Capped 7m - If student fails to explain GDP per capita PPP. - If student only explain GDP per capita PPP	5 – 7
L1	Answer may also demonstrate weak knowledge and application of the indicators used to compare economic performance of different countries, possibly with multiple conceptual errors.	1 – 4



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b) Discuss the extent to which an increase in labour productivity is the key driver to improving living standards. [15]

When there is an increase in labour productivity, it will increase the output per man hour, thus resulting in a more productive workforce. With a more productive workforce, it will improve both material and non-material standard of living. Whether labour productivity is the key driver to improving standard of living is dependent on the characteristics of the country, the current economic condition and the conflicts that labour productivity might bring about.

### Body

**P1:** Increase in labour productivity is the key driver to improve living standard.

Increase in labour productivity will result in a fall in the unit cost of labour which brings about a reduction in cost of production. With a fall in cost of production, there will be an increase in SRAS, bringing a fall in general price level and an increase in real national income. With an increase in real national income, there will be an increase in purchasing power, increasing quantity of goods and services consumed, hence, increasing material standard of living.

At the same time, with an increase in labour productivity, there will be an increase in labour efficiency. Labour are more productive as they are able to produce the same output with less time. This will increase the quality of life as time are freed up for leisure activities. This will result in an increase in non-material standard of living.

For a country like Singapore that is **currently experiencing aging population**, there will be a decline in labour growth as the rate of older workers leaving the labour market is larger than the rate of young workers entering the workforce. Due to the fall in quantity of labour, this will cause a decreases in the productive capacity of the economy. In order to increase the productive capacity to ensure a sustained increase in future standard of living, the government could increase labour productivity to address the problem of aging population to sustain the increase in material standard of living. Hence, labour productivity is the key as it address the **current economic condition** of the country.

Even if the firms recognise that increasing labour productivity helps to lower cost of production for them, they are not keen to adopt it due to the high cost involved in the training of workers



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and the time taken for it to work. Moreover, even with training, it might not increase efficiency as the effectiveness of training is dependent on the receptiveness of the worker. This might be more challenging in view of aging population as older workers usually find it more difficult to pick up new skills and they are usually more reluctant to change their mindset.

**P2:** Increase in labour productivity is not the key driver to improve living standard in Singapore. The government would need to consider other factors such as the **size and openness (characteristics)** of Singapore economy. Given that Singapore is a small and open economy that is highly dependent on external demand, any trade barriers erected by other countries result in significant costs for Singapore. With the increasing protectionism policies that Singapore's major trade partners such as US, China are adopting, the overall decrease in national income brought by a decrease in net exports will be greater than the increase in national income that is brought by an increase in labour productivity. Therefore, the increase in labour productivity to achieve an increase in standard of living is limited due to less trade occurring.

For Singapore to improve material standard of living, **it is key** for Singapore to deepen global connection by **signing more FTAs**. A free trade agreement (FTA) is a treaty between two or more countries to facilitate trade and eliminate trade barriers. It aims at eliminating tariffs completely from day one or over a certain number of years.

This will allow Singapore to produce these goods at lower opportunity cost and specialize in it. By greater access to foreign market due to FTAs, it will allow Singapore to trade with other countries leading to an increase in material standard of living as now she is able to consume beyond the PPC.

However, with signing of more FTA, it might result in an increase in structural unemployment. Domestic firms that exist in relatively less competitive industry may find it difficult to compete with foreign firms and have to leave the industry now that the tariffs have been removed between member countries. The retrenched workers may not find jobs in other industries as they lack the necessary skills. With an increase in structural unemployment, there will be worsening of material and non-material standard of living.

**P3:** The key driver to improve non-material standard of living is the implementation of **progressive income taxes**. Given that Singapore has one of the highest Gini coefficient [**current economic condition**], it is important for the government to reduce the income inequality to increase non-material standard of living.

The government could implement progressive income tax by getting the high income earners to pay a higher marginal tax rates compared to the lower income earners. The tax revenue which is collected from the higher income earner can be redistributed as subsidies to make healthcare, education and housing affordable to lower income family, improve equity. This will help to increase non-material standard of living.

The time taken for progressive tax system to bring about an increase in income equity is shorter than the measure to increase labour productivity. Progressive tax system does not



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strain the budget compared to measures that increases labour productivity.

With high progressive income tax, it means that the higher income earner will experience a higher decrease in disposable income. This might deter foreign talent from coming to Singapore. Given that Singapore is a small economy, a decrease in foreign talent will reduce the quality of labour in Singapore, resulting in a decrease in productive capacity. With a decrease in productive capacity, it will be difficult to sustain standard of living in the future. Therefore, it is important to tweak the tax system such that the needs of the middle class and that of high net worth individuals needs are balanced

### Evaluation

To determine whether an increase labour productivity is the key driver to improve living standard is dependent on the openness of Singapore economy.

**[T]** Given that Singapore is an open economy, it means that Singapore is open to capital, labour flows and competition. The openness of the economy will result in this changes being fast and dynamic. Even if the government will to Increase labour productivity via training to help lower income workers to train and upskill their abilities so that they are able to take on more productive jobs which brings about an increase in wages, reducing income gap. The effectiveness of increasing labour productivity might be limited as the time taken for the increase in labour productivity is too long to see the positive effect compared to progressive income taxes to increase non-material standard of living.

**[W & S]** Furthermore, Singapore is very vulnerable to external shock. Even if Singapore has signed FTAs with many others, the moment there is a downturn in the global economy. Singapore will still experience a decrease in economic growth which will ultimately lower standard of living. At the same time, progressive income taxes will only help to dampen the fall in national income and reduces the negative impact on SOL.

However, given that the small size of Singapore economy, there is a limit to the effectiveness of the FTA and progressive income taxes to increase SOL.

In view of the constraints, increase labour productivity is the key to increase standard of living. Singapore should focus on upgrading and training so that Singapore has the productive capacity and potential to pick up again when external conditions improve. In this way, Singapore is positioning herself to ride on the waves and to tap on these opportunities to improve standard of living.



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Sample Answers**

<b>Knowledge, Application, Understanding and Analysis</b>		
L3	<p>A balanced and well-developed answer that focus on addressing whether increasing labour productivity is the <u>key driver</u> to improve living standard. There should be some form of comparison before coming to a conclusion.</p> <p>Can accept the following answers:</p> <ul style="list-style-type: none"> <li>• Using alternative policies such as exchange rate policy to address imported inflation to bring about increase in living standard.</li> <li>• Compare between countries to decide whether increasing labour productivity is the key driver to improve living standard.</li> </ul>	8 – 10
L2	An under-developed, balanced answer on addressing whether increasing labour productivity improve living standard, with inconsistent use of examples and gaps in analyses.	5 – 7
L1	May have many and/or serious conceptual errors. May have relevant points that were made incidentally.	1 – 4
<b>Evaluation</b>		
E3	For an answer that arrives at an analytically well-reasoned judgement about which factor is the key driver in improving living standard. Might also question any unstated assumptions to arrive at this well-reasoned judgement.	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement which factor is the key driver in improving living standard.	2 – 3
E1	For an answer that gives an unexplained, unsupported evaluative statement whether productivity is the key driver in improving living standard.	1



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Sample Answers

6. Discuss the benefits and costs of globalization to different economic agents in Singapore. [25]

Globalisation is the increasing integration of the international economy and is characterised by greater global interdependence. It may be defined as an expansion in the volume and variety of cross-border transactions in goods and services and in international capital flows. The different economic agents refers to the consumers, producers and government. Consumers are concern about consumer welfare, employment and standard of living, while producers are profit motivated and like most governments, Singapore government aims to achieve her 4 macroeconomic aims, efficiency and equity with the main economic goal to be inclusive growth.

As more countries engage in free trade in this age of globalisation, consumer welfare will increase. According to the theory of comparative advantage, even if one country has *absolute advantage* over others in the production of all goods, there is still a basis for mutually beneficial trade as long as there is comparative advantage in the production of these goods. Both countries will gain if each specialises in the production of the good in which she has the comparative advantage and trade with each other. With freer trade, there will be an increase in world output, consumers in Singapore will be able to consume outside the PPC. The increase in competition also lower the barriers to entry and markets are more contested. The firms now have more incentive to engage in R&D which will improve the quality of the product. In view of potential rivals, firms might also pass cost savings from EOS to the consumers, resulting in a fall in prices of goods and services and therefore higher consumer surplus. As such, consumer welfare is likely to increase.

Due to the nature of the Singapore economy, Singapore is likely to benefit significantly in terms of her macroeconomic aims. Globalisation brings about an increase in trade volumes. Singapore leverages on the huge domestic markets such as those in China and the US, as they are Singapore's major trading partners. As a small economy, Singapore lacks natural resources, however, she have the factor endowments such as capital goods and skilled workforce compared to other countries. Since she has a lower opportunity cost in producing higher-value added goods such as petrol-chemicals and component parts, and therefore, produce goods with comparative advantage and export them to the rest of the world. With globalisation, she has access to larger foreign markets and as long as she can maintain her CA and trade, it is likely that increase in X more than the increase in M. An increase in  $(X-M)$  will lead to an increase in



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**Sample Answers**

AD. Assuming that the Singapore economy operating below full employment, via the multiplier, there will a multiple increase in national income, bringing about an increase in actual growth. The increase in (X-M) will significantly increase Singapore's real national income, since (X-M) as a percentage of GDP is large in Singapore. At the same time, based on Singapore's progressive tax system, more tax revenue can be generated and redistributed to the low income group, achieving the aim of inclusive growth. Also, the increase in (X-M) will mean an improvement in Singapore's current account.

Globalisation means freer mobility of capital flows. Being an open economy, Singapore benefited more from globalisation compared to the other less open economies in the region as FDI makes up a larger proportion of GDP. The increase in FDI from large firms such as Google and Dyson, when translated to I, will lead to an increase in AD bringing about actual growth. The increase in investment means an increase in the capital goods, leading to larger productive capacity and an increase in LRAS, bringing out potential growth. As the increase in AD is in tandem with the increase in AS, Singapore will benefit from this increase in economic growth. The increase FDI will also increase long-term capital inflow, hence, improving the capital account. The improvement in the current account and capital account will bring about a more favourable Singapore's balance of payments. However, Freer mobility of capital flows in terms of an increase in FDI is likely to hurt the current account in the future as firms will repatriate their profits back to their home country. However, this is not a cause for worry as the increase in (X-M) is likely to offset this fall leading to an overall surplus in the current account.

The increase in (X-M) and FDI will also benefit consumers and producers in Singapore. As consumers provide the labour that enables firms to produce goods and services, the increase in AD will mean that the firms will employ more factor of production, since labour is a derived demand, there will be an increase in demand for labour leading to a fall in demand-deficient unemployment. Consumers will gain employment and with an increase in actual growth, it is likely that consumers will enjoy higher income, higher purchasing power and therefore will be able to consume more goods and services, leading to an increase in material SOL. As for the producers such as exporters, with access to larger foreign markets, they will be able to enjoy both revenue and cost advantages. There will be an increase in demand for exports and an increase in total revenue. By producing more output to cater to the overseas markets, producers are likely to enjoy internal EOS through specialisation, leading to a fall in average costs. Exporters in Singapore are more likely to increase their profits.

However, there might be some negative impacts on the different economic agents if the Singapore economy is operating near or at full employment level. This is likely the case as Singapore faces a tight labour market. The increase in AD might lead to demand pull inflation. This is because, to meet the increase in AD, firms will employ more factors of production, however, since the resources are fully utilised, firms will have to bid higher prices for the factors of production which will be translated to inflationary pressures on all goods and services. This will conflict with the Singapore government's aim of price stability.

In terms of consumer's perspective, an increase in inflation would also mean a fall in real wages, this means that for the same amount of income, consumers now buy less goods and services leading to a fall in material SOL. Also, high inflation can be translated to higher cost of living for the consumers in Singapore. On a separate note, another negative impact of more



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economics activities due to the increase in trading activities might be that **workers** have to work longer working hours and less leisure hours for them leading to a fall in non-material SOL.

With an increase in trade volumes and competition, there will be more imports in the Singapore market. This might affect domestic producers producing for the domestic market who now have to compete with foreign firms. If their products are not competitive, they are likely to face a fall in demand for their goods and therefore, a fall in their total revenue. Given the openness of the Singapore economy, competition is likely to be higher. This means that for substitutes, XED value between domestically produced goods and imports are likely to be large.

Globalisation also allows the transfer of technology which leads to changes in factor endowments of different countries. This makes a small and open economy such as Singapore to gain and lose comparative advantage more frequently since CA is a dynamic concept. MNCs being footloose might shift their production line elsewhere in search of cheaper cost of production. When the emerging economies such as China and India open up in the 2000s, Singapore faced a structural shift which resulted in structural unemployment. The fall in FDI in the sunset industries in Singapore led to a fall in demand for workers in the sunset industries. Due to occupational immobility, these workers' skills are now obsolete and cannot take up jobs in other industries. At the existing wage, the quantity demanded is less than the quantity supplied of workers which resulted in a surplus of these workers, causing a downward pressure on their wages, hence increasing the income gap between the workers in the sunset industries and those in the sunrise industries. As such consumers in these industries suffer in terms of wages and employment. The widening of income gap leading to increase in inequity makes in more challenging for the government to achieve inclusive growth. The fall in investment via the reversal multiplier effect will also affect local businesses such as retailing and food and beverages industries and reduce indirect jobs.

In addition, globalisation means that countries are more interconnected which means that Singapore is more vulnerable to external shocks. For example, the sub-prime mortgage crisis in the US was partly responsible for the Global Financial Crisis in 2009. When faced with a worldwide recession, a small and open economy like Singapore will be more vulnerable to external shocks as compared to other economies. Singapore was the first Asia country that suffered from the negative impact of the Global Financial Crisis. The fall in foreigners' incomes will lead to a fall in consumption and fall in demand for Singapore's exports. The loss of business confidence will result in a fall in FDI in Singapore which will adversely impact the Singapore economy. This is because Singapore is largely dependent on  $(x-m)$  and FDI for growth and employment.

**Evaluation:**

[W] Overall, the benefits of globalisation are likely to outweigh the cost for all the different economic agents in Singapore mainly due to her government policies. The Singapore government is able to implement effective demand management and supply side policies to maximise the benefits of globalization and minimise the cost of globalization so as to achieve inclusive growth. The benefits and costs to the different economic agents are interrelated. For example, the gradual modest appreciation serves to maintain price stability in Singapore, not only will this benefit consumers in terms of real wages, it will also benefit firms. Also supply side policies that aims to retrain workers, helps to reduce occupational immobility and to increase productive employment. As long as these policies make the assumptions of the theory of CA



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holds better in the real world, all economic agents are likely to benefit more from globalisation given the nature of the Singapore economy.

[T] In the age of globalisation, countries gain and lose CA at a faster pace, this is especially so for a small and open economy like Singapore. As such, the extent to which consumers and producers in Singapore can continue to benefit from globalisation in the future will largely depends on whether they can continue to be adaptable, and Singapore government's ability to identify new potential CA.

<b>Knowledge, Application, Understanding and Analysis</b>		
<b>L3</b>	For a thorough and well-balanced answer that provides good analytical structure to discuss both the benefits and costs of globalisation to all three economic agents - consumers, producers and government, in view of the nature of the Singapore economy and good application to the theory of CA.	<b>15 – 20</b>
<b>L2</b>	For a balanced but limited and undeveloped answer that has some benefits and costs of globalisation in terms of at least two different economic agents. Some links to the concept of CA.	<b>9 – 14</b>
<b>L1</b>	For an answer that is largely descriptive. Largely unexplained list of benefits and costs of globalisation.	<b>1 – 8</b>
<b>Evaluation</b>		
<b>E3</b>	Judgment is based on economic analysis and adequately substantiated with an evaluative conclusion on weighing the cost and benefits of globalisation with respect to the different economic agents.	<b>4 – 5</b>
<b>E2</b>	For an answer that makes some attempt at evaluation on weighing the cost and benefits of globalization with respect to the different economic agents.	<b>2-3</b>
<b>E1</b>	For an unexplained assessment, or one that is not supported by economic analysis.	<b>1</b>

**2019 H2 Prelims Paper 1**  
**CSQ 1 The Pharmaceutical Industry**  
**Suggested answers**

<b>(a)</b>	<b>(i)</b>	<b>With reference to Figure 1, describe the trend in the price of insulin.</b>	<b>[2]</b>
		Price of insulin is rising (1) and it has increased more than ten times (1).  <b>Mark scheme</b> - Also accept faster rate of increase from 2010 onwards	
<b>(b)</b>	<b>(i)</b>	<b>Define contestability and state how the expiry of a patent will affect the contestability of the pharmaceutical industry.</b>	<b>[2]</b>
		Contestable markets are those that are served by one or few firms, and are kept operating at competitive price and output levels due to the threat of potential competition/ potential entry of new firms. (1)  Expiry of the patents will <b>increase the contestability</b> (1) by reducing the barriers to entry.	
	<b>(ii)</b>	<b>Using a diagram, explain how the expiry of a patent would lower the profits of a major insulin producer such as Humalog.</b>	<b>[4]</b>
		When the patent expires, it allows for more firms to enter the industry (1) as the main firm no longer have the exclusive rights to produce insulin.  The lowered BTE increases the level of competition and reduces the demand for the firm's insulin. There is leftward shift of the AR and MR lines. The increased level of competition also means more substitutes available, hence the slope of the AR and MR lines will become flatter (1).  Profit maximising level is where $MC=MR$ . Before the expiry of the patent, supernormal profits earned is at DPCE. After the expiry, Humalog is likely to earn normal profits as shown in the diagram. (1)	

	<p><u>Alternative answer that can be awarded 1m</u>  <i>“As the expiry of the patent increase the level of contestability, the incumbent major insulin producer may pre-empt the entrance of new firms by lowering its price. It may be willing to charge a price that is below the profit-maximising price but above its average cost. In such a case, profits may not fall.”</i></p> <p>- The above explanation is not awarded full credit as it is contingent on the firm’s response. The incumbent firm may or may not respond by lowering its price, whereas the entrance of new competitors is a very likely outcome when patent expires. Moreover, the impact on profits is indeterminate from the diagram. Hence only a max of 1m will be awarded if the above explanation was given.</p>									
(c)	<p><b>“The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry.”</b></p> <p><b>Using relevant examples, explain the difference between fixed and variable costs.</b></p>	[4]								
	<p>Fixed costs are costs that do not vary with output and has to be paid even when there is no production. Such examples include rental cost of the facilities, insurance payment, etc.</p> <p>Variable costs are costs that vary directly with changes in the output. They are incurred due to the use of variable inputs for example wages, costs of ingredients, etc</p> <p><b>Mark scheme</b>  <b>1m definition</b>  <b>1m example</b>  <b>Eg w/o context capped at 3m max</b></p>									
(d)	<p><b>With reference to the data, discuss the factors that are likely to influence firms’ decisions on whether to merge.</b></p> <table border="1"> <thead> <tr> <th>Benefits</th> <th>Costs</th> <th>Constraints</th> <th>Other perspective</th> </tr> </thead> <tbody> <tr> <td>Revenue advantages → market power → price setter → higher profits</td> <td>Cost advantages eg internal EOS</td> <td>Funds, availability of resources such as raw materials, capital and labour</td> <td>Firms’ objectives, business risk, contestability of the market</td> </tr> </tbody> </table> <p>In deciding whether to merge or not, we assume that the firms’ aim is to maximize profits. Firms have to consider constraints such as resources in terms of funds and amount of resources such as capital and labour they have which may affect its decision to merge. The firm then determines the relevant benefits and costs after taking these constraints into account.</p>	Benefits	Costs	Constraints	Other perspective	Revenue advantages → market power → price setter → higher profits	Cost advantages eg internal EOS	Funds, availability of resources such as raw materials, capital and labour	Firms’ objectives, business risk, contestability of the market	[8]
Benefits	Costs	Constraints	Other perspective							
Revenue advantages → market power → price setter → higher profits	Cost advantages eg internal EOS	Funds, availability of resources such as raw materials, capital and labour	Firms’ objectives, business risk, contestability of the market							

Perspective 1: Merge to enjoy the cost and revenue advantages.

As firms grow larger through mergers, they may be better placed to take advantage of *economies of scale* - leading to a fall in the average total costs of production. For example, marketing economies of scale arise from the possibility of bulk purchase. When the pharmaceutical firm places large orders for medicine supplies, they are able to negotiate bulk discounts, hence *lowering the cost of each unit of raw material for the firm*. Likewise, an advertising campaign also costs much less per unit of output when the firm expands its scale of production. Since advertising and marketing costs are largely fixed costs, spreading the *total cost of advertising over a larger output* would result in lower cost per unit of output. This cost advantage may prompt the firm to merge.

Besides enjoying cost advantages, the larger merged organisation may experience *advantages from the revenue side*. Having control over a larger share of the market the merged firm would have substantial market power. Being a dominant seller with substantial market power implies that the demand curve facing the firm is rather price inelastic. With this in mind, this allows the firm to set a higher price for Insulin, given that quantity demanded would only fall less than proportionately, resulting in higher total revenue. Firms are thus likely to go ahead and merge to gain the costs advantages.

Perspective 2: do not merge due to other considerations

The level of contestability is also another important determinant for firm to consider to merge or not. For example, if there is a high threat of potential competition or potential entry of new firms, the firm's objective may be changed to that of entry deterrence instead of profit maximize. As such, they may decide to merge to gain market power and then engage in limit pricing. This will deliberately keep prices low and deter potential entrance.

Another important consideration is having to face the different business risk and uncertainty associated with the merger. Uncertainty refers to the imperfect knowledge about the future while risk refers to uncertain consequences that are invariably negative. Uncertainty complicates the firms' decision to merge. For example it is uncertain about the labour costs, government's regulatory framework and taxation policies especially pharmaceutical drugs such as Insulin is considered as essential medicine. In addition, there will be risk in research and development efforts if they are planning to develop a new drug after the merger.

*Weigh:* On evaluation, the most important consideration would be the revenue advantages since it determines to a large extent on the amount of profits that the firms could enjoy.

*Assumption:* The nature of the merger also makes an important factor in the decision making. If it is a horizontal merger in similar production stage, higher profit margins may mitigate the risks and uncertainty involved. If the merger involves vertical merger such that firms operating at different stages of the same production process, then it helps to reduce the costs and uncertainty since they have more market control over the source and price of inputs. Lastly, if it is a

conglomerate merger, the merged firm is able to enjoy economies of scope which gives them a cost advantage through diversification.

Level	Descriptor
<b>EV</b> 1 – 2m	Evaluative comments
<b>2</b> 4-6m	Detailed analysis of various factors in the context of pharmaceutical industries
<b>1</b> 1-3m	For an answer that only consider costs or revenue advantages OR brief description of both revenue and costs advantages but did not apply to pharmaceutical industries.

(e) **Discuss whether a government should be concerned with market dominance in the pharmaceutical industry.**

[10]

**Intro:**

A government's main objective when it comes to resource allocation in an individual market would be to maximize society's welfare from the production and consumption of the good. Governments would thus be concerned with market dominance if it leads to allocative inefficiency or productive inefficiency. However, market dominance usually allows firms to grow larger as compared to firms in more competitive market structures. With the larger firms, there is often possible benefits that can be enjoyed with respect to consumer welfare. Whether market dominance is a concern in the pharmaceutical industry depends on whether the possible benefits from greater market concentration would be able to outweigh the inefficient behavior from dominant firms.

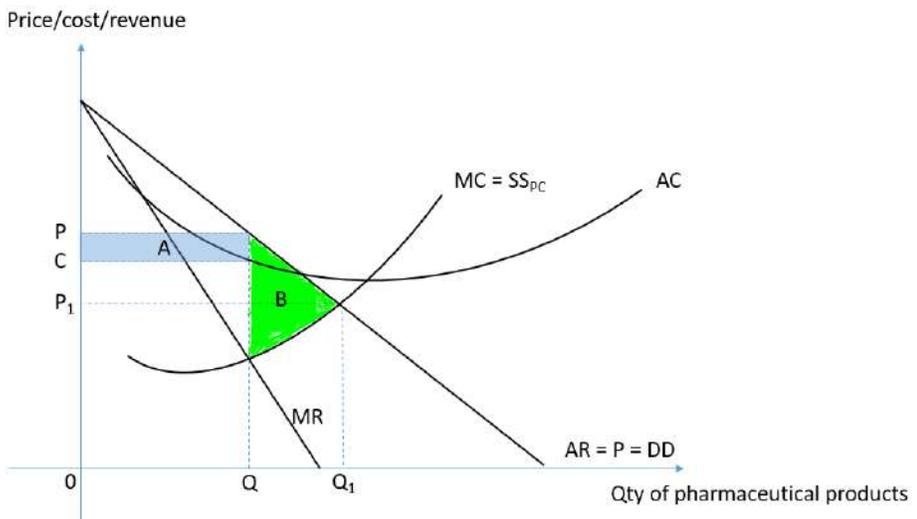


Fig. 1, Monopoly in Pharmaceutical Market

**Thesis: Market dominance is a concern.**

***P1: Dominant firms may be a concern for governments as they may be allocative inefficient.***

As a firm becomes increasingly dominant within an industry, they have greater market share and thus greater price-setting power due to lack of available substitutes. If the market were to be completely dominated by one firm, the firm would become a monopoly. As a price-setter, the monopolist faces a downward sloping average revenue (AR) curve and downward sloping MR curve. The monopolist would choose to profit-maximise by producing at an output, seen on the figure 1 as output Q, where marginal revenue (MR) is equal to marginal cost (MC). The firm would charge the highest price that consumers would be willing to pay for this level of output, seen on the diagram as price P, based on the AR curve. In the pursuit of profits, a dominant firm would then restrict output to increase price to the level whereby  $P > MC$ . If the market were perfectly competitive instead, assuming costs remain constant, the MC curve would be equal to the supply curve of a perfectly competitive (PC) market. Since PC firms are price takers, the market equilibrium of a PC market would be P1 and Q1 which fulfills the condition for allocative efficiency where  $P=MC$ . This would then result in a deadweight loss of area B seen in figure 1. Therefore, the government should be concerned if a firm becomes dominant within the pharmaceutical industry as it would result in consumer welfare not being maximised as the firm would restrict production of pharmaceutical products in order to charge exorbitant prices and earn high profits.

***P2: Dominant firms may be a concern for governments as they may be productively inefficient.***

Additionally, the government may be concerned with dominance in the pharmaceutical sector as it may lead to productive inefficiency. Productive inefficiency is achieved when firms fully exploit economics of scale and produce using the least-cost combination of factors of production to produce. This is seen when the firm is operating at its minimum efficient scale (MES) where the AC curve is at its minimum point. As explained in the previous paragraph, a dominant firm would use their significant market power to restrict output and charge high prices. Thus the firm does not have incentive to fully exploit economies of scale and will not operate at the minimum point of the average cost curve. In contrast, a firm in the PC market earns only normal profits and operates at the minimum point of their AC curve as they are a price-taker. Furthermore, the high amount of supernormal profits earned by a monopoly can lead to productive inefficiency in the form of X-inefficiency. Since the monopolist is in no danger of shutting down due to sub-normal profits and there is no threat of competition due to high barriers to entry such as patents in the pharmaceutical industry, the firm may then indulge in practice such as over-staffing and prestige projects that would increase the average cost of the firm. Thus dominance in the pharmaceutical industry may lead to wastage of resources as the dominant firm would be productively inefficient and not produce pharmaceutical products at the lowest average cost.

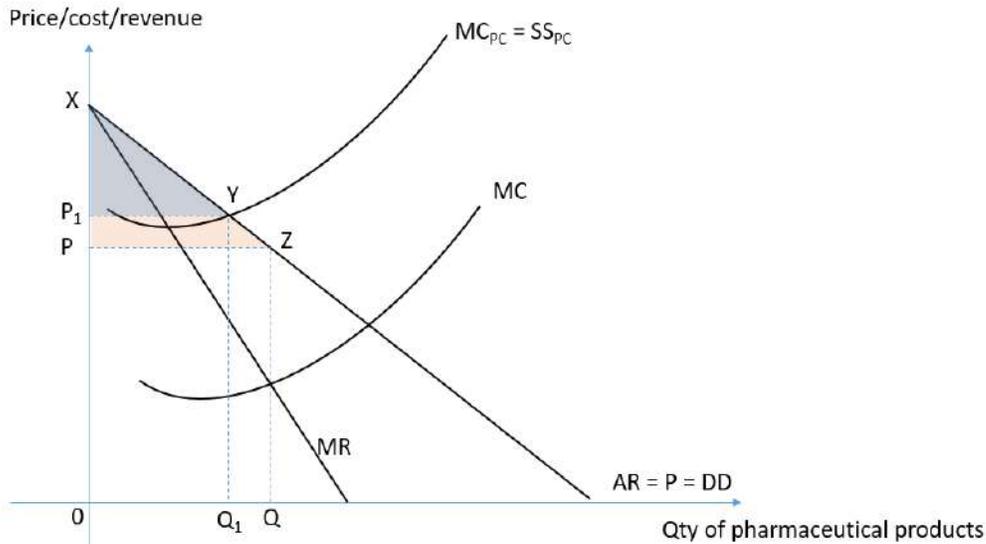


Fig. 2, Higher prices in PC market

**Anti-thesis: Allowing market dominance can bring benefits to society.**

***P3: Dominant firms can bring benefits to society by producing goods at a lower cost and lower price.***

In explaining that dominance in the pharmaceutical market would lead to high prices compared to that of a more competitive market, we had made the assumption that the cost curves of firms would remain constant. However, this is not likely to be the case as greater dominance leads to greater market share and thus dominant firms are able to operate on a larger scale as compared to firms in a monopolistically competitive or perfectly competitive market. Larger firms may be able to produce at a lower cost compared to smaller firms through exploiting economies of scale. In the pharmaceutical market, this is likely to take on the form technical economies of scale derived from the indivisibility of inputs. One of the large costs to producing pharmaceutical products is the high initial cost involved in the research and development of new drugs. Since this is a fixed cost that does not increase with output, by operating on a larger scale, this cost is spread out over a larger output and thus serves to reduce average cost. Additionally, the larger dominant firm may also have access to more productive methods of production achieved through R&D that is too costly for smaller firms to afford. This leads to the marginal cost of production for firms in a PC market to be higher than that of dominant firms as seen in figure 2 where  $MC_{PC} > MC$ . This leads to the PC market producing the good at a higher price of  $P_1$  and a lower quantity of  $Q_1$ . The consumer surplus then falls from area  $XZP$  to that of  $XYP_1$ . Consumers are thus better off with dominance in the pharmaceutical market as they are able to purchase more of the good and at a lower price.

**P4: Dominant firms can bring benefits through engaging in R&D**

Another important difference between dominant firms and firms in more competitive market structures is that dominant firms are able to earn supernormal profits in the long-run while firms in markets with low barriers to entry would be earning only normal profits in the long-run. This ability to earn supernormal profits in the long-run is beneficial to society as investment into research and development is often very costly and is thus the supernormal profits give the firm sufficient financial ability to invest in R&D. Research and development plays a big role with regards to consumer welfare especially in the pharmaceutical industry. Through spending on R&D, consumers would be able to enjoy improvements in the quality of the drugs as well as invention of new drugs to treat different diseases. Thus dominance in the market results in higher consumer welfare in the form of better quality of goods and greater variety.

**Conclusion**

In conclusion, the benefits of allowing dominant firms in are especially important considering that invention of new drugs and better quality drugs is extremely important in improving the welfare of consumers. Furthermore, the nature of the production of pharmaceutical products makes it likely that there are very significant economies of scale to be reaped and thus allowing dominant firms to grow large can be very beneficial in providing goods at a low cost. However, considering that dominant firms may not keep costs low and may not have a strong incentive to engage in R&D when there is no significant competition, the benefits are thus questionable. A suitable approach for the government to therefore take is to allow the pharmaceutical industry to be dominated by a few large firms but take measures to ensure that the market remains contestable in the form of refining patent laws such that they will eventually expire and thus create a threat of competition for any incumbent firms.

**Mark scheme**

<b>Level</b>	<b>Descriptor</b>
<b>EV2</b> 2-3m	Evaluative comment that is well justified with reasoning that is relevant to the context of pharmaceutical industry
<b>EV1</b> 1m	An unjustified evaluative comment
<b>2</b> 5-7m	Two-sided answer that considers both benefits and costs to society of dominant firms that is well supported with economic analysis.
<b>1</b> 1-4m	For an answer that is descriptive with regards to benefits and costs to society of dominant firms  OR  Answer that is one-sided only considering benefits OR costs of dominance

2019 H2 Prelims Paper 1  
 CSQ 2: Trade Issues in the United States  
 Suggested answers

(a)	(i)	<b>With reference to Table 1, summarise the trend in the US trade balance between 2014 and 2018.</b>	<b>[2]</b>
		US has a trade deficit (1) with Germany and the deficit is increasing (1)	
	(ii)	<b>Explain one possible factor that might account for the trend.</b>	<b>[2]</b>
		One possible reason would be the appreciation in the USD as mentioned in extract 4. (1) An appreciation of exchange rate would increase the foreign price of US exports and reduce the domestic price of foreign imports. This would have the effect of increasing the trade deficit as due to falling export sales and increasing import spending. (1)	
(b)	<b>With reference to Extract 4:</b>		
	(i)	<b>Explain why the US is concerned with its trade balance.</b>	<b>[4]</b>
		The US is experiencing an increasing trade deficit. This is reflected as a fall in the (X-M) component of aggregate demand (AD). (1) A fall in AD would result in unplanned stock accumulation and firms would respond by reducing output reflected as a fall in real GDP. (1) As firms reduce output, this would lead to a fall in derived demand for labour. (1) This leads to a surplus of labour which would lead to falling wages and increasing unemployment. (1)	
	(ii)	<b>Explain the statement “Automation has created winners and losers.”</b>	<b>[4]</b>
		<p>The statement refers to the fact that automation has been beneficial for some but negatively impacted others. The negative impact is seen in the structural unemployment that it has caused. (1) Automation would change the skills required for production of a particular good and thus low-skill workers that are easily replaced with machinery would thus lose their jobs and lack the skills to continue to find employment such as operating the machinery and thus become structurally unemployed. (1).</p> <p>On the other hand, automation has made workers “more productive”. This means that each worker is able to produce a greater amount of output and thus earn the firm more revenue.(1) Therefore the firm would be willing to pay workers a higher wage, as seen in extract 4 that mentioned that “productivity has translated into wage gains”. (1) Thus these workers who are able to remain employed would benefit in the form of higher wages.</p>	
(c)	<b>Assess how far the concept of comparative advantage can help to explain</b>		

<b>the changes in Singapore's patterns of trade as described in Extract 6.</b>	<b>[8]</b>
<p>A country is said to have comparative advantage in the production of a good if it can produce that good at a lower opportunity cost than another country. These differences in opportunity cost can arise due to differences in factor endowments of the different countries, factor qualities and level of technology.</p> <p>The concept of comparative advantage can explain the changes in Singapore's patterns of trade. Patterns of trade refer to the type and volume of goods or services that the country exports and imports, and who the country's trading partners are.</p> <p>Extract 6 states that Singapore's exports of electronics had declined but "the decline was offset by stronger shipments of pharmaceuticals". This means that there has been a change in Singapore's patterns of trade in terms of the main type of goods that we export. And the concept of comparative advantage can explain this change.</p> <p>Extract 6 also states that "the increasing importance of the pharmaceutical sector is partly due to the Singapore government's long-term ambition of developing innovative pharmaceuticals" and the setting up of the Biopolis is such an example. By putting together some of the world's largest pharmaceutical companies to collaborate and conduct research, there will be significant technical economies of scale being reaped, resulting in lower average cost of production. This means that Singapore has acquired comparative advantage in the pharmaceuticals industry as it now has a lower opportunity cost in the production of pharmaceuticals. Pharmaceutical exports from Singapore would be more price competitive and this explains why exports of pharmaceuticals from Singapore had increased.</p> <p>However, there are limitations to the theory of comparative advantage. Some of the assumptions of the theory do not hold true, for example the assumption of free trade, and not taking into account the influence of demand factors.</p> <p>Hence there are other factors that can explain the changes in Singapore's patterns of trade, where "the US and European Union have replaced China as the key drivers for Singapore's exports".</p> <p>This can be explained by the influence of demand factor. The US economy was in a "sweet growth spot", which means that there was economic growth in the US and rise in national income. Thus US' demand for exports from its trading partners would increase, including exports from Singapore, and can explain why Singapore's exports to the US had increased.</p> <p>At the same time, there have been "diversions of production and trade flows from China" due to the trade war between the US and China. China had been experiencing economic slowdown. The diversion of production and trade further reduced production in China, and this could account for their fall in demand for exports from Singapore, thus explaining the change in Singapore's patterns of trade in terms of her trading partners.</p> <p>Overall, the changes in Singapore's patterns of trade in terms of what it exports</p>	

is largely due to the concept of comparative advantage. In particular, it is due to dynamic comparative advantage driven by government policies. Singapore lacks natural resources and is constantly developing new comparative advantage and restructuring to develop new niche growth areas to stay competitive.

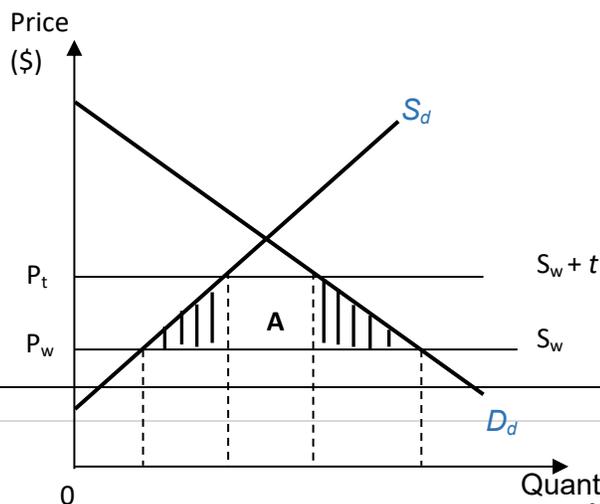
In terms of changes in her trading partners, it is mainly due to the economic development of her trading partners.

Level	Descriptor	Marks
2	<ul style="list-style-type: none"> <li>• Identification of the changes in Singapore's patterns of trade both in terms of the type of exports/imports and her trading partners.</li> <li>• Explanation of how the change in type of exports is due to Singapore's acquisition of new comparative advantage (CA) and another factor not related to CA. Explicit mention of dynamic CA is not required.</li> </ul>	4-6
1	<ul style="list-style-type: none"> <li>• Identification of the changes in Singapore's patterns of trade either in terms of the type of exports/imports or her trading partners.</li> <li>• Some descriptive explanation of how the concept of comparative advantage can explain one of the changes.</li> </ul>	1-3
EV	Evaluative comment on how far the concept of CA can explain the changes in Singapore's patterns of trade.	1-2

**(d) Discuss whether tariffs is the best policy the US could adopt to address her trade imbalance.**

**[10]**

Tariffs are taxes imposed on imported goods which will increase the price of imports. In the diagram below, with the imposition of tariffs on steel, the price of imported steel increase from  $P_w$  to  $P_t$ . The amount of imported steel fall from the quantity represented by distance a-b to the distance c-d. If demand for imports are price elastic due to the availability of substitutes in the form of domestically produced goods, there will be more than proportionate fall in the quantity demanded for imports and hence a fall in import expenditure. The fall in import expenditure, assuming no change to export revenue, will reduce US' trade deficit and address her trade imbalance.



a c d b

The revenue gained from imports tariffs, shown by area A can help the US government implement policies to boost the competitiveness of her exports to further address her trade imbalance.

However, there are limitations in using tariffs. “European Union officials have said that they will respond firmly” to the tariffs imposed by the US. Such retaliation will increase the price of US’ exports into EU countries and erode the competitiveness of their exports, causing a fall in export revenue and worsening her trade deficit. Furthermore, US’ imposition of tariffs on imported steel had raised the cost of production of finished goods that require steel as a factor input. Extract 5 states that “companies in the US that buy metals have already reported higher steel prices and complained that US producers do not have the ability to meet demand”. The higher cost of production will erode competitiveness of US’ exports that use steel as a factor input, worsening her trade balance.

Moreover, there will be negative impact on other aspects of the US economy, chiefly unemployment. Extract 5 states that “6.5 million Americans work for manufacturers who make things using steel”. With the loss of export price competitiveness of these exports, quantity demanded for these exports fall and output and employment level will fall, resulting in a significant number of workers being unemployed.

Finally, tariffs lead to a deadweight loss to the society. As seen from the diagram, consumers pay a higher price and there is a loss of consumer welfare. After considering the gain in producer surplus and tariff revenue to the government, there is still a net loss to society shown by the shaded areas, representing welfare loss to society due to allocative inefficiency.

In view of the limitations and negative impact of imposition of tariffs, the US government should introduce other policies instead. Extract 4 states that “products are increasingly made overseas where cost of production is lower”. Hence the US government should implement supply-side policies that will boost its exports competitiveness to improve her trade balance. The US government could give tax incentives to encourage firms to do research and development to develop more cost-efficient production methods. With lower cost of production, US firms would be able to lower the price of their exports and gain price competitiveness and improve her trade balance.

The tax incentives could also be directed to encourage product innovation. The US leads the world in science and technology. Continued investment in innovation will further improve the non-price competitiveness of its exports and reduce the substitutability of its exports. However, R&D takes time, for example the building of prototype and conducting of tests, and the outcome is not always certain. Hence it will not be able to address US’ trade imbalance in the short run.

Overall, tariff is not the best policy that the US could adopt to address her trade imbalance. It may help to reduce US' import expenditure in the short period of usage, but it does not address the root cause of the trade imbalance. The root cause of the imbalance could be due to erosion of exports competitiveness and loss of comparative advantage to emerging economies. Hence supply-side policies to improve competitiveness and development of comparative advantage in new growth areas would be better policy response for the US.

Furthermore, US' trading partners are likely to retaliate with their own tariffs, as stated in Extract 5, and this give rise to trade wars, mentioned in Extract 6. Trade wars lead to fall in trade volume, shake investors' and firms' confidence, and lead to overall fall in global income, a lose-lose situation for all.

<b>Level</b>	<b>Descriptor</b>	<b>Marks</b>
2	Explanation of how tariffs and one other policy work to address trade imbalance and their limitations.	5-7
1	Explanation of how tariffs work to address trade imbalance and its limitations.	1-4
EV	Evaluative comment on whether tariff is the best policy the US could adopt to address her trade imbalance.	1-3



**CATHOLIC JUNIOR COLLEGE**  
**JC2 Preliminary Examinations**  
**Higher 2**

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**ECONOMICS**

**9757/01**

Paper 1

**23 Aug 2019**

Additional Materials: Writing Paper

**2 hour 15 min**

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**READ THESE INSTRUCTIONS FIRST**

Write your name, class and question number on **all** the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use highlighters, glue or correction fluid.

**Begin each question on a new sheet of paper.**

Answer **ALL** questions.

At the end of the examination, fasten your work securely together.

Submit each question **separately**.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **7** printed pages and **1** blank page

Answer **all** questions

### Question 1

#### The Market for Pharmaceutical Drugs

##### Extract 1: Prescription drug prices jumped more than 10% in 2015

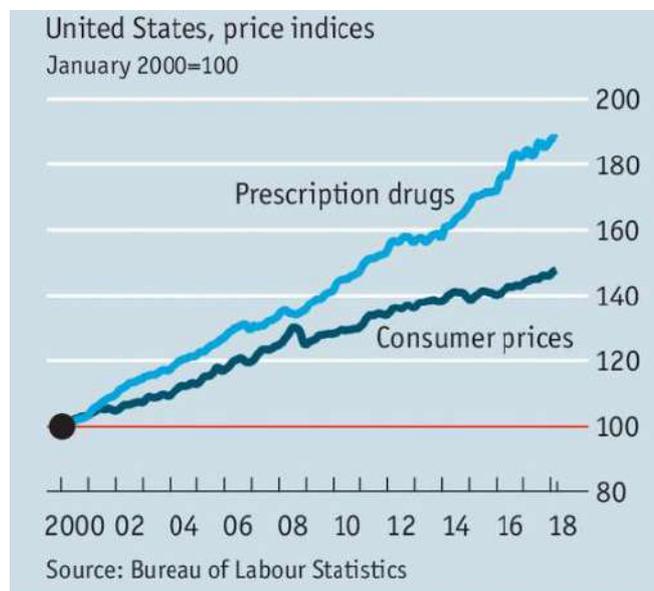
Drug prices were big news in 2015, thanks to “Pharma bro” Martin Shkreli, who drew outrage for hiking the price of a life-saving drug by 5,000%. So how much did prescription drug prices rise overall in 2015?

More than 10%, according to an analysis released on Monday by TruVeris, a healthcare data company that tracks drug prices. “We’re in our third year of double-digit increases,” said the firm’s chief innovation officer, adding that the increases occurred across virtually every drug category. “Double-digit inflation is concerning.”

TruVeris found that over the past year, the price of prescriptions drugs rose 14.77%. Last month, prescription drug spending hit \$297.7 billion — part of the country’s \$3 trillion in health spending. That’s a jump of more than 12%, the largest annual increase in more than a decade. Officials have predicted that annual expenditure on medications will grow 6.3% on average through 2024.

Source: Adapted from *The Washington Post*, 11 January 2016

**Figure 1: Price indices for prescription drugs and consumer prices**



Source: *The Economist*, 2018

##### Extract 2: Priced out

Many Americans think they pay over the odds for drugs—particularly for cancer drugs. Some go so far as to suggest that other countries free-ride on their generosity, and that Americans are thus subsidising drug development, which needs to be fixed by changing trade agreements.

Dr. Daniel Goldstein of the Rabin Medical Centre examined the prices of various prescription drugs in six countries (America, Australia, Britain, China, India and South Africa). He found that the highest prices were, indeed, paid by Americans whereas India paid the least. However, Dr. Goldstein recognized the need to look at prices in relation to the citizens' level of income and calculate the affordability of these drugs. He found that America did moderately well while India and China were the least able to afford drugs.

The morals of this story seem twofold. First, just because drugs are cheaper elsewhere does not mean that people who live there can afford to pay for them, let alone pay more than they already do. Should prices be higher in China and India, sales might well be lower. Drug companies know that, and set their prices accordingly. Second, it helps when governments intervene with national purchasing arrangements, as Australia, Britain and South Africa all do. If Americans truly want lower drug prices, they should stop grumbling and become better negotiators, not blame those foreigners who are.

Source: *The Economist*, 11 June 2016

### **Extract 3: What's behind the sharp rise in prescription drug prices?**

Prescription drug prices are skyrocketing in the U.S. due in large part to government regulations. These regulations allow drug manufacturers to charge monopolistic prices that are not opposed by competing market forces. Drug makers charge high prices for drugs thanks largely to "market exclusivity" regulations intended to allow them to recoup the research and development costs for new breakthrough medications. The companies can do this largely unopposed because the nation's largest health insurers -- Medicare and Medicaid -- aren't allowed to negotiate prices.

Those insurance programmes cover one out of every three Americans, but under federal law must pay whatever price the drug makers charge. These high prices affect consumers, even those with insurance, an economic analyst said. Insurance companies have started placing more high-dollar drugs onto higher tiers of their medication coverage, which requires a larger co-pay for each prescription. "That is hitting consumers hard," he said, noting that the result is poorer health. The higher the cost of the medication, the poorer the adherence to the medication because people can't afford to take their medicines."

Upon approval of a new drug, the U.S. Food and Drug Administration (FDA) sets a period of market exclusivity that can last from 5 to 12 years, the authors said. During that period, no low-cost generic version of that drug can be sold. Exclusivity regulations are being exploited through tactics like evergreening. Evergreening refers to the drug company making a trivial change to a drug they have on-patent, and then promote that newer medicine as being superior to the earlier version, even though it has limited clinical benefits.

Source: *CBS News Online*, 24 August 2016

### **Extract 4: Cost control – drug pricing policies around the world**

Despite sustained scrutiny on the cost of medicines across the globe, there is little consensus on the optimal balance between protecting industry innovation and ensuring adequate access to effective treatments.

The U.S. doesn't directly regulate drug prices, meaning that drug companies can set whatever price they deem fit. The U.S. government regulates the market only through patents. However, U.S. legislators are reportedly considering a new measure to stop drugmakers unfairly delaying the launch of generic substitutes to their products once their patents expire.

Furthermore, the government is seeking to curb drug companies' marketing costs, which for most firms, outweigh R&D costs.

Source: *Pharmaceutical Technology*, 12 February 2018

### Questions

- (a) (i) Using Figure 1, compare the trend in the price of prescription drugs and consumer prices in the U.S. between 2000 and 2018. [2]
- (ii) According to Extract 1, "annual expenditure on medications will grow 6.3% on average through 2024".
- Explain **one** possible reason for this trend. [2]
- (b) Using a diagram, explain the source of market failure leading to high price of prescription drugs in the U.S. [4]
- (c) Explain **two** factors that firms would consider in making decisions on the price of their drugs across different countries. [4]
- (d) Consider the possible implications of the rising cost of prescription drugs in a developed country like the U.S. on the standard of living of its citizens. [8]
- (e) Assess whether government regulation in the form of patents is sufficient to achieve the 'optimal balance between protecting industry innovation and ensuring adequate access to effective treatments'. [10]

[Total: 30]

## Question 2

### The Economic Woes of Brazil

**Table 1: Brazil, selected economic indicators (2011 – 2016)**

Indicator / Unit	2011	2012	2013	2014	2015	2016
Real GDP growth / %	4.0	1.9	3.0	0.5	-3.5	-3.3
Government budget / % of GDP	-2.5	-2.3	-3.3	-5.9	-7.8	-7.2
Inflation rate / %	6.6	5.4	6.2	6.3	9.0	8.7
Exchange rate / Brazilian Real per US\$	1.67	1.95	2.16	2.35	3.33	3.49
Unemployment rate / %	6.69	7.19	6.99	6.67	8.44	11.61

Source: *OECD & World Bank, 2016*

#### Extract 5: Brazil's recession worst on record

Brazil, one of the world's top commodity exporters, has been in recession for two years. The latest figures show that the economy contracted by 3.6% in the last quarter, which also marked the deepest economic decline since records began. The country has been hard hit by a slowdown in China, the fall in commodity prices and an internal political crisis that has undermined business confidence.

The two-year slump has seen the number of unemployed rise to 12.9 million in 2016, a rate of about 12%. Brazil was once one of the fastest-growing economies in the world, the 'B' in the 'BRICS' group of nations, regarded by many investors as having the world's best growth potential. Its key exports - including oil, soy and metals, were in hot demand. But as growth in the biggest element of that grouping - China - began to slow, so did demand for commodities and their prices.

Another drag factor has been the fall in investors' confidence stemming from corruption, which has engulfed Brazilian society at the highest levels.

Source: Adapted from *BBC*, 7 March 2017

#### Extract 6: Monuments to environmental waste in Brazil

Brazil's economic troubles continue to defy easy explanation. The degraded state of the national infrastructure and the low quality of infrastructural services translate into dismal levels of economic competitiveness and growth. Yet the crux of the matter is not merely the scarcity of money, but how resources have been used.

In a broad context of negligence and mishandling, the most silent victim is the environment — and also the one with an innate ability to inflict serious revenge. In order to maintain productive activities and to sustain the advance of the economic frontier over the best-preserved parts of the Amazon and the Centre-West regions, numerous new roads, dams and port construction projects have been proposed. Such large-scale infrastructure schemes typically dramatically affect hydro-ecological dynamics and severely affect local social groups. Roads may help people's mobility and the transportation of goods, but they also seriously accelerate deforestation and the loss of biodiversity.

Source: *Financial Times*, 20 September 2017

### **Extract 7: Brazil surprises with aggressive rate cut to rescue economy**

Brazil surprised markets with a larger-than-expected interest rate cut on Wednesday, as the worst recession in Brazilian history threatens to stretch into a third year. In a unanimous vote, the central bank has decided to cut its benchmark interest rate by 75 basis-points to 13% after two straight cuts of 25 basis-points each.

Lower interest rates should help Brazil's economy accelerate after its worst recession on record ended in the first quarter. The sharp slowdown in inflation, which ended 2016 below the 6.5% target ceiling after starting the year at double digits, paved the way for the central bank to slash rates.

"This is an aggressive easing cycle. But political uncertainty is limiting the recovery in investments, and the fact that the labour market is very deteriorated is hindering the recovery in consumption," said Juan Jensen, a partner with E4 consultancy. President Michel Temer, who took over the presidency last year, is expected to rely on rate cuts as a fiscal crisis limits his ability to provide other stimulus.

Source: Adapted from *Reuters*, 12 Jan 2017

### **Extract 8: Brazil raises taxes, freezes spending to meet target**

Brazil's government on Thursday increased a spending freeze and raised taxes to cover a budget gap this year, reinforcing its commitment to fiscal discipline but dealing a potential blow to fragile economic growth. The government said it will freeze an additional 5.9 billion reais (\$1.9 billion) in federal spending this year.

The country's renewed austerity effort has weighed on public investments in infrastructure and disrupted services such as passport issuance. This has been justified by President Michel Temer's year-long administration as a necessary step to rebuild trust with investors and curb the growth of public debt.

Brazil targets a budget deficit of 139 billion reais this year before interest payments. The deficit in the 12 months through May reached 167.6 billion reais, equivalent to 2.59% of gross domestic product.

Source: *Reuters*, 20 July 2017

### **Extract 9: Trade policy in the U.S. and Brazil**

Just as the U.S. looks to take a more protectionist tilt, Brazil is talking up its push towards free trade. In recent years, the U.S. has negotiated agreements with foreign steelmakers, such as Japan and South Korea, to restrict their exports or face anti-dumping tariffs. It has repeatedly accused China of unfair trade practices, and it's likely that it will take an aggressive stance toward international trade and imports. President Trump's team share a view that a country that imports more products than it exports is uncompetitive, with the U.S. running a trade deficit for the last 40 years.

At this weekend's meeting of G-20 finance ministers, Brazil was one of several nations to point out the dangers of anti-globalization — a message crafted largely for listeners in the U.S. The country's finance minister, Henrique Meirelles, said in an interview with *The Wall Street Journal*, "we had adopted during the last years some protectionist measures for some sectors of the economy, and the net result was not positive. At the end of the day, our products became more expensive and Brazilian exports became less competitive," he told the newspaper. "In Brazil, we are moving towards a more open trade policy."

"The new rhetoric towards more trade openness in Brazil is important," he said. But, "Brazil remains a relatively closed economy as opening up takes time."

Source: Adapted from *CNBC*, 20 Mar 2017 and *The Atlantic*, 9 Jan 2017

### Questions

- (a) (i) With reference to Table 1, state what happened to Brazil's Real GDP from 2014 to 2016. [1]
- (ii) Using Extract 5, explain **one** factor that could have led to the above trend. [2]
- (b) (i) With reference to Table 1, how does the value of the Brazilian Real in 2011 compare to its value in 2016? [1]
- (ii) With reference to Extract 7 and using a diagram, explain the change identified in (bi). [4]
- (c) Using the production possibilities curve diagram(s), explain how fiscal austerity would impact the Brazilian economy in both the short run and long run. [4]
- (d) Evaluate possible arguments as to why the U.S. may want to "take a more protectionist tilt". [8]
- (e) Discuss if interest rate policy is the best way of achieving the Brazilian government's goal of sustainable economic growth. [10]

[Total: 30]

[END OF PAPER]

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**Catholic Junior College**  
**JC2 Preliminary Examinations**  
**Higher 2**

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**ECONOMICS**

**9757/02**

Paper 2

**28 Aug 2019**

Additional Materials: Writing Paper

**2 hours 15 min**

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**READ THESE INSTRUCTIONS FIRST**

Write your name, class and question number on **all** the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use highlighters, glue or correction fluid.

**Begin each question on a new sheet of paper.**

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

At the end of the examination, **hand in ALL questions separately.**

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **3** printed pages and **1** blank page.

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**[Turn over]**

Answer **three** questions in total.

**Section A**

**One or two** of your three chosen questions must be from this section.

- 1** It takes several seasons to get any harvest of quinoa, grown by Andean farmers, which has become popular among health-conscious and affluent consumers worldwide over. Despite increasing the number of land plots devoted to growing quinoa, farmers are not supplying enough.

**(a)** Explain how the above events would lead to a spike in quinoa prices. [10]

With other countries' researchers developing new variants of the crop, the worry is now about maintaining a steady income level of the Andean farmers when production takes off around the world.

Source: The Washington Post

**(b)** Discuss the strategies that may be undertaken by the government and farmers of the Andean nations to maintain the income level of the Andean farmers. [15]

- 2** The successful exploitation of new ideas is crucial to a business being able to improve its processes, bring new and improved products and services to market, increase efficiency and, most importantly, improve its profitability.

**(a)** Explain how innovation may affect efficiency in a market. [10]

**(b)** Discuss whether a firm's decision to innovate is dependent solely on the barriers to entry in the market. [15]

- 3** The Singapore government strongly emphasises shared responsibility between the government and people in the healthcare market. Individuals use monies in their Medisave accounts, government subsidy, medical insurance like Medishield Life and cash to pay for treatments. In recent times, the affordability of healthcare services has come under the spotlight.

In the light of the aging population in Singapore, assess the effectiveness of policies available to the government in addressing the different sources of market failure in the healthcare market in Singapore. [25]

**Section B**

**One or two** of your three chosen questions must be from this section.

- 4** A country's social expenditure is made up of cash handouts, rebates, subsidies and social welfare in areas such as home ownership, healthcare and education to improve the standard of living of its citizens.

Source: *The Straits Times*, 30 April 2018

- (a)** Explain the consequences of a government not achieving its macroeconomic aims. [10]
- (b)** Assess whether a government injection on social spending is likely to have a significant impact on the standard of living of its citizens. [15]

- 5** As much as one-third of the United States workforce could be out of a job by 2030 thanks to automation, according to new research from McKinsey. Meanwhile in Samoa, a small developing country, the tourism industry is badly hit with poor outlook globally.

Source: *CNBC*, 29 Nov 2017 & *Samoa Observer*, 26 May 2017

- (a)** Explain the various causes of unemployment across different countries. [10]
- (b)** Discuss the extent to which the nature of an economy affects a government's choice of macroeconomic policies in addressing unemployment. [15]

- 6** On 8 March 2018, Singapore and 10 other countries signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a free trade agreement. Minister for Trade and Industry Chan Chun Sing said, "The CPTPP will strengthen trade among countries in the Asia-Pacific, resulting in a more seamless flow of goods, services and investment."

Source: Ministry of Trade & Industry, accessed 17 July 2019

Discuss the impact of Singapore's policies to promote free trade on consumers and producers in Singapore. [25]

**[END OF PAPER]**

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**Catholic Junior College  
H2 Economics 9757  
2019 JC2 Preliminary Exam  
Answer Package**

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**Paper 1**

**Case Study Question 1: The Market for Pharmaceutical Drugs**

(a)	(i)	<p>Using Figure 1, compare the trend in the price of prescription drugs and consumer prices in U.S. between 2000 and 2018.</p> <p><u>Suggested Answer:</u>  <i>Similarity – Both prices of prescription drugs and consumer prices increased from 2000 to 2018 – 1m</i>  <i>Difference – The prices of prescription drugs rose at a faster/higher rate than consumer prices – 1m</i>  <i>** “more than” / “larger increase” are also accepted</i></p>	[2]
	(ii)	<p>According to Extract 1, “annual expenditure on medications will grow 6.3% on average through 2024”.</p> <p>Explain <b>one</b> possible reason for this trend.</p> <p><u>Suggested Answer:</u>  <i>Extract Evidence</i>  <i>According to extract 1, price “increases occurred across virtually every drug category”</i>  <i>Any non-price determinant causing an increase in DD explained – 1m</i> <ul style="list-style-type: none"> <li>• <i>Unhealthy lifestyles, e.g. poor eating habits</i></li> <li>• <i>More well-informed about available drugs (taste and preferences)</i></li> <li>• <i>Any other possible non-price determinant</i></li> </ul> <i>Leading to an increase in demand -&gt; price and quantity increase -&gt; TE increases.</i>  <i>– 1m for these explicit links</i></p> <p>OR</p> <p><i>Any non-price determinant causing a decrease in SS explained – 1m</i>  <i>Application of PED – 1m</i>  <i>Since drugs are a necessity in treating medical conditions, demand for them would be price inelastic. Since consumer expenditure is the product of quantity demanded and price, it would rise given that quantity demanded falls less than proportionately to price increases.</i>  <i>Explicit link to TE expected, determinant of PED not necessary – as long as PED inelastic.</i>  <i>**PES irrelevant since TE would definitely increase given an increase in DD</i></p>	[2]
(b)		<p>Using a diagram, explain the source of market failure leading to high price of prescription drugs in the U.S.</p>	[4]
		<p><u>Suggested Answer:</u>  <i>Market failure due to market dominance</i>  <i>High BTE and market power made possible by government regulation,</i>  <i>Extract 3 “market exclusivity” regulations intended to allow them to recoup the research and development costs for new breakthrough medications or</i>  <i>→ PED &lt; 1 due to lack of substitutes (monopoly) -&gt; high price setting ability OR</i>  <i>“charge monopolistic prices..”(Extract 3) + price setting [1m]</i>  <i>→ Restrict output where MC=MR to set high prices</i>  <i>→ At Q* -&gt; P &gt; MC, i.e. consumers’ valuation of the next additional good is higher than the marginal cost of producing it [1m]</i>  <i>→ Q* &lt; Q<sub>AE</sub> where P=MC OR underproduction -&gt; DWL [1m]</i>  <i>[1m for diagram containing Ps, Qs compared to Q<sub>AE</sub>]</i></p>	

(c)	<p>Explain <b>two</b> factors that firms would consider in making decisions on the price of their drugs across different countries.</p>	[4]
	<p><u>Suggested Answer:</u>  2m for any one of the factors from the <b>Decision Making Framework</b></p> <ol style="list-style-type: none"> <li>1. <b>BENEFITS</b>  Firms will engage in 3<sup>rd</sup> degree price discrimination in order to maximise profits, “Should prices be higher in China and India, sales might well be lower. Drug companies know that, and set their prices accordingly” (Extract 2) <ul style="list-style-type: none"> <li>• No possibility for resale</li> <li>• Profit maximizing: <math>MC=MR \rightarrow \text{total } Q</math></li> <li>• PED in each country <math>\rightarrow TR</math> <ul style="list-style-type: none"> <li>○ PED may be cited as a point even if without price discrimination explicitly mentioned but must be compared across countries and with differing PEDs substantiated with relevant determinants (proportion of income)</li> </ul> </li> </ul> </li> <li>2. <b>Government PERSPECTIVE</b> <ul style="list-style-type: none"> <li>• National purchasing agreements, “it helps when governments intervene with national purchasing arrangements, as Australia, Britain and South Africa all do.” (Extract 2). This type of policy would help to regulate the prices of drugs from excessive volatility.</li> </ul> </li> <li>3. <b>COSTs of production</b> <ul style="list-style-type: none"> <li>• There may be differences in costs of production in different countries.</li> </ul> </li> <li>4. <b>State of the economy (CONSTRAINTS)</b> <ul style="list-style-type: none"> <li>• Income per capita – affordability across countries</li> <li>• Higher prices for countries with higher income per capita (e.g. developed) vs lower prices for developing countries with lower income per capita – substantiated with links to purchasing power or ability to buy.</li> <li>• Even though “India paid the least”, “India were the least able to afford drugs” (Extract 2)</li> </ul> </li> </ol> <p>*Pure Price Discrimination factors – 2m</p>	
(d)	<p>Consider the possible implications of the rising cost of prescription drugs in a developed country like the U.S. on the standard of living of its citizens.</p> <p><u>Suggested Answer:</u>  Extract 2 – “highest prices were, indeed, paid by Americans”</p> <p>Lower Material SOL</p> <ul style="list-style-type: none"> <li>• Higher drug prices <math>\rightarrow</math> larger proportion of income spent on drugs <math>\rightarrow</math> less income left to spend on other consumer goods <math>\rightarrow</math> lower material SOL</li> <li>• This impact would be larger on the lower income groups who are sick but unable to afford these drugs.</li> <li>• This impact would be larger for those who cannot afford insurance to offset the cost of these drugs.</li> </ul> <p>Lower Non-material SOL</p> <ul style="list-style-type: none"> <li>• Higher drug prices <math>\rightarrow</math> less access to medication because of consumers’ inability to pay <math>\rightarrow</math> poorer health <math>\rightarrow</math> lower non-material SOL</li> <li>• A point about higher drug prices causing stress would be considered a superficial pt (4m with an AT and T on material SOL)</li> </ul> <p>Material and Non-material SOL may not decrease</p> <ul style="list-style-type: none"> <li>• Should U.S. citizens’ income rise faster than the rise in cost of drugs, drugs would remain affordable <math>\rightarrow</math> their health issues would be resolved and they</li> </ul>	[8]

	<p>have sufficient income left for other expenditures -&gt; higher material and non-material SOL</p> <ul style="list-style-type: none"> <li>When pharmaceutical companies earn more profits, they would also increase their output and hire more workers, the reduction in unemployment would lead to an increase in material SOL for workers hired in the industry.</li> </ul> <p>Overall synthesis: [Criteria: SR/LR, Costs, Citizens' income/budget constraints]</p> <ul style="list-style-type: none"> <li>Synthesis should be either a recommendation improving SOL or weighing of impacts on SOL.</li> <li>Stand - Higher cost of drugs needs to be compared to change in citizens' income</li> <li>Justification - Rising cost of drugs may be justified if it helps to improve R&amp;D outcomes (leading to better drugs in the LR) and provide more jobs in the pharmaceutical sector</li> <li>This would help to improve US citizens' SOL in the LR.</li> </ul> <table border="1"> <thead> <tr> <th>Level</th> <th>Descriptors</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>L2</td> <td> <p>Answer is able to explain the impact of drug costs on both material and non-material SOL</p> <p>Provides a balanced argument by considering both positive and negative impacts on either material or non-material SOL, i.e. 2T, 1AT.</p> <p>2 Strong T covering M and non-M – max 4m</p> </td> <td>4-6</td> </tr> <tr> <td>L1</td> <td> <p>Answer that considers superficially the impact of drug costs on either material OR non-material SOL</p> <ul style="list-style-type: none"> <li>With descriptive illustrations lacking economic analysis</li> </ul> <p>Only 1 thesis – 2m</p> </td> <td>1-3</td> </tr> <tr> <td>E2</td> <td>Provides a well-reasoned stand through the use of explicit criteria</td> <td>2</td> </tr> <tr> <td>E1</td> <td>Unsubstantiated stand without considering the context</td> <td>1</td> </tr> </tbody> </table>	Level	Descriptors	Marks	L2	<p>Answer is able to explain the impact of drug costs on both material and non-material SOL</p> <p>Provides a balanced argument by considering both positive and negative impacts on either material or non-material SOL, i.e. 2T, 1AT.</p> <p>2 Strong T covering M and non-M – max 4m</p>	4-6	L1	<p>Answer that considers superficially the impact of drug costs on either material OR non-material SOL</p> <ul style="list-style-type: none"> <li>With descriptive illustrations lacking economic analysis</li> </ul> <p>Only 1 thesis – 2m</p>	1-3	E2	Provides a well-reasoned stand through the use of explicit criteria	2	E1	Unsubstantiated stand without considering the context	1	
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E2	Provides a well-reasoned stand through the use of explicit criteria	2															
E1	Unsubstantiated stand without considering the context	1															
(e)	Assess whether government regulation in the form of patents is sufficient to achieve the 'optimal balance between protecting industry innovation and ensuring adequate access to effective treatments'.	[10]															
	<p><u>Suggested Answer:</u></p> <p>Patents are sufficient because...</p> <ul style="list-style-type: none"> <li>Ability + incentive to undertake R&amp;D -&gt; Dynamic efficiency <ul style="list-style-type: none"> <li>Patents allow firms to recoup R&amp;D costs through supernormal profits during patent period, i.e. not competed away through the entrance of firms</li> <li>more innovation and new drugs in the LR -&gt; increase access to new cures in the LR</li> </ul> </li> </ul> <p>Patents are insufficient because...</p> <ul style="list-style-type: none"> <li>Less access in the SR due to allocative inefficiency as explained in part b</li> <li>Less access due to inequity – high P, pricing some out of the market; high supernormal profit (redistribution of income from consumers to producers).</li> <li>Less access due to excessive marketing costs – drives P higher and incurs the o/c of R&amp;D spending -&gt; less development of new drugs</li> </ul> <p>Governments could...(extract 4)</p> <ul style="list-style-type: none"> <li>Regulate the price that firms could set (impose price ceiling or AC/MC pricing)</li> </ul>																

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- *Subsidies to increase consumers' access to drugs*
- *Curb drug marketing cost (regulation to decrease TC)*
- *Ensure patent period is upheld or not excessively long (limit amount of supernormal profits firms can earn)*

*Synthesis:*

*Stand: insufficient*

*Justification: need to be supported with other policies to regulate price and prevent excessively high cost or excessively long patent periods that more than compensate the cost of R&D.*

<i>Level</i>	<i>Descriptors</i>	<i>Marks</i>
3	<p><i>Well-reasoned, balanced answer discussing whether patents lead to the development of drugs and consumers' access to them.</i></p> <p><i>Answer considers other government regulations where patents may be lacking.</i></p> <p><i>No Extract Evidence- max 6 marks</i></p>	6 – 7
2	<p><i>Two-sided but underdeveloped analysis (1 side well developed; the other underdeveloped - 5m)</i>  <i>(2 sides underdeveloped – 4m)</i>  OR</p> <p><i>Answer may consist of one-sided but well developed analysis of how patents lead to the development of drugs and consumers' access to them.</i></p> <p><i>Answer may not have considered other government regulations.</i>  <i>Answer may also be without any reference to extract evidence.</i></p>	3 – 5
1	<p><i>Answer may include only partially relevant links to innovation and consumers' access. No reference to extract evidence given.</i></p>	1 – 2
E2	<p><i>Well justified evaluative comments about attaining both innovation and access and assessing sufficiency of policies</i></p>	2 – 3
E1	<p><i>Unjustified evaluative comments</i></p>	1

**Case Study Question 2: The Economic Woes of Brazil**

(a)	(i)	With reference to Table 1, state what happened to Brazil's Real GDP from 2014 to 2016.	[1]
		<u>Suggested Answer</u> <i>Brazil's Real GDP has fallen from 2014 to 2016.</i>	
	(ii)	Using Extract 5, explain <b>one</b> factor that could have led to the above trend.	[2]
		<u>Suggested Answer</u> 1. <i>Slowdown of China (Evidence) → fall in dd for Brazil's exports → c.p. fall in net exports and AD → fall in real GDP, assuming Brazil is operating below full employment;</i> <u>Or</u> 2. <i>Fall in commodity prices (for eg oil, soy &amp; metals) (Evidence) → fall in export revenue from commodities assuming demand for commodities falls due to fall in demand from China → c.p. fall in net exports and AD → fall in real GDP, assuming Brazil is operating below full employment;</i> <u>Or</u> 3. <i>Political crisis (Evidence) → loss of investor confidence → fall in I → c.p. fall in AD → fall in real GDP, assuming Brazil is operating below full employment</i>	
(b)	(i)	With reference to Table 1, how does the value of the Brazilian Real in 2011 compare to its value in 2016?	[1]
		<u>Suggested Answer</u> <i>The value of the Brazilian Real against the USD is lower in 2016 compared to 2011.</i>	
	(ii)	With reference to Extract 7 and using a diagram, explain the change identified in (bi).	[4]
		<u>Suggested Answer</u> <i>Fall in interest rate (Evidence) (1m)</i> <i>→ Increased outflow in hot money and/or reduced inflow of hot money → Increase in SS of Brazilian Real and/or fall in demand for Brazilian Real in the Foreign Exchange Market (1m)</i> <i>Surplus of Brazilian Real in the market → downward pressure on price → lower value of the Brazilian Real in 2016 (1m)</i> <i>DD/SS in Forex Mkt Diagram (1m)</i>	
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Or

*Uncertainty (Evidence) (1m)*

*→ reduced inflow of FDI → fall in demand for Brazilian Real in the Foreign Exchange Market (1m)*

*Surplus of Brazilian Real in the market → downward pressure on price → depreciation of the Real (1m)*

*DD/SS in Forex Mkt Diagram (1m)*

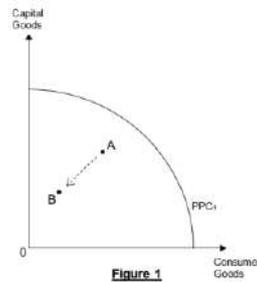
(c)

Using the production possibilities curve diagram(s), explain how fiscal austerity would impact the Brazilian economy in both the short run and long run.

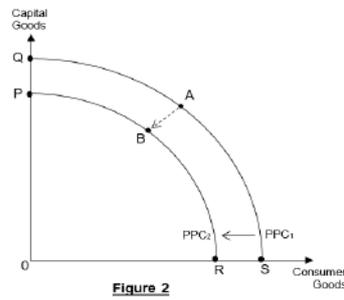
[4]

Suggested Answer

*SR – fall in public investment → fall in output & employment → movement to a point further away from PPC (1) + diagram to show the movement of Pt A to Pt B within the PPC (1)*

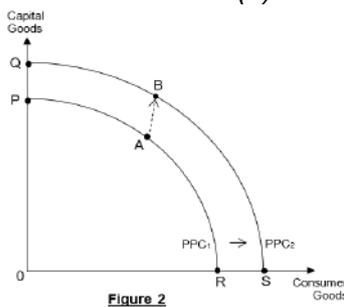


*LR – fall in public investment → fall in productive capacity, c.p. → inward shift of PPC (1) + diagram to show inward shift of PPC (1)*



Or

*LR – austerity measures → reduce debt → increase confidence in the economy → increase investment → increase productive capacity → outward shift of PPC (1) + diagram to show outward shift of PPC (1)*



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(d)	Evaluate possible arguments as to why the US may want to “take a more protectionist tilt”.	[8]
	<p><u>Suggested Answer</u></p> <p><b>Intro:</b></p> <p><b>Define protectionism and state a few common methods:</b>  <i>Protectionism is defined as the act of imposing economic policies aimed at restricting trade between countries, designed primarily to protect domestic producers and workers from foreign competition. Countries generally use tariffs, quotas or export subsidies to protect their domestic producers.</i></p> <p><b><u>Thesis: Possible justifiable arguments for US taking a “protectionist tilt”</u></b></p> <p>1. Prevent dumping (unfair competition)  <i>Evidence from Extract 9: “anti-dumping tariffs”</i>  <i>With free trade, foreign producers might engage in dumping where prices are charged below marginal cost of production through unfair subsidies given by their government. Dumping allows these foreign producers to increase their share of the domestic market. Therefore, this may drive the domestic firms out of the industry resulting in structural unemployment and the foreign company gaining control of the market and subsequently charging high prices, reducing consumer welfare. Thus, government impose trade restrictions on imports so that locally produced goods will be more competitive in the face of unfair competition, protecting domestic employment and consumer welfare.</i></p> <p>2. Correct BOT deficit  <i>Evidence from Extract 9: “US running a trade deficit for the last 40 years”</i>  <i>For countries suffering from an acute balance of trade deficit, an unlimited inflow of imports will worsen their condition. This may weaken the BOP position of the country as well as slow down the rate of economic growth. Trade restrictions may thus be required to cut down on the import of non-essentials when a country has a serious trade deficit, reducing the deficit, thus improving the BOT position. The improvement in BOT will improve the BOP position and the rate of growth in the economy.</i></p> <p><i>Others possible arguments (will not get full credit):</i>  <i>Strategic argument</i>  <i>Protect infant industries</i>  <i>Protect declining industries</i></p> <p><b><u>Anti-Thesis: Possible arguments against US taking a “protectionist tilt”</u></b></p> <p>1. Adverse effects on Brazil’s economy  <i>Evidence from Extract 9: the products became more expensive and Brazilian exports became less competitive.</i>  <i>Net exports &amp; BOT may deteriorate → c.p. adverse effects on EG, unemployment &amp; BOP.</i></p> <p><i>Others:</i></p> <ul style="list-style-type: none"> <li>- Retaliation,</li> <li>- Beggar-thy-neighbour effect</li> <li>- Welfare loss to society and misallocation of world resources when inefficient firms are protected</li> </ul> <p><b><u>Overall Synthesis:</u></b>  <i>Stand: Whether justifiable or not depends on the product protected and how long the protection is for</i>  <i>Substantiation:</i></p>	<p style="text-align: right;">Need a home tutor? Visit <a href="http://smiletutor.sg">smiletutor.sg</a></p>

Protection of raw material → higher COP → higher prices → DWL to society.  
 Extended protection → retaliation → lower world trade → misallocation of world resources  
Recommendation: Protectionism should only be used as a short term measure which governments while using supply side policies to improve competitiveness by addressing fundamentals to make US goods more price competitive and improve quality.

**Mark Scheme:**

<b>Knowledge, Understanding, Application and Analysis</b>		
L2	<ul style="list-style-type: none"> <li>Question requirements are interpreted accurately.</li> <li>Well-elaborated 2-sided discussion of rationale for and against protectionist measures and how they will impact the US economy.</li> <li>Economic analysis is accurate, complete and well supported by contextual evidence.</li> </ul> <p><b>Well-elaborated one sided only: max 4m</b></p>	4 – 6
L1	<ul style="list-style-type: none"> <li>Question requirements are interpreted inaccurately.</li> <li>One-sided or sketchy answer.</li> <li>Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis.</li> </ul>	1 – 3
<b>Evaluation</b>		
E	Evaluative comments are well-explained and supported by economic analysis.	2
	Unexplained evaluative comments.	1

(e) Discuss if interest rate policy is the best way of achieving the Brazilian government's goal of sustainable economic growth. [10]

Suggested Answer

**Intro:**

Define Sustainable Growth:

1. Sustained EG (Actual & Potential EG)
2. a. Minimize negative economic impact on future generations: Lower negative consequences on the environment  
 b. reduced rate of resource depletion  
 c. improve fiscal sustainability

Evidences of unsustainable growth in Brazil:

1. Extract 5: Deep Recession for 2 years → negative growth
2. Extract 6: Environmental degradation as a result of growth → poorer environment for future generations
3. Extract 8: High government debt → higher tax burden on future generations

Lowering of interest rates (Exp MP) can solve Point 1 and Point 2c directly, but with limited effectiveness due to its inherent limitations. Point 2a and 2b will need to be addressed/complemented by SSP directly.

Thus, will need to use a criteria to justify 'best' – Urgency of Problems/Priority of Govt, Time, addressing Root Cause etc

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**Thesis: Use of Exp MP can help achieve sustainable growth to some extent**

1. Lowering of  $i/r$  → reduce COB → boost C & I → increase AD and increase RNY as real output increases → demand for labour rises →  $unN$  falls → This will solve the macro problem of recession (Point 1)
2. The rise in RNY will also raise tax revenue, c.p., this will improve the issue of high government debt (Point 2c)

**Benefit:**

1. Policy can be implemented quickly without impacting the government's budget

**Anti-thesis 1: Use of Exp MP might not achieve sustainable growth**

1. The effectiveness of Exp MP depends on interest-elasticity of C & I, which are affected by the overall business confidence in the economy. Evidence: Confidence in investors was negatively impacted by the high government debt
2. Conflict of macro objectives: Higher rates of growth → likely will worsen environmental degradation → EG thus may not be sustainable
3. Conflict of macro objectives: AD rises → GPL will rise as economy approaches  $Y_f$  and beyond → Inflation will make exports lose price competitiveness, thus dampening rate of growth  
However, this may not happen in Brazil which is suffering from high rates of unemployment.

Thus, the use of Exp MP on its own is clearly not best in terms of effectiveness.

**Anti-thesis 2: Use of other policies as a combination to achieve sustainable growth**

1. Contractionary FP: To curb the rising government debt in order to improve business confidence
2. Trade Policies: To reduce trade restrictions to boost price competitiveness of Brazilian exports as a pillar of growth to reduce reliance on government spending as well as to reduce dependence on China
3. Supply-side policies: To rely on clean technology to improve the efficiency of resource usage to minimize environmental degradation to achieve sustainable growth; SSP is crucial to increase LRAS to achieve sustained EG; and innovation to raise the quality of Brazilian exports to boost competitiveness

(Explain & evaluate in terms of benefits and limitations of any 1-2 other policies)

**Overall Synthesis:**

**Stand + Substantiation:** Exp MP, on its own, is highly unlikely the best to achieve sustainable growth in Brazil due to weakness in investor and consumer confidence.

**Something Special:** In theory, according to Tinbergen's Principle – Brazil will need the same number of macro policies to combat the myriad of macro problems faced. Thus a combination of policies could potentially work together to resolve the issues

However, in reality, the competence of government (inherent problem of corruption and inefficiency in macro planning etc) will result in uncertainty.

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## Paper 2 Essay Question 1

It takes several seasons to get any harvest of quinoa, grown by Andean farmers, which has become popular among health-conscious and affluent consumers worldwide over. Despite increasing the number of land plots devoted to growing quinoa, farmers are not supplying enough.

(a) Explain how the above events would lead to a spike in quinoa prices. [10]

With other countries' researchers developing new variants of the crop, the worry is now about maintaining a steady income level of the Andean farmers when production takes off around the world.

Source: The Washington Post

(b) Discuss the strategies that may be undertaken by the government and farmers of the Andean nations to maintain the income level of the Andean farmers. [15]

### Question Analysis

<b>Command</b>	Explain how – make clear the cause-effect relationship between events in the question and the effect on quinoa prices spiking
<b>Content</b>	Demand and supply, PES
<b>Context</b>	Quinoa “become popular among the health-conscious” – taste and preferences -> DD increase “affluent consumers” – income increase -> DD increase “Increasing number of land plots” -> SS increase “several seasons to get any harvest” -> PES inelastic
<b>Approach</b>	Explain how non-price determinants of DD/SS (CAUSE) affect the equilibrium price (EFFECT) Explain how PED (applied to SS shift) and PES (applied to DD shift) affect the <b>extent of increase</b> in equilibrium price (EFFECT)

### Suggested Answer Scheme

<b>Intro</b>	This essay will explain how the above events affect non-price determinants of demand and supply; thereby affecting the market equilibrium price of the quinoa market. Based on these changes of demand and supply, PES would be applied to explain the large extent of price increase.	Overview
<b>Para #1</b>	A shift in taste and preferences and rising income has led to an increase in demand for quinoa.  Due to quinoa being protein rich, an important nutrient in a healthy diet, health conscious consumers have shifted their taste and preferences towards the consumption of quinoa, i.e. consumers are more willing to consume quinoa, quantity demanded has increased at every price level, increasing demand and shifting demand curve from $D_0$ to $D_1$ .  Likewise an increase in income has led to an increase in consumers' willingness and ability to consume quinoa since quinoa is considered a normal good. This has also caused demand to increase.	Topic sentence  Explain non-price determinants
<b>Para #2</b>	An increase in amount of land devoted to quinoa cultivation would lead to an increase in supply of quinoa. Land is considered a factor input in the production of quinoa. As more land is devoted to its production, more output can be produced at each price level, causing supply to increase, shifting right from $S_0$ to $S_1$ . Since farmers are not producing enough, it can be expected that the increase in demand has outweighed the increase in supply. At the original equilibrium price, $P_0$ , there would be a shortage since $Q_s$ is more than $Q_d$ . This would cause an upward pressure in price. As price increases, $Q_d$ would decrease	Topic sentence Explain non-price determinant Explain price adj based on

	and $Q_s$ would increase, eliminating the shortage. The market will re-equilibrate at a higher price and quantity.	relative magnitude of DD/SS shifts
<b>Para #3</b>	<p>The extent of price increase would depend on price elasticity of supply (PES). <i>PED would not be applicable in this case because the given effect in the question is an increase in price, which will not result from an increase in supply.</i></p> <p>Since quinoa takes several seasons before producing one harvest, it takes a long time to cultivate quinoa – this would make supply price inelastic as producers may not be able to readily increase quantity supplied in response to an increase in prices.</p> <p>As can be seen in Figure 1, when supply is price inelastic, price would increase by a larger extent from <math>P_0</math> to <math>P_i</math> as compared to <math>P_0</math> to <math>P_e</math> when supply is price elastic.</p> <p>Hence an increase in demand and PES inelastic has caused a spike in prices.</p>	<p>Topic sentence</p> <p>Explain PES</p> <p>Apply PES</p> <p>Link</p>
<b>Con cl.</b>	Therefore a larger increase in demand (as compared to supply) and supply being price inelastic has led to a spike in quinoa prices	

### LORMs

Level	Knowledge, Application/Understanding/Analysis	Marks
<b>L3</b>	Well developed explanations of both non-price determinants of SS and DD Answer shows an awareness of how extent of DD and SS shifts affect the direction of price change; how PES affects the extent of price change	8-10
<b>L2</b>	<p>Explanations of both non-price determinants of SS and DD present but may not be well-contextualised to the events in the preamble. Answer shows an awareness of only two of the following:</p> <ul style="list-style-type: none"> <li>• The need to account of extent of DD vs SS shifts</li> <li>• The need to apply PES</li> <li>• Price adjustment process</li> </ul> <p>Or inaccurate applications of the above 2 criteria in determining price change.</p>	5-7
<b>L1</b>	Descriptive narration of DD and SS factors. Invalid links to market equilibrium price.	1-4

(b) Discuss the strategies that may be undertaken by the government and farmers of the Andean nations to maintain the income level of the Andean farmers. [15]

### Question Analysis

<b>Command</b>	Discuss – to provide a 2-sided argument about the appropriateness of strategies
<b>Content</b>	<p>Profits = TR – TC</p> <p>Price strategies to increase revenue</p> <p>Non-price strategies to increase revenue or cut cost</p> <p>Govt policy – subsidies or price ceiling or depreciation of currency to increase export price competitiveness</p> <p>Possible application of PED, XED/YED concepts</p>
<b>Context</b>	<p>Quinoa and related products (substitutes/complements)</p> <p>Quinoa and relevant factor inputs</p>
<b>Approach</b>	<ul style="list-style-type: none"> <li>• Explain how pricing strategies (CAUSE) could increase total revenue (EFFECT)</li> <li>• Evaluate pricing strategies</li> <li>• Explain how non-price strategies (CAUSE) could increase total revenue or reduce cost (EFFECT)</li> </ul>

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	<ul style="list-style-type: none"> <li>Evaluate non-price strategies</li> <li>Conclude how quinoa producers may maximize their chances of increasing profits over time</li> </ul>
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**Suggested Answer Scheme**

<b>Intro</b>	Profits is determined by a producer’s total revenue offset by its total cost. This essay will analyse how price and non-price strategies may increase total revenue and decrease cost, thereby increasing profits. Further, the essay will evaluate the appropriateness of these strategies in the context of possible fall in market share (AR) due to the increase in production from other countries.	Overview
<b>Para #1: price strategy</b>	<p>Quinoa producers could use pricing strategies to increase total revenue.</p> <p>In the short run, producers should increase prices of quinoa by restricting output. Given that quinoa is a protein rich grain, it is not easily substitutable as other grains like rice and corn may not contain the same amount of protein. The lack of substitutes would cause demand for quinoa to be price inelastic. Consequently, an increase in price would lead to a less than proportionate decrease in quantity demanded since there are few substitutes that consumers may switch to, hence total revenue would rise.</p> <p>In the long run, other protein rich grains may be discovered or developed. Additionally, more countries may start producing the highly profitable quinoa, hence there would be more substitutes available. Demand for quinoa would become price elastic in the long run. Hence producers should decrease prices in the long run, leading to a more than proportionate increase in quantity demanded, causing total revenue to rise. Assuming total costs remain unchanged or increase at a slower rate, profits would rise.</p>	<p>Topic sentence</p> <p>Explain relationship between PED and TR.</p>
<b>Para #2: Lim. of price strategy [SR/ LR]</b>	<p>However, quinoa producers cannot decrease prices indefinitely in the long run.</p> <p>Quinoa producers may only decrease price up to the point where <math>P = AVC</math>, if not it will have to exit the industry due to subnormal profits and the inability to cover some variable costs. Faced with the prospect of the need to decrease prices in the long run, quinoa producers have to turn to other strategies to increase TR or decrease TC.</p>	<p>Topic sentence</p> <p>Explain the shutdown condition</p> <p>Link to the need for other strategies.</p>
<b>Para #3: Non-price strategy</b>	<p>Quinoa producers can rely on non-price strategies to avoid the need to decrease prices over time.</p> <p>The emergence of close and viable substitutes in the long run can be directly dealt with through product differentiation to decrease the substitutability of their products. For example, through research and development, different variants of quinoa have been developed that differ in terms of texture and taste. Developing these variants over time cater to different tastes and preferences (increasing market size and hence demand) while also ensuring that the product is less substitutable should another protein-rich grain or seed is popularized.</p> <p>An increase in demand would directly increase total revenue. Furthermore, should there be a sudden surge in supply for another protein-rich grain, price of this alternative would fall, leading to an increase in quantity</p>	<p>Topic sentence</p> <p>Explain how R&amp;D affects DD of quinoa</p> <p>Apply XED to impact on DD</p>

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	<p>demanded. But as long as this alternative is not a strong substitute to quinoa (<math>0 &lt; XED &lt; 1</math>), demand for quinoa would fall by a small extent.</p> <p>As long as the increase in demand due to taste and preferences exceed the decrease in demand due to the emergence of a weak substitute, TR of quinoa producers could still rise.</p>	<p>Weigh DD shifts</p>
<p><b>Para #4: Lim. of non-price strategy [Costs, unintended consequence]</b></p>	<p>However, research and development is costly and outcomes are uncertain.</p> <p>Assuming quinoa producers have accumulated supernormal profits in the long run and have the ability to undertake R&amp;D, Quinoa producers would still have to weigh the increase in costs (devoted to R&amp;D) against the potential increase in demand from new variants of quinoa.</p> <p>Should the R&amp;D costs be high and the new variant of quinoa is not well received by consumers (limited increase in demand and hence revenue), quinoa producers may not be able to recoup R&amp;D costs in the long run.</p>	<p>Topic sentence</p> <p>Explain the costs of R&amp;D</p> <p>...to be weighed against uncertain increase in DD, TR.</p>
<p><b>Para #5: Non-price strategy (cost cutting)</b></p>	<p>The high costs of R&amp;D could also be offset by a reduction in costs.</p> <p>R&amp;D could increase productivity and develop new methods of production. For instance, high yield seeds and drought resistant crops could be developed such that each unit of factor input would produce a greater amount of output, thereby decreasing the cost of production per unit output.</p> <p>Profits would increase if costs fall and revenue rises.</p>	<p>Topic sentence</p> <p>Explain how R&amp;D leads to lower cost</p> <p>Link to profits</p>
<p><b>Para #6: Govt policy: subsidies</b></p>	<p>In order to maintain income levels of Andean farmers, the government may choose to subsidise their cost of production</p> <p>Governments may provide indirect subsidies, which directly reduce the farmers' cost of production. In doing so, Andean farmers would be more willing and able to produce quinoa at every price level, leading to an increase in supply and a resultant fall in equilibrium price and increase in equilibrium quantity. Should the demand for Andean quinoa be price elastic given the increasing number of foreign substitutes, the decrease in price would lead to a more than proportionate increase in quantity demanded. Hence, total revenue would rise and given a fall in costs of production, profits would rise.</p> <p>The subsidy would also make Andean exports of quinoa more price competitive relative to its foreign substitutes. This would increase Andean farmers' exports to the international market and increase their revenue from quinoa exports</p>	<p>Topic sentence</p> <p>Explain how subsidies lead to lower costs and higher TR</p> <p>Explain how subsidies affect <math>P_x</math></p>
<p><b>Para #7: Unintended consequence of govt subsidy</b></p>	<p>However, the use of government subsidies may lead to inefficiencies in Andean farmers' production.</p> <p>Export subsidies can be treated as a protectionist measure where Andean farmers come to expect and rely on government help to be protected from external competition. This may result in complacency where Andean farmers are not able to compete with foreign quinoa exports in terms of relative costs of production. This may lead to either a drain on the government budget – where the government has to keep increasing the amount of subsidies as Andean farmers lose competitiveness – or lead to the eventual collapse of the Andean quinoa industry because of the lack of incentive for Andean farmers to be internationally competitive.</p>	<p>Topic sentence</p> <p>Unintended consequence on govt budget, industry / economy</p>

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	Other possibilities: Minimum price legislation or depreciation of currency or tariffs	
	Other possible policies that can be analysed and discussed <ul style="list-style-type: none"> <li>• (XED) Sell quinoa that are complementary goods with other produce where demand is rising</li> <li>• (YED) Diversify farm plot use by producing quinoa and other crops (sell inferior goods in times of recession, sell quinoa in times of economic growth or when prices are high)</li> </ul> <p>Based on derived demand</p> <ul style="list-style-type: none"> <li>• Vertical integration with, direct wholesale supply to food retail stores e.g. rising demand for poke bowls due to health benefits where quinoa is a factor input in the production of poke bowls (derived demand for quinoa) -&gt; increase in revenue from both quinoa and poke bowl sales</li> </ul> <p>Limitations of use of elasticity concepts Cost-cutting strategies</p> <ul style="list-style-type: none"> <li>• Cooperative farms to reap IEOS / EEOS</li> </ul>	
	Overall synthesis: [Stand] Quinoa producers should adopt a 2 pronged approach – strategies to increase TR and decrease TC, while diversifying their source of income	
	[Justification] in the SR, quinoa producers may adopt pricing strategies to increase TR, but in the LR, increased competition within the market and from other alternative grains may erode SR gains. Governments should only subsidise Andean farmers in the SR or subsidise R&D costs instead – in order to incentivize farmers to develop higher quality quinoa or develop more efficient methods of production to remain internationally competitive.	
	[Internal changes] To withstand internal competition, quinoa producers will have to ensure that their costs are reduced over time or the quality of their exports is superior to other fellow exporting producers.	
	[External changes] To withstand external competition, quinoa producers may have to consolidate their market shares through acquiring other quinoa plantations or collude in order to protect their market share.	

### LORMs

Level	Knowledge, Application/Understanding/Analysis	Marks
L3	<ul style="list-style-type: none"> <li>• Analysis of producers' strategies that span across 2 types – price and non price – and government policy</li> <li>• Well developed analysis should rely on theoretical concepts related to market structure or elasticity concepts.</li> <li>• 2 sided argument regarding the appropriateness of the strategies that is well contextualised to the quinoa market and addresses SR and LR considerations.</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>• Sufficient explanation of at least 2 relevant strategies but may not have addressed both producers and government</li> <li>• 2 sided argument regarding the appropriateness of strategies but may be underdeveloped.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• 1 sided argument about the strategies but well developed</li> <li>• Contains gaps in analysis of policies or imprecise use of theoretical concepts/frameworks.</li> </ul>	5-7

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L1	Descriptive analysis of strategies that may not be linked to revenue, cost or any theoretical framework.	1-4
E3	Clear stand that is based on explicit criteria Justification is based on economic analysis and shows an awareness of SR and LR considerations.	4-5
E2	Clear stand but criteria may be implicit Weak justification with insufficient substantiation through economic analysis	2-3
E1	Mere listing of statements with no clear stand	1

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## Essay Question 2

The successful exploitation of new ideas is crucial to a business being able to improve its processes, bring new and improved products and services to market, increase efficiency and, most importantly, improve its profitability.

(a) Explain how innovation may affect efficiency in a market. [10]

(b) Discuss whether a firm's decision to innovate is dependent solely on the barriers to entry in the market. [15]

### Question Analysis

Command words:	Explain → To elaborate and give details...
Content:	Innovation: product and process Economic efficiency
Context:	Market structure: monopolies /oligopolies
Approach	Students must explain how innovation may affect: <ul style="list-style-type: none"> <li>• Consumer choices</li> <li>• Productive efficiency</li> <li>• Allocative efficiency</li> </ul> Students must also try to give some real life examples.

### Suggested Answer Scheme

<p><b>Innovation</b> could be classified broadly as <b>product and process innovation</b>. The former focuses on the development of new products or improvement on existing products, while the latter focuses on developing more efficient production techniques over time, resulting in a fall in their average and marginal costs of production. <b>Efficiency</b> requires society to get the most from its scarce resources so as to avoid wastage. Efficiency is therefore concerned with how well resources are used to resolve three basic questions of <b>what, how and for whom to produce</b></p>	<p><i>Definition of innovation and efficiency</i></p>
<p><b>Point:</b> Innovation in the form of product and process innovation helps to increase consumer choices.</p> <p><b>Elaborate and example</b></p> <p><b>Dynamic efficiency</b> is achieved when firms engage in R and D to improve the quality of goods and services or lower prices of goods and services to better meet the demand of consumers.</p> <p><b>Product innovation</b> in the form of developing new products (e.g. Apple innovated iPad to be smaller thinner and faster or HuaWei in the form of 5G network).The development of such new products may influence consumers' tastes and preferences thus increasing product variety and consumer choices. For example Apple and Samsung have introduced new and innovative products to continue grabbing the attention of the customers. In addition, they have streamlined their manufacturing processes.</p> <p><b>Process innovation:</b> Since R&amp;D brings about cheaper methods of production, lower unit cost of production which may be passed on to consumers in the form of lower price resulting in higher consumer surplus and greater consumer welfare.</p> <p><b>Link</b></p>	<p><i>Explain how product innovation helps to increase in consumer choices (for whom to produce)</i></p>

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<p>Innovation thus results in the achievement of dynamic efficiency.</p>	
<p><b>Point:</b> Innovation can impact productive efficiency and thus resolve the question on how to produce.</p> <p><b>Elaborate and example</b>  Productive efficiency requires that whatever output is being produced, it is produced <b>at the lowest possible average cost.</b></p> <p>Through <b>process innovation</b> in the form of streamlining production lines, for example, a firm like Apple can reduce unit Costs of Production (CoP). This leads to Average Costs (AC) faced by the firm to fall, and correspondingly the Marginal Cost (MC) to fall.</p> <p>Monopolies and oligopolies <b>have the ability</b> to finance expensive research and development (R&amp;D) programmes and develop new/better products and processes which are efficient and cost cutting.</p> <p>With innovation firms are technologically progressive resulting in the most efficient and lowest cost of production thereby achieving productive efficiency.</p> <p><b>Link:</b>  Thus with innovation , big firms like Hwa Wei are able to achieve productive efficiency through developing efficient methods of production to cut cost and thereby able to market their products at competitive prices.</p>	<p><i>Explain how innovation can impact productive efficiency. <b>How to produce</b></i></p>
<p><b>Point:</b> Innovation can impact allocative efficiency and help firms to decide what to produce.</p> <p><b>Elaboration and Example</b></p> <p><b>Allocative efficiency</b> is achieved when resources are allocated in such a way to produce the combination of goods and services most wanted by the society. Allocative efficiency in any activity is achieved where <b>marginal benefit equals marginal cost.</b></p> <p><b>Product innovation</b> will result in a <b>fall in PED</b> in the sense that when new products are developed there will be few or no substitute in the short run. As a result of an increase in price, there will be a less than proportionate fall in quantity demanded and the gap between P and MC widens worsening allocative efficiency.</p> <p>Firms in an oligopoly and contestable monopoly tend to engage in high levels of innovation. In terms of <b>ability, Oligopolists have the financial resources</b> to engage in costly R&amp;D and product innovation given that they enjoy supernormal profits in the long run. As such the gap between P and MC is increased, worsening allocative efficiency.</p> <p><b>Process innovation</b> results in lower costs and if lower costs are passed on to the consumers, the gap between P and MC will be reduced and this will improve allocative efficiency.</p> <p><b>Link</b>  Thus whether allocative efficiency can be achieved or not will depend on whether innovation can result in lower costs and whether the fall in cost can be passed to the consumers in the form of lower price.</p>	<p><i>Explain how innovation can impact allocative efficiency. <b>What to produce</b></i></p>

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## LORMs

Level	Knowledge, Application/Understanding, Analysis	Marks
L3	Well – developed explanation of 3 points on how innovation affects efficiency of a firm. Be able to link to product and process innovations.	8 – 10
L2	Underdeveloped explanation on how innovation affect's efficiency of a firm. Explanations with incomplete/inaccurate/inconsistent links towards innovation. Considers only 2 types of efficiency	5 – 7
L1	Response only addresses part of the question OR Whole response does not link to any economic concepts of efficiency. Pure listing/regurgitation of definitions.	1 – 4

(b) Discuss how a firm's decision to innovate is dependent on the barriers to entry in the market. [15]

## Question Analysis

Command:	Discuss... rational decision making by firms ... dependent ... barriers to entry
Content:	Decision making by firms to innovate. Barriers to entry Market structure
Context	Market: Market with low barriers to entry and Market with high barriers to entry
Approach	Students need to identify market with high barriers to entry for example oligopoly and market with low barriers to entry for example monopolistic competition. Students need to know that the ability to innovate depends on the profits they make and whether they can sustain their profits in the long run. Are there any threats of competition? Will firms need to innovate if barriers to entry is high? Other factors besides barriers to entry that may influence firms' decision to innovate.

## Suggested Answer Scheme

<p><b>Barriers to entry</b> are conditions that impede the entry of new firms into an industry. These barriers can limit the degree of competition faced by existing firms in the industry. To engage in innovation, firms must first have incentive and ability to engage in innovation. A firm's decision to innovate may be or may be not dependent on barriers to entry.</p> <p>This essay will compare markets with high BTE with those with low BTE to discuss how a firm's decision to innovate is dependent on the degree of barriers to entry.</p>	<p>Introduction</p> <p>Overview</p>
<p><b>Point:</b> Firms with high barriers to entry have the ability to innovate and may decide to do so.</p> <p><b>Elaborate and example:</b> LR supernormal profits earned by a monopoly due to the high barriers to entry may aid innovation. Monopolies <b>have the ability</b> to finance expensive research and development (R&amp;D) programmes and develop new/better products and processes as a result of past accumulated long-run supernormal profits. Furthermore, it <b>has the incentive</b> to invest in R&amp;D because it is protected from rivals through high barriers of entry and therefore can capture the full benefits from R&amp;D. <b>For example</b>, antibiotic drugs were initially produced by monopolists and sold at high prices.</p> <p><b>Link</b> Thus from this perspective a monopoly will decide to innovate as it has <b>complete dominance</b> of the market and it is not subjected to competition from rival firms.</p>	<p><b>Thesis 1.</b> Monopolies with high barriers to entry with no threat of competition</p>
<p><b>Point:</b> However, should the degree of barriers to entry of the monopoly be very high, the monopoly would probably have <u>little incentive</u> to innovate as it is the sole producer of the good.</p>	<p>Counter-argument</p> <p>Need a home tutor? Visit <a href="http://smiletutor.sg">smiletutor.sg</a></p>

**Elaborate/Example**

Regardless of the costs of production or the quality of its product, demand for the good is likely to be price inelastic since there is no substitute available in the market, nor is there a threat of any substitutes that will potentially be developed. This is in spite of the monopoly having the ability to innovate, due to the high barriers to entry protecting any supernormal profit that it might have earned, into the long run.

**Link**

Thus the monopoly firm may become complacent. Given its dominant position, the monopolist may not see the need to innovate and improve the quality of its products.

**Point:** Imperfect knowledge between firms constitute barriers to entry and may affect a firm's decision to innovate.

**Elaborate/Example**

Consequently, it also depends on the level of knowledge available in the market which in turn dependent on the market structure that the firm operates in. For example, if the firm in question operates in a perfectly competitive market structure, such as onion farmers in Poland, then they probably would have no incentive to innovate. This is due to the perfect knowledge available, other firms can gain easy access to information about the innovations in production processes or innovative onions, allowing other firms to easily replicate them and thus compete away the potential profits gained by the initial firm who innovated.

**Link:**

Thus firms with low barriers to entry and in which the level of shared knowledge is very high, firms may decide not to innovate. Low barriers to entry has influence the firm's innovation decision.

**Thesis 2**

*Level of knowledge could be a factor affecting firm's decision to innovate*

*[This can also be presented as a Thesis, i.e. imperfect knowledge between firms constitute a BTE or BTE determines the level of knowledge shared between firms]*

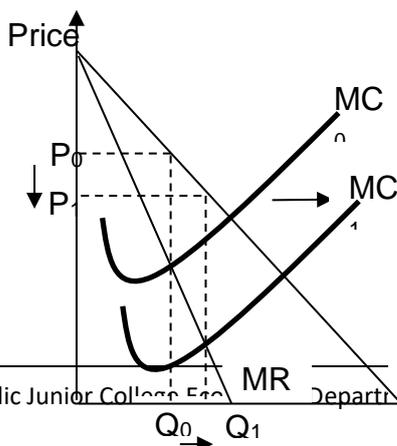
**Point:** A firm's decision to innovate may not be dependent on the level of barriers to entry but more on the contestability of the market.

**Elaborate/Example**

Faced with the threat of competition, a monopolist in a contestable market may engage in process innovation such as streamlining their operations so as to reduce their unit cost of production. Such a reduction would diagrammatically lead to a fall in the MC curve from  $MC_0$  to  $MC_1$ , as seen in the figure above, so that at the profit-maximising output, the price can be lower at  $P_0$  and quantity can be higher at  $Q_1$ . The lower cost will make it more difficult for new entrants to match & therefore enter the industry.

**Anti-Thesis 1**

*Explain the ability and incentive of a monopoly to innovate if it faces threat of competition (Contestability of market)*



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<p>In addition, the firm may also engage in product innovation such as improving their product or service delivery, such that it would be less replicable by potential entrants. This would therefore help in the firm's decision to innovate.</p> <p><b>Link:</b> Thus the firm's decision to innovate will also depend on the threat of competition and not just on barriers to entry.</p>	
<p><b>Point:</b> A firm's decision to innovate <b>may not necessarily</b> be most <b>dependent on the high barriers to entry</b> of the market but on the potential profits it could make if innovation is carried out.</p> <p><b>Elaborate/Example</b> Even without the market high barriers to entry, firms may still be incentivised to innovate as long as the potential profits reaped outweigh the cost of innovation. For example, if an oligopoly chooses to product innovate so as to make its product even more unique to reduce its PED value, it would then be able to increase prices even more in order to increase total revenue, and ceteris paribus, its profits. Thus its decision to innovate is based more on the potential profit it could reap rather than the degree of barriers to entry. E.g. Apple Corp raises the price of its phones with each new model introduced due to the new features introduced that would make demand for the i-phone more price inelastic.</p> <p><b>Link</b> Thus potential profits may be a factor that influence a factor's decision to innovate and may not be barriers to entry.</p>	<p><b>Anti-thesis 2:</b> <i>Potential profits is a factor affecting firm's decision to innovate and may not be barriers to entry</i></p>
<p><b>Point:</b> Alternative objectives such as the goal of increasing market share may affect the firm's decision to innovate.</p> <p><b>Elaborate/Example</b> Furthermore, firms' decisions to innovate may also be dependent on other factors <b>like alternative objectives</b> as well. This could be seen in oligopostic market structures, which may be incentivised to innovate so as to <b>increase market share</b>. This can be seen from firms like Mercedes Benz, which continually come up with new revisions of its cars by adding incremental features so as to reduce the substitutability of its cars, and in so doing hopefully increase the market share in the car industry market.</p> <p><b>Link:</b> Thus firms with high barriers to entry may have other incentives to decide to innovate.</p>	<p><b>Anti-thesis 3:</b> <i>Alternative objectives could be a factor affecting firm's decision to innovate</i></p>
<p><b>Point</b> Firms may decide to innovate not due to influence of barriers to entry but due to the government's interventionist policy.</p> <p><b>Elaborate and Example</b> According to Singapore Finance Minister, Mr Heng Swee Keat, supporting more firms in Singapore to innovate is a key thrust of the Singapore Budget 2018. Innovation is a top priority in Singapore. This include help for firms to innovate whether large or small. The government's Grant Schemes help firms to innovate. The government gives support for</p>	<p><b>Anti-thesis 4:</b> <i>Government intervention</i></p>

<p>businesses to build their own innovations and grants tax deductions of 250% for expenses incurred on R and D done in Singapore. Irrespective of whether firms are large or small or start ups, the government sees the need to innovate.</p> <p><b>Link:</b> Thus the decision by firms to innovate is not affected by barriers to entry but by government intervention. As our investments in research, innovation and enterprise will lay the foundation of our Future Economy.</p>	
<p>In <b>conclusion</b>, a firm's decision to innovate probably is definitely dependent on the degree of barriers to entry – as it affects the ability and incentive to innovate in the first place. This is because for firms which do not have the ability to innovate in the first place, innovation will not even be a potential decision to consider. While with no competition in the market, the ability will not translate to innovations due to the lack of incentive. Likewise, even if monopolies and oligopolies are faced with the threat of increased competition, they probably would still not innovate if they are making LR normal profits only.</p> <p>[S] Also, whether or not a firm engages in innovation, regardless of barriers to entry, may also depend on whether government provides sufficient subsidies/rebates to help firms innovate (to maybe develop potential new areas of comparative advantage). If government provides substantial incentives for firms, it is likely that firms even in the monopolistic competitive structure might be incentivised to innovate as long as the marginal benefit of innovation is more than or equals to the marginal cost of innovation.</p>	<p><i>Conclusion</i></p>

### LORMs

Level	<i>Knowledge, Application/Understanding, Analysis</i>	Marks
L3	A <u>balanced and well-developed answer</u> on whether or not the firm's decision to innovate is dependent on barriers to entry, with consistent use of examples where appropriate.	8 – 10
L2	An <u>under-developed, balanced answer</u> on whether the firm's decision to innovate is dependent on barriers to entry, with inconsistent use of examples.	5 – 7
L1	A one-sided answer which merely <u>lists and describes</u> whether the firm's decision to innovate is dependent on barriers to entry Many/Serious conceptual errors; mainly irrelevant points that does not address the question requirement.	1 – 4
<b>Evaluation</b>		
E3	For an answer that arrives at an analytically well-reasoned judgement about whether a firm's decision to innovate is most dependent on the barriers to entry of the market. Might also question any unstated assumptions to arrive at this well-reasoned judgement.	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on whether a firm's decision to innovate is most dependent on barriers to entry of the market.	2 – 3

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E1	For an answer that gives an <u>unexplained, unsupported</u> evaluative statement on whether a firm's decision to innovate is most dependent on barriers to entry of the market.	1
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### Essay Question 3

The Singapore government strongly emphasises shared responsibility between the government and people in the healthcare market. Individuals use monies in their Medisave accounts, government subsidy, medical insurance like Medishield Life and cash to pay for treatments. In recent times, the affordability of healthcare services has come under spotlight.

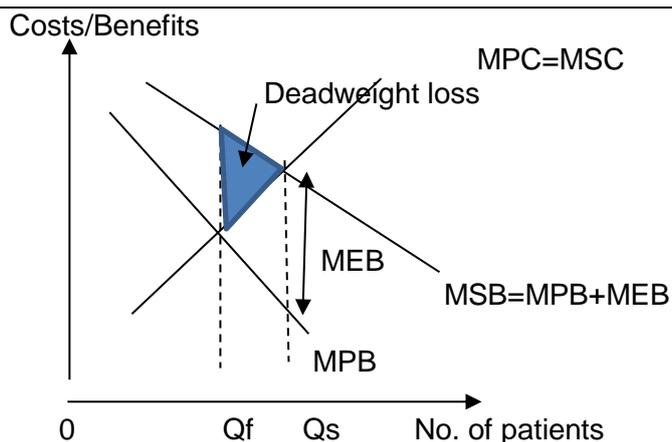
In the light of the aging population in Singapore, assess the effectiveness of policies available to the government in addressing the different sources of market failure in the healthcare market in Singapore. [25]

#### Question Analysis

Command	Assess – Consider the working, benefits and limitations
Content:	<ul style="list-style-type: none"> <li>Sources of market failure in the healthcare market</li> <li>Policies available to address market failure in healthcare</li> </ul>
Context:	Market : Healthcare Country: Singapore
Approach	<p><b><u>First Part of Essay</u></b>  <u>Cause:</u> Sources of market failure</p> <ul style="list-style-type: none"> <li>Positive externalities</li> <li>Imperfect information</li> <li>Inequity</li> </ul> <p>Other acceptable sources – asymmetric information, market dominance)</p> <p><b><u>Second Part of Essay</u></b>  <u>Effect:</u> Government implements policies to correct the market failure</p> <ul style="list-style-type: none"> <li>Government subsidies + Pioneer generation &amp; Merdeka generation packages for aging population + Medifund –to assist low income household</li> <li>Medisave Co-payment scheme &amp; Medishield insurance</li> <li>Public education</li> </ul> <p><u>Criteria:</u></p> <ul style="list-style-type: none"> <li>Cost of implementation</li> <li>Unintended consequences</li> <li>Information available</li> <li>Effectiveness in SR and LR</li> </ul>

#### Suggested Answer Scheme

<b>Intro</b>	<p><b>Market failure</b> occurs when the free market fails to bring about an efficient allocation of resources. It occurs where the marginal social benefit does not equal marginal social cost. It can also occur due to inequitable distribution of income. Hence both inequity and existence of positive externality may lead to an undesirable allocation of resources.</p> <p>In this essay, I will explain the various sources of market failure in the healthcare industry and evaluate the policies in place to address them in Singapore</p>	<p>Definition of market failure</p> <p>Contextualisation</p> <p>Overview for the first of the essay</p>
<b><u>Point 1</u></b>	<p>One source of market failure in the market for healthcare is the presence of positive externalities.</p> <p>Positive externalities are benefits borne by third parties who are neither the producer nor consumer of the good without payment. Positive externalities give rise to external costs that cause a divergence between MPB and MSB.</p>	<p>Point – Positive Externalities</p> <p>Explanation &amp; Example</p> <p>Need a home tutor? Visit <a href="http://smiletutor.sg">smiletutor.sg</a></p>



**Fig 1: Market Failure in healthcare market due to Positive Externalities**

Driven by self-interest, free market equilibrium is attained at  $MPB = MPC$  at  $Q_f$  where net private benefits are maximised.  $MPB$  of taking a vaccination is the benefits that the person receives due to him/her being protected from the disease. while the  $MPC$  is the cost of the vaccination to the person. Assuming no negative externalities,  $MPC = MSC$ . Consumption of the vaccination generates **positive externalities** for employers and co-workers. The employers and other workers benefit as fellow workers are in better health and reduce chances of contracting the disease from the fellow workers. This is important to the economic growth of the country as productivity rises with better health of workers. This results in a divergence between  $MPB$  and  $MSB$  in the form of the  $MEB$ . Socially optimal output level is achieved at  $Q_s$  where  $MSB = MSC$  where society's welfare is maximised. Thus, there is an under-consumption of  $Q_f - Q_s$ . This generates a deadweight loss of area (shaded), where  $MSB > MSC$  over the  $Q_f - Q_s$ . This results in allocative inefficiency and therefore market failure.

The presence of positive externalities are thus a source of market failure in the healthcare market.

[Link to question](#)

**Point 2**

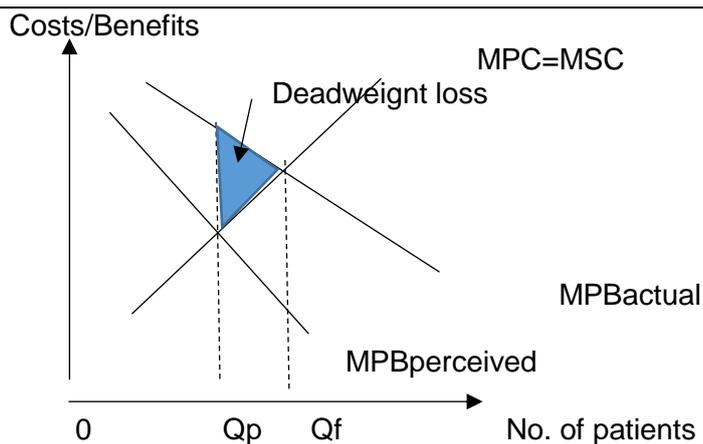
Another source of market failure in the market for healthcare is imperfect Information.

The market failure in the market for healthcare is worsened by the presence of imperfect information such that the output level in the free market may be even lower than  $Q_f$  in Fig 1. Imperfect information of consumers will cause a deviation between  $MPB_{perceived}$  and  $MPB_{actual}$ , ( $MPB_{perceived} < MPB_{actual}$ ) as shown in Fig 2. As consumers underestimate their private benefit, they will under-consume. Individuals generally underestimate the benefits of taking a vaccination or seeing a doctor when they are ill. They underestimate the benefits like better pay, better status, greater opportunities for growth, etc. that come with the higher productivity that comes with consuming healthcare and remaining healthy.

Point – Imperfect Info

Explanation & Example

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**Fig 2: Market Failure due to Imperfect Information**

Hence they underestimate the private benefits that they are likely to enjoy as a result of consuming more healthcare. Without government intervention, the consumption of healthcare will be at  $Q_p$  which increases the level of under-consumption and therefore the deadweight loss in the market for healthcare. This results in further allocative inefficiency and market failure. Thus, imperfect information may be another source of market failure in Singapore.

[Link back to question.](#)

**Point 3**

A third source of market failure in the healthcare market may be inequity, especially with the aging population scenario in Singapore.

In a free market, goods and services are allocated to consumers according to the consumer's ability and willingness to pay for them. Consumers signal their ability and willingness to pay using dollar votes. The higher the dollar vote, the more resources will be diverted to the provision of the good or service. The free market hence finds no incentive to cater to the needs of those who are not able to pay for the good even if they need them the most. In the healthcare market, consumers from the low income households or aged will have less dollar votes as compared to consumers from high income households.

As a result, private producers will only provide healthcare services to the consumers from higher income households with higher dollar votes and not for consumers from the lower income households. This will result in resources to be diverted away from the low income households to the high income households in the healthcare market. Thus resulting in the healthcare needs of the low income households not to be met.

Hence, the use of dollar votes in the free market, results in inequity which leads to market failure as the poor and the aged do not have access to the good which is a necessity.

Point - Inequity

Explanation & Example

[Link to question](#)

Students may also explain the following:

1. Asymmetric information where doctors know more than patients → over-prescription of medicines and tests (supply induced demand), especially when patient is covered by medical insurance → over-consumption of healthcare.

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	<p>2. High barriers to entry in healthcare industry due to high start up costs → few firms with significant market power in the industry → firms will cut quantity and increase price to maximize profits → <math>P &gt; MC</math>, resulting in allocative inefficiency and therefore market failure.</p>	
<b><u>Conclusion for first part of the essay</u></b>	As such, to alleviate inefficient allocation of resources and inequity, the government would need to intervene to correct the market failure.	Short summary for first part of the essay
<b><u>Second part of the essay Introduction</u></b>	The Singapore government uses a range of government policies to reduce the under-allocation of resources in the market for healthcare as well as to keep it affordable to all income groups. In this part, I will consider the effectiveness of a few of these policies in addressing the market failure in the healthcare market by considering the cost of implementation, the unintended consequences, the availability of relevant information, its ability to address the root cause of the market failure and its ineffectiveness in the short run.	
<b><u>Policy 1</u></b>	<p>Subsidies are used by the Singapore government to increase provision of healthcare services as well as to make it more accessible to the poor.</p> <p>Subsidies equal to the MEB at <math>Q_s</math> help to reduce the cost of provision to the firm from <math>MPC</math> to <math>MPC^*</math>, reducing the prices of healthcare services from <math>P_1</math> to <math>P_2</math> as shown in Fig 3. This increases the quantity consumed to the socially optimal level at <math>Q_s</math>, eliminating the deadweight loss to society.</p> <p>Figure 3: Effects of subsidy in healthcare</p>	<p>Point</p> <p>Explain</p>
	<p>The government also provides targeted subsidies for the poor like Medifund, which further reduces the out-of-pocket cash payment they incur, making healthcare services more affordable to them. The low income households may also include many elderly. In addition, pioneers and elders, holding Pioneer Generation card, Merdeka card and/or the Community Health Assist Scheme (CHAS) card can seek services at private clinics paying subsidised consultation fees. This helps to resolve the inequity in the market for healthcare, especially among the aged.</p>	<p>Example</p> <p>Link back to question</p>

<p><b><u>Limitations of Policy 1</u></b></p>	<p>However, the use of subsidies to increase consumption and make healthcare more affordable may have some limitations.</p> <p>Firstly, the government may not have accurate information to give an <b>accurate valuation</b> of the external benefit. Thus, the government may not know the optimal amount of subsidy to give to attain the socially efficient output. Over or under-subsidising may result in continued inefficiency and welfare loss to society.</p> <p>In addition, due to the high government expenditure required, particularly given the aging population in Singapore, government may only be able to use subsidies as a short term measure as the opportunity cost of spending on subsidies may be very high especially given the slowing Singapore economy.</p> <p>In addition, due to imperfect information, some of the elderly may not know how and when to use the card(s) issued to them to enjoy subsidised healthcare.</p>	
<p><b><u>Policy 2</u></b></p>	<p>The government may also use legislation to correct under-consumption in the market for healthcare.</p> <p>The government has made it compulsory for all working adults to set aside 8-10.5% of their income in Medisave and to use part of this Medisave funds to purchase medical insurance in the form of Medishield Life for themselves and dependents to help defray the cost of healthcare. The use of Medisave funds and Medishield Life helps the individual to reduce the out-of-pocket cost of medical services, reducing the MPC to the patient and their family members, thus increasing consumption of healthcare services.</p> <p>This thus corrects the under-consumption of medical services in the healthcare market while keeping healthcare affordable.</p>	<p>Point</p> <p>Explanation with Examples</p> <p>Link back to question</p>
<p><b><u>Evaluation of Policy 2</u></b></p>	<p>However, the purchase of such insurance may result in unintended consequences in the form of moral hazard. Once insured, he insured may engage in risky activities that would result in them needing more medical treatment since they do not bear the full cost of their treatment.</p> <p>To prevent behavior, it is important to ensure that the insurance policy does not pay for 100% of the treatment with co-payment from individuals or family members involved.</p> <p>The issue of the elderly not knowing when they can use their Medisave and Medishield Plus is again a significant issue.</p> <p>Moreover, with aging population, higher healthcare costs and longer life expectancy, many elders, especially those with chronic health condition, may have used up their Medisave savings fully and may have to depend on their children to use their Medisave to help them cover their medical costs. In the longer run, this would mean that the children may have less in their Medisave accounts for their own twilight years and would have to depend on their children, resulting in a vicious cycle of individuals always depending on their children.</p>	
<p><b><u>Policy 3</u></b></p>	<p>The government may also use public education as a measure to correct the imperfect information as well as to get individuals to voluntarily internalise positive externalities in the market for healthcare services.</p> <p style="text-align: right;"><b>Need a home tutor? Visit <a href="http://www.smiletutor.sg">smiletutor.sg</a></b></p>	<p>Point</p> <p>Explanation and example</p>

	<p>Since under-consumption in the healthcare market is also due to the presence of imperfect information, public education may be necessary to equip consumers with more information about the benefits of healthcare services including health screening. Public education is actively done by the Singapore government to promote healthy living. Posters and advertisements encouraging the public to pursue a healthier lifestyle through a healthy diet and exercise are prevalent. Such strategies are also used to encourage health screening like the publicity given to diabetes and breast cancer. For e.g. organisations like the Breast Cancer Foundation and National Cancer Centre provide awareness programmes like talks, roadshows about the importance of early detection of breast cancer during breast cancer awareness month in October to encourage more women, especially elderly women to do the mammogram. The government also requires all hospitals to provide information on the cost of common medical procedures on its website to allow consumers to make more informed choices. In addition, the government also holds road shows and advertisements to help the elderly know more about their Pioneer or Merdeka Generation cards.</p> <p>These public education efforts seek to improve the resource allocation of healthcare services in Singapore, through improving the level of information for the public.</p> <p>Such efforts would help consumers of healthcare voluntarily internalize the MEB from consumption of healthcare while closing the gap between perceived MPB and actual MPB addressing the root cause of positive externalities and imperfect information at the same time.</p>	
<p><b><u>Evaluation of Policy 3</u></b></p>	<p>Such type of public education efforts may be costly to implement with uncertain outcome as it takes time for mindsets to change. However, such efforts may be necessary to address the root cause of the market for healthcare.</p> <p>In addition, The government may also have to look at how to make such information more accessible to the elderly. These efforts may be less effective among elderly if they are not presented in a language or a platform that they are comfortable with.</p>	
<p><b><u>Evaluative conclusion</u></b></p>	<p>The Singapore government has a myriad of strategies in place to address market failure in the market for healthcare.</p> <p>These policies aim to address the problems of under-consumption through the provision of subsidies and legislation. In addition imperfect information is addressed through public education while inequity in the market through targeted subsidies like Medifund as well as medical subsidies to holders of the Pioneer Generation or Merdeka Generation Cards.</p> <p>In the light of ageing population, the equity issue is likely to worsen in the future which might severely increase the burden on the Singapore government. To address this issue, the Singapore government has moved towards more targeted subsidies through means-testing, where subsidies are given according to the household income instead of blanket subsidies for all. The government is also expanding hospitals and building more community hospitals to provide cheaper alternatives to the</p>	<p>Stand</p> <p>Substantiation</p> <p>Something Special in the context of Singapore.</p> <p>Need a home tutor? Visit <a href="http://smiletutor.sg">smiletutor.sg</a></p>

	people in an effort to ensure that there is sufficient healthcare facilities available to all at affordable prices. This also encourages greater competition in the healthcare market which would also improve the quality of healthcare provided. The government could also consider raising the proportion of CPF that goes into Medisave to reduce burden on children.	
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### LORMs

	<b>Knowledge, Application/Understanding, Analysis</b>	
<b>L3</b>	<p><u>High L3 (18-20)</u> Answer for the 1<sup>st</sup> part considers 3 sources of market failure and answers to second part is balanced and policies are specific to the Singapore context and explicitly linked to the sources of market failure.</p> <p><u>Low L3 (15-17)</u> Answer for the 1<sup>st</sup> part considers 3 sources of market failure and answers to second part is balanced but policies may be generic and explicitly linked to the sources of market failure with good economic analysis. or policies are specific to Singapore with good economic analysis but not always explicitly linked to the source of market failure.</p>	<b>15-20 (18)</b>
<b>L2</b>	<p><u>High L2 (12-14)</u> Answer for the 1<sup>st</sup> part considers at least 2 sources of market failure and answers to second part is balanced but policies may be generic and not be explicitly linked to the sources of market failure or aging population or policies are specific to the Singapore economy but economic analysis may be inconsistent.</p> <p><u>Low L2 (9-11)</u> Answer is relevant considering at least 2 sources of market failure but discussion of generic policies may be one-sided or lacking explicit link to the source of market failure or aging population or policies are specific to the Singapore economy but lacking in economic analysis.</p>	<b>9-14 (12)</b>
<b>L1</b>	<p><u>Higher L1 (5-8)</u> Answer is largely irrelevant with too much focus on the sources of market failure without any link to the policies or may consider the policies without linking to the sources of market failure.</p> <p><u>Lower L1 (1-4)</u> Answer is largely irrelevant; answer may be focused on the sources of market failure or 1 policy with errors or lacking in economic analysis/diagram(s).</p>	<b>1-8 (5)</b>

<b>E3</b>	A justified stand with regards to myriad of policies to address the different sources of market failure and how these are evolving given the current context in Singapore, etc.	<b>4-5</b>
<b>E2</b>	A justified stand with regards to the policies used to address different sources of market failure	<b>2-3</b>
<b>E1</b>	An unjustified stand with regards to the use of policies to address various sources of market failure OR any evaluative comment within the answer.	<b>1</b>

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#### Essay Question 4

A country's social expenditure is made up of cash handouts, rebates, subsidies and social welfare in areas such as home ownership, healthcare and education to improve the standard of living of its citizens

Source: *The Straits Times*, 30 April 2018

- (a) Explain the consequences of a government not achieving its Macroeconomic Aims. [10]
- (b) Assess whether a government injection on social spending is likely to have a significant impact on the standard of living of its citizens. [15]

#### Question Analysis

Command	'Explain' – students need to explain the effects on the economy when the government fails to achieve the macroeconomic aims related to unemployment, economic growth and balance of payments stated in the preamble.
Content	macroeconomic aims, macro issues
Context	Any (Give own examples)
Approach	Students need to explain the effects/consequences on the economy and the economic agents when the macroeconomic aims are not achieved.

#### Suggested Answer Scheme

##### Introduction

Most governments aim to achieve four macroeconomic aims: sustainable and inclusive economic growth, low unemployment rates, low inflation, and a healthy balance of payments position that is neither too far into the surplus nor deficit. This part of the essay discusses the consequences of not being to achieve sustained SG, low unemployment rate, and healthy balance of payments.

##### Failure to Achieve Sustained Economic Growth

- Economic growth is defined as an increase in the real output of an economy. It can be analysed in terms of actual growth and potential growth. The former refers to the increase in real output that has already been experienced by a country while the latter refers to the increase in an economy's productive capacity.
- Sustainable growth indicates a rate of growth that can be maintained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations. It implies a stable and positive growth rate over an extended period of time.
- Inclusive growth indicates a rate of growth that is sustained over a period of time, is broad based across economic sectors for the majority of the country's population.
- Undesirable rates of economic growth include low/negative economic growth, or economic growth rates that are either unsustainable or not inclusive.
- Not achieving actual economic growth or experiencing a negative economic growth could mean that the level of output in the economy is declining. Material living standards could decline because the quantity of goods and services for consumption is reduced.
- As fewer units of output is produced, demand for labour falls. This may be accompanied by falling income and rising unemployment rates. Lower or no income reduces individuals' abilities to consume goods and services, leading to lower material living standards.
- Individuals could reduce savings or draw on past savings during the period of lower income. Funds available for investment and capital accumulation could be reduced, restricting potential growth.
- The welfare of present and future generations is adversely impacted through environmental pollution and unpleasant living spaces such as congested transportation and air pollution. For example, power generating stations that burn fossil fuels emit carbon dioxide and other harmful gases affect residents who live nearby, leading to a deterioration of their non-material standard of living.

- Rapid economic growth may lead to rapid changes in the demand for different labour skill sets. While some people may gain from higher incomes and thus a higher standard of living, there are also others who may find that their skills are no longer relevant. and they may find themselves unemployed or forced to take low paid unskilled work. This may lead to inequitable distribution of income within a country.

#### Failure to Achieve Low Unemployment Rates

- Unemployment refers to the situation where people are unable to find work or unwilling to accept jobs that are currently available. The unemployed refers to people who are actively seeking employment (i.e. able and willing to work) but are currently without a job.
- The unemployed suffer from lower material living standards because of the lack of wage income. Social problems like crime and delinquency arise. Hence there are negative externalities associated with unemployment as third parties are affected by the higher crime, falling property values and a general degradation in the living environment. All these contribute a lowering of material and mental well-being.
- Unemployment of labour means that there is underutilization of resources. The economy is productively inefficient as it is producing below its full potential.
- Rising unemployment often also strains the fiscal budget. Rising unemployment means more public expenditure is required for unemployment benefits and tax revenue declines as personal income and consumption taxes fall. This causes government spending to be diverted from the provision of important social services like education, healthcare and transportation, which adversely affects the society both in the short and long term.

#### Failure to Achieve Low and Stable Inflation Rates

- Inflation refers to a sustained increase in the general price level of an economy, where general price level is the average price of goods and services in an entire economy.
- Inflation leads to a redistribution of income. Some people become better off at the expense of those who become worse off. With inflation, those who derive fixed income (e.g. from fixed pensions, interest securities and rents) will face a fall in real income. Workers whose percentage increase in nominal wage is less than the percentage increase in price level will also be worse off as real wage / income will fall.
- In an unanticipated inflation, debtors gain and creditors lose. The debtors gain because the real value of their debt is reduced by the price increase. They end up paying less than what they owe in terms of the real value of money as the money they borrowed earlier had greater purchasing power. Thus, wealth is redistributed from creditors to debtors.
- Unanticipated inflation or fluctuations in inflation rate results in uncertainty. When firms are uncertain about the future costs and prices of their products, and hence the rates of return on their investments, they will be less willing to take risks and invest, especially in long term projects.
- Firms and households may be pre-occupied with short-term, unproductive activities such as dabbling in properties and shares, which tend to yield attractive returns in an inflationary environment. Firms may divert investment funds out of productive investment into commodity hoarding and speculation. Such activities do not benefit the economy but only fuel an unsustainable rise in commodity and property prices.
- If a country has a relatively higher rate of inflation than its trading partners, then exports of that country would be relatively more expensive and imports into that country would be relatively cheaper. If the demand for the country's exports is price elastic, it would lead to a fall in export revenue, as the rise in (relative) price of exported goods leads to a more than proportionate fall in quantity demanded of exports. Meanwhile the country's demand for imports will increase as consumers switch to purchasing imports instead of buying locally produced goods, resulting in an increase in import expenditure. Hence it is likely that the country which has a relatively higher inflation rate will experience a worsening in its balance of trade, possibly even a deficit.
- A relatively higher inflation in the country will result in the demand for the country's currency in the foreign exchange market to fall as foreign countries will spend less on the country's

products (assuming demand for the country's export is price elastic). On the other hand, the demand for imports will increase, resulting in an increase in import expenditure. The country has to purchase more of the foreign currency by selling its own currency on the foreign exchange market. This will lead to an increase in the supply of the country's currency on the foreign exchange market. The fall in demand and increase in supply, the external value of the country's currency will fall. A persistent depreciation of the country's currency may result in loss of confidence in the country's economy among investors.

### Failure to Achieve Healthy BoP Position

- The BOP is a statement of a country's international transactions over a period of time, usually a year. The BOP thus records the international inflows and outflows of a country's currency. A persistent BoP deficit means that the outflow of a country's currency is persistently more than its inflows.
- A depreciation of the currency could result. If the country is very reliant on imports, the currency depreciation could cause import prices to rise sharply, leading to cost-push inflation. This is detrimental to material well-being because the inflation reduces the purchasing power of individuals and households. It could also increase the price of exports and make them uncompetitive in global markets.
- In a fixed exchange rate regime, the central bank may sustain the external value of the currency by giving up its foreign currency reserves for domestic currency. Once the central bank runs out of reserves and loses the ability to support the currency, the resulting depreciation is likely to be sudden and severe, triggering imported inflation and soaring debt repayments.
- On the other hand, sustained BOP surplus exerts and appreciation pressure on the currency. This may hurt exports as they become less price-competitive in global markets, in turn adversely affecting the material well-being of entrepreneurs and workers in the related industries. Furthermore, the appreciation of home currency could lower import prices, allowing domestic consumers to substitute domestic goods and services to those produced overseas. However, currency appreciation could reduce imported inflation as prices of foreign goods and services are reduced.

### Conclusion

As the issues of slow or negative economic growth, high unemployment rates and sustained BOP deficits have severe implications on the material well-being of residents, most governments set targets on these indicators and take active policy measures to ensure that they stay within the acceptable range.

### **LORMs**

<b>Level</b>	<b>Descriptor</b>	<b>Marks</b>
<b>L3</b>	For answers that fully address the consequences of failure to achieve all four macroeconomic aims, explaining with sufficient and clear economic rigour.	<b>8-10</b>
<b>L2</b>	For answers that are descriptive in nature with insufficient economic rigour.	<b>5-7</b>
<b>L1</b>	For answers that do not answer the question or are descriptive in nature.	<b>1-4</b>

- (b) Assess whether a government injection on social spending is likely to have a [15] significant impact on the standard of living of its citizens

### **Question Analysis**

Command	'Assess' – students are required to weigh the impact of government injection on SOL of its citizens
Content	Standard of Living
Context	Social spending on home ownership, healthcare and education
Approach	T: Government injection on Social spending will have significant impact on SOL ( material and non-material )

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	<p>AT: Limitations of government injection on Social spending will have on SOL ( material and non-material )</p> <p>Synthesis:</p> <p>Other aspects of government policy can be more/equally as significant impact on SOL ( material and non-material )</p> <ul style="list-style-type: none"> <li>o Focusing on external sector (export sector)</li> <li>o Achieving sustainable growth [pollution]</li> </ul>
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## Suggested Answer Scheme

### Introduction

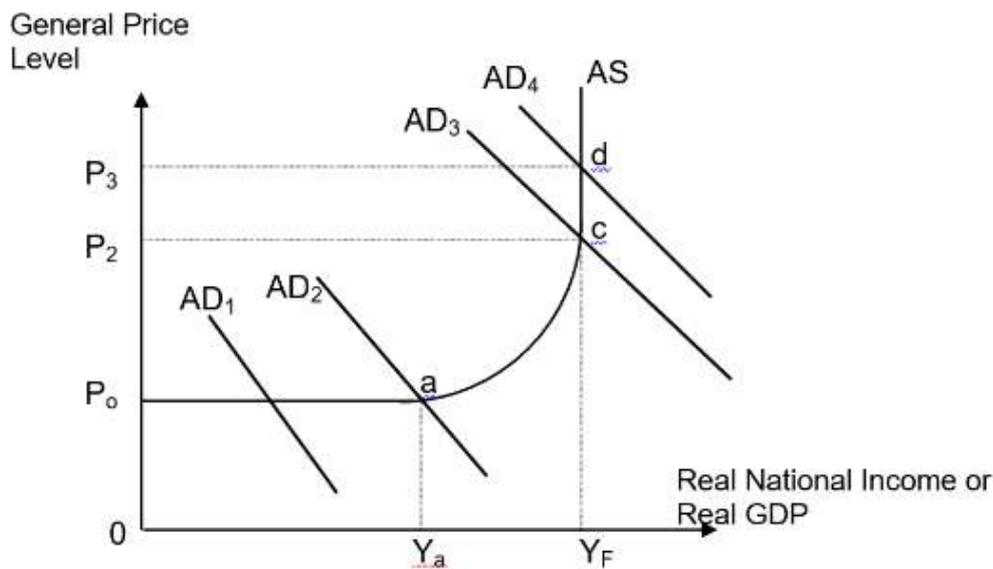
Standard of Living (SOL) reflects the well-being of an average person in a country. It includes the material and non-material aspects. The material well-being refers to the quantity of goods and services available to the average person in a country. The non-material well-being examines the quality of life of an average person in a country. This includes the number of working hours per period, leisure time, quality of physical environment, life expectancy...etc. As mentioned in the preamble, country's social spending is made up of cash handouts, rebates, subsidies and social welfare in areas such as home ownership, healthcare and education to improve the standard of living of its citizens

In this essay, we will look at how a government injection on social spending is likely to have a significant impact on the standard of living of its citizens and other policies that a government may need to undertake in order to improve the standard of living of its citizens.

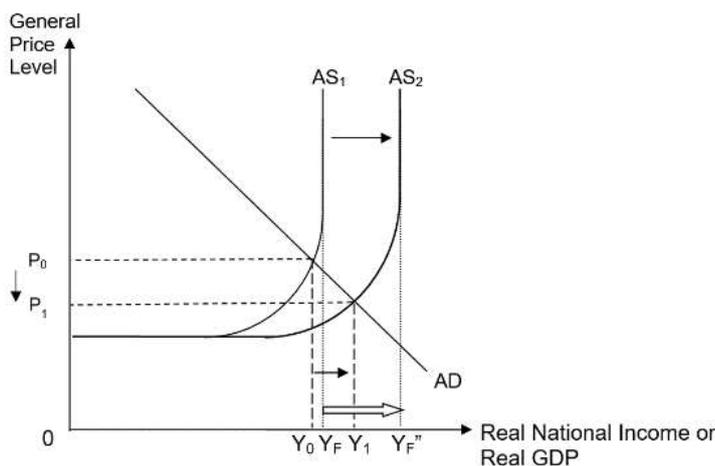
### Body:

#### **T: Government injection on Social spending will have significant impact on SOL (material and non-material)**

Government injection on Social spending will have a significant impact on SOL as it can enhance actual and potential economic growth as well as improves equity. With an increase in the government expenditure (G) on housing and healthcare, it will have an impact on the Aggregate Demand.  $Aggregate\ Demand\ (AD) = Consumption\ (C) + Investment\ (I) + Government\ Expenditure\ (G) + Exports\ (X) - Imports\ (M)$ . With an increase in G it will lead to a rightward shift in the AD for example from AD1 to AD2, the unused resources can be put to use, with no upward pressure on prices. Thus, there will be a rise in output and employment while the general price level remains unchanged. With the increase in output and employment, workers will have a higher wage and thus increases the Material SOL of its citizens. With more citizens having found jobs and thus are less worried about basic necessities, the stress of looking for a job is reduced and thus improve the non-material SOL of citizens. However, those whom may have found jobs may now work in a stressful work environment thus leading to a fall in non-material SOL. The extent on the gain on non-material SOL remains to be seen.



A government spending on education will have the similar impact on AD in the short run. However, there is a long run aspect to the spending where when the citizens are educated, there would be an improvement in the quality of inputs (ie labour) and thus increasing the AS this will cause the AS to shift right (thus having potential economic growth)



The rightward shift of the AS curve will result in both Actual and Potential Economic Growth in the LR. The new national income level will increase from  $Y_0$  to  $Y_1$  thus improving the material SOL of citizens. The potential growth would indicate that there will be room for economy to grow in the future and thus further increasing the material SOL of the citizens, however this is dependent on the future increase of AD.

Government spending on housing together with subsidies for lower income on housing for example on 1-5 Room HDB flats, would improve equity within the population. This is so and the government redistributes tax from higher income earners and subsidise the housing of the lower income group. This will improve both material and non-material SOL of citizens as now everyone owns a house and has a roof over their head. Basic need of access to clean water and sanitation comes with the ownership of a flat.

**AT: Limitations of government injection on Social spending will have on SOL ( material and non-material )**

Economic growth of the economy may not benefit the lower skilled workers as they may not reap the increased in income from growth and thus having a limited impact on their material SOL.

1 room flats are rental flats and occupants do not truly own the flats, thus will have limited impact on their material SOL. But the access to free flowing water and sanitation will indeed already increase their material SOL but not to the extent of owning a flat. 3-5 room flats are owned but occupants will have to undertake 20 – 30 years of housing loans. Ownership of the flats may increase their material SOL but would have an adverse impact on non-material SOL due to the stress of a long housing loan to pay.

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Government spending on Education will only improve material SOL in the LR, when the students/learners acquire the skills and get hired for work. When they are undergoing training or education, there is no direct impact on their material SOL and may even have an adverse impact on non-material SOL given the stress in training.

Provision on Skills training may have limited impact on material SOL of low skilled and/or poor workers, as this group of workers will have to take time off from work to train but they need to work in order to put food on the table on a daily basis. Thus for them to get trained and increase the material in the LR, they have to forgo material SOL in the SR, thus not all workers would be willing to undertake the training.

### Synthesis

As a government seeks to increase the standard of living of its citizens, many would turn to social spending to achieve this. These spending would in turn raise standards of both material and non-material well being to varying degrees. Dependent of the nature of country, there may be other aspects of government policy that can be more/equally as significant impact on SOL (material and non-material ).

#### o Focusing on external sector (export sector)

Given Singapore's nature of a small and open economy, Singapore is also heavily dependent on the external sector, particularly trade to drive economic growth. As such, the Singapore government should perhaps focus improving the export sector instead to achieve a higher material standard of living. Due to Singapore's lack of natural resources, we are heavily reliant on imported inputs, and therefore highly susceptible to imported inflation thus ensuring flow of imports into our shores is of a greater significance to our material SOL. As our exports and imports accounts for >300% of our annual GDP, attention on the external sector will have a more significant impact on material SOL.

#### o Achieving sustainable growth [pollution]

Government will also need to spend on other priorities other than on Social spending to have a significant impact on SOL. Especially since the government should also need to ensure that sustainable growth is achieved, where other significant economic problems, such as depleted resources and environmental problems will not be created, particularly for future generations. The government can provide grants to firms to encourage more R&D on cleaner and green technology. Carbon taxes can also be implemented to reduce carbon emissions and lessen air pollution. All these will reduce the amount of environmental problems, thus leading to more sustainable economic growth in the long run.

### LORMs

Level	Knowledge, Application/Understanding, Analysis	Marks
<b>L3</b>	<p>Answer also presents well balanced arguments on whether government injection on social spending is likely to have a significant impact on the standard of living of its citizens. These arguments are based on the various aims that the Singapore (or any other) government wants to achieve. Analysis is well-developed throughout and argument is coherent.</p> <p>Answer makes use of contextual knowledge to support the arguments. Good use of Singapore (or any other country) examples.</p>	<b>8-10</b>
<b>L2</b>	<p>Answer presents different arguments on whether a government injection on social spending is likely to have a significant impact on the standard of living of its citizens, although the analysis may not be fully developed.</p> <p>There are some weak attempts to use contextual knowledge to support the arguments. Examples not well used.</p>	<b>5-7</b>
<b>L1</b>	<p>Answer attempts to present some arguments on whether a government injection on social spending is likely to have a significant impact on the standard of living of its citizens but they are largely one sided. Analysis is largely undeveloped and contains inaccuracies in content.</p> <p>No contextual knowledge to support arguments. Answers are purely theoretical. Examples have not been used.</p>	<b>1-4</b>

<b>E 3</b>	A well justified stand that considers unstated assumptions and provides a new perspective (other focus that may have a more significant impact on SOL)	<b>4-5</b>
<b>E 2</b>	Answer makes a stand that attempts to use economic justification.	<b>2-3</b>
<b>E 1</b>	Answer makes an unjustified stand.	<b>1</b>

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### Essay Question 5

As much as one-third of the United States workforce could be out of a job by 2030 thanks to automation, according to new research from McKinsey. Meanwhile in Samoa, a small developing country, the tourism industry is badly hit with poor outlook globally.

Source: *CNBC*, 29 Nov 2017 & *Samoa Observer*, 26 May 2017

- a) Explain the various causes of unemployment across different countries. [10]
- b) Discuss the extent to which the nature of economy affects a government's choice of macroeconomic policies in addressing unemployment. [15]

### Question Analysis

Command	"Explain": Describe in detail; give clear reasons using relevant economic facts
Content	Unemployment and its different types, factors that lead to rise in unemployment
Context	Students are expected to provide examples across different countries, preferably with reference made to those already provided in the preamble.
Approach	<p>Students are expected to first <i>define unemployment</i> and briefly <i>state the different types of unemployment</i>. Next, the <i>factors</i> leading to different types of unemployment <i>across different countries</i> will be examined.</p> <p>Students are expected to explain in detail <i>THREE</i> factors leading to unemployment across different countries. An analysis on different types of unemployment and their associated causes is preferred.</p> <p>For example – global recession (factor) that leads to fall in export revenue, and thus aggregate demand (link to concepts) for small and open economies (context) like Samoa, thus resulting in demand-deficient (cyclical) unemployment (type of unemployment).</p>

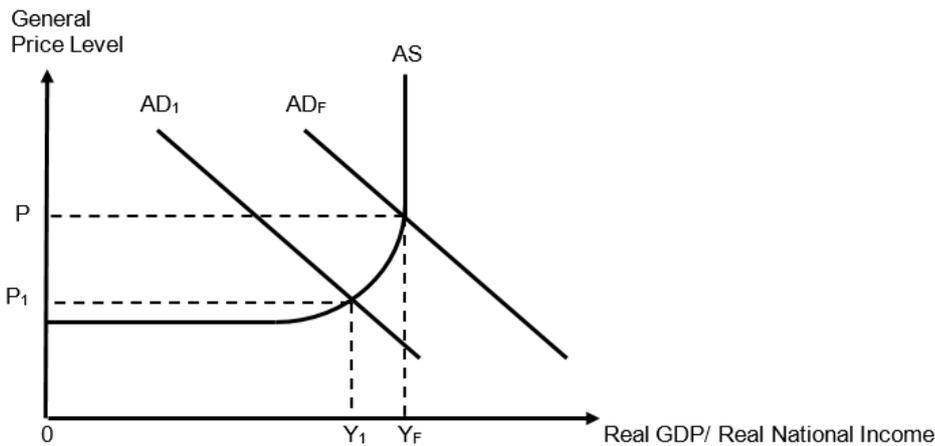
### Suggested Answer Scheme

<p><u>Introduction:</u></p> <p>Unemployment defined as the number of people who are capable of and willing to work but are unable to find suitable employment. It is usually measured by the unemployment rate = <math>(\text{Number of unemployed} / \text{Size of labour force}) \times 100\%</math>, where labour force is made up of the economically active (able &amp; willing to work), both employed and unemployed.</p> <p>The 4 main types of unemployment are cyclical, structural, frictional and seasonal unemployment.</p> <p>In this essay, we will be exploring the factors that cause different types of unemployment across various countries.</p>	<p>Definition</p> <p>Understanding</p> <p>Overview</p>
<p><u>Body: Paragraph 1 – Cyclical Unemployment</u></p> <p>Cyclical unemployment increases during recessions (down swing of a business cycle) and decreases during expansions.</p> <p>As the economy moves into a recession, aggregate demand falls and is insufficient to purchase all of the full employment level of national output. Firms find that they are unable to sell their current level of output at the current general price level. Initially, firms may be willing to build up stocks of unsold goods, but with time, they will have to start to cut back on production, and the amount of labour they employ (since labour is a derived demand). This results in cyclical unemployment, also known as demand-deficient unemployment since it results from a falling/lack of aggregate demand.</p>	<p>Point</p> <p>Elaborate</p>

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For example, it was stated that Samoa's tourism industry was adversely affected from the negative global outlook. This could stem from recessions in major economies and eventually worsening to a worldwide contraction. As such, faced with falling incomes, consumers around the world will cut back on tourism expenditure. This resulted in a fall in exports in the form of tourism activities/services from Samoa, which resulted in a fall in its AD and hence national output, leading to a rise in cyclical unemployment.

Using the AD-AS diagram to illustrate cyclical unemployment in Figure 1, the full employment level of output is at  $Y_F$ . When hit with a fall in net exports, the economy is at the equilibrium level of output at  $Y_1$ . Hence the output gap  $Y_1 - Y_F$  results in cyclical / demand-deficient unemployment.



**Figure: Cyclical Unemployment**

Thus, any factors that contribute to falling AD will result in a rise in cyclical unemployment in demand-deficient conditions.

Example

Optional - Elaborate (ADAS Diagram)

Link

Body: Paragraph 2 – Structural unemployment

Structural unemployment occurs when an economy undergoes structural transformations. It arises because of a mismatch of skills where the skill sets demanded by employers do not match those offered by the unemployed.

Structural unemployment can occur because of changes in pattern of demand and/or supply. At the demand side, changes in tastes, technology, taxes, or competition reduce the demand for certain skills and increase the demand for other skills. When there is a permanent fall in the demand for a firm or industry's goods and services, production will be cut back, leading to a decrease in the demand for labour. However, many displaced workers may not be easily and readily absorbed into other industries as they may not have the skills demanded by these industries (occupational immobility), leading to structural unemployment. For example, this can be observed in the closure of many photography studios in Singapore as there is a fall in demand of traditional photo printing using polaroid films. With the rise of digital printing that provides convenience and cost-effectiveness, workers that are equipped with the out-dated skills will be structurally unemployed if they do not upgrade themselves with the relevant know-how.

At the supply side, structural unemployment can result from the successful growth of new industries using labour-saving technology e.g. automation. This can be seen in the preamble where automation in United States leads to structural unemployment as workers are displaced by technology in the manufacturing industries. With the mismatch of skills, these retrenched workers will encounter difficulties in finding employment.

Point

Elaborate

Example

Elaborate Example

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<p>Therefore, the causes of structural unemployment can stem from changes in pattern of demand and/or supply where the existing skill sets are no longer preferred.</p> <p><i>*Note: Students are not required to cover both demand and supply side reasons for structural unemployment.</i></p>	Link
<p><u>Body: Paragraph 2 – Frictional unemployment</u></p> <p>Frictional unemployment occurs during the time required to match qualified job seekers with available openings. This typically can be attributed to the imperfect information present in the labour and job markets where potential matching of employers and employees can proved to be difficult.</p> <p>Job seekers need time to search for employment opportunities, and employers need time to find suitable employees. For example, in less developed countries such as Cambodia people who leave their jobs, either voluntarily or involuntarily (sacked or made redundant) and fresh graduates could be unemployed for a period of time while they are looking for a new job. This is due to imperfect information in the labour market. Employers are not fully informed about what labour is available; and job seekers are not fully informed about what types of jobs are available. Interestingly, frictional unemployment will rise during economic boom and vice versa as workers seek for greener pastures with opportunities abound during a bullish market.</p> <p>Thus, frictional unemployment can due to various factors such as the state of infrastructure to facilitate information sharing in the labour and job markets, as well as the prevailing economic conditions.</p>	<p>Point</p> <p>Elaborate Example</p> <p>Link</p>
<p><u>Body: Paragraph 4 – Seasonal unemployment</u></p> <p>Seasonal unemployment occurs when the demand for certain types of labour fluctuates with the seasons of the year.</p> <p>Taking the agricultural industry in rice-exporting countries (Thailand) as an example, workers are only employed during the harvest period, and are laid off the rest of the year in agriculture; and in tourism and construction, workers are only employed during certain periods, due to climatic conditions, and are laid off during winter. This could be due to festivals, annual weather cycles or major events scheduled in a country e.g. F1 in Singapore will lead to a rise in demand for workers during the season.</p> <p>Thus, seasonal unemployment affects mostly workers in specific industries with demand that coincides closely with seasonal changes.</p>	<p>Point</p> <p>Elaborate Example</p> <p>Link</p>
<p><u>Conclusion: Summary</u></p> <p>In conclusion, there are various factors that lead to unemployment and it is worthy to note the different types and their associated root causes. This will inform the government of the appropriate policies in addressing the problem of high unemployment in a country.</p>	

### LORMs

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	For an answer that shows a thorough & complete analysis of <b>3 different causes</b> of unemployment in the different countries. Students are expected to explain in context of different types of unemployment, using appropriate countries as examples.	8-10

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<p>Large and less open economies such as China and United States of America (USA) tend to have a larger population size and hence, domestic markets, compared to smaller economies such as Singapore. The larger domestic market means that domestic consumption expenditure as a proportion of the country's overall Gross Domestic Product (GDP) is relatively higher than those of the small and open economies. Therefore, to counter demand-deficient unemployment, the governments of the large and less open economies tend to rely more on manipulating demand-management policy tools such as interest rates and tax rates to affect consumption spending.</p>	Elaborate
<p>For example, the central bank of USA (Federal Reserve) uses the interest rates as the monetary policy tool to counter falling aggregate demand in a recession. In times of slower / negative economic growth with rising cyclical unemployment, the Federal Reserve may reduce the interest rates so as to reduce the cost of borrowing, hence spurring domestic consumption. It may also reduce the personal income tax rates, to increase the disposable income and hence, increase domestic consumption. Since consumption takes up a large proportion of the USA's aggregate demand (AD) and leveraging on the large multiplier size, the lowering of interest rate (expansionary monetary policy) and lowering of tax rate (expansionary fiscal policy) are both effective in helping the USA government to resolve cyclical unemployment.</p>	Example
<p>These large and less open economies also are able to adopt protectionism tools to protect its domestic industries and local goods and services from foreign competitors when a fall in export demand resulted in rising cyclical unemployment. Examples of protectionism can be seen in the recent trade wars between USA and China, each imposing tariffs on imports from the other country. The use of the protectionism tools is intended to switch expenditure away from the consumption of imports towards the consumption of local goods and services. This will increase AD and increase real national output and reduce cyclical unemployment.</p>	Elaborate
<p>It is imperative to note that despite how the use of interest rate, tax rate and protectionism seem effective; there are various limitations in reality that will affect their effectiveness. Firstly, poor economic outlook in a bearish market will result in lower business and consumer confidence. This results in the insensitivity of consumption towards interest rates, and as such, AD will not increase significantly despite lowered interest and tax rates. Secondly, trade retaliation that will worsen long-term growth prospect as the 'beggar-thy-neighbour' effect escalates into a full blown worldwide recession, resulting in long term cyclical unemployment.</p>	Evaluation
<p>On the contrary, the domestic consumption of the smaller economies tend to be a smaller proportion compared to other components such as net exports (X-M) and investment (I). For small and open economies like Singapore, since they do not have a sufficiently large domestic markets, these economies tend to be more open and reliant on trade and foreign investments. For Singapore, during times of recession with high cyclical unemployment, the Monetary Authority of Singapore will depreciate the exchange rate to enhance the price competitiveness of our exports. With a weaker Singapore dollar, the price of exports in foreign currencies will be cheaper and price of imports in local currency will be more expensive. Assuming the Marshall Lerner condition holds, there will be an improvement in net exports which increases AD, and thus reduces cyclical unemployment. During recession, the Singapore government also adopts an expansionary fiscal policy through increased government spending and lowering of direct taxes. These measures will seek to increase AD and result in higher real national output and subsequently, a fall in cyclical unemployment.</p>	Elaborate
<p></p>	Example
<p style="text-align: right;">Need a home tutor?</p>	<p style="text-align: right;">Visit <a href="http://smiletutor.sg">smiletutor.sg</a> Evaluation</p>

<p>Additionally, in order to boost competitiveness of our exports, Singapore also encourages businesses to be innovative and to adopt more research and development (R&amp;D) to increase the quality of our exports. At the same time, Singapore also signs Free Trade Agreements (FTAs) to encourage more access to larger overseas markets so as to increase our export revenue. All these measures will seek to reduce cyclical unemployment.</p> <p>Consequently, the depreciation of exchange rate will bring across the unintended outcome of imported cost-push inflation for small and open economies like Singapore, who is import dependent due to lack of natural endowment. Likewise, the use of supply side policy and signing of FTAs are both long-drawn processes, and thus might not be apt in the volatile global economic conditions – increase in AD during positive economic conditions will contribute to rising inflation and minimal gain in employment if the economy is nearing full employment level of output.</p> <p>Therefore, as discussed, the nature of economy does significantly influence the type of macroeconomic policies adopted by different governments. That being said, there are times where both types of economies use the same approach in tackling a similar foe.</p>	<p>Link</p>
<p><u>Anti-Thesis 1: Significance of root cause in addressing structural unemployment or frictional unemployment</u></p> <p>Regardless of nature of economy, both small and open and large and less open economy will adopt supply side policies to tackle structural and frictional unemployment.</p> <p>If the root cause of high unemployment rate stems from a mismatch of skills resulting in structural unemployment, then any government should aim to tackle the issue by adopting supply side policy. Supply-side policies to reduce structural unemployment are designed to make the supply of labour more adaptable and occupationally mobile to meet the changes in demand in the labour market and to make employers more willing to operate within existing market constraints.</p> <p>This can be done through the provision of government subsidies and grants for skills upgrading and retraining programs/schemes to ease transition from declining to growing industries. For example, in Singapore, Skills Development Fund (SDF) helps to subsidise the training costs of employees and the Skills Programme for Upgrading and Resilience (SPUR) provides retraining subsidies to help Professionals, Managers, Executives and Technicians (PMETs) to upgrade their skills; Workfare Training Support (WTS) scheme provides employer grants to encourage firms to send their older low-wage workers for skills training. Likewise in the USA, the government funds major programmes through the Department of Labour and Department of Education for the disadvantaged and displaced workers to provide them with reemployment services.</p> <p>Evidently, the use of protectionist measures by large and less open economies like the USA do allow the buying of time for supply side policies in reskilling displaced workers to be reemployed; but for small and open economies that are dependent on trade, like Singapore, we do not have the luxury of that option and thus, a need for diversification of sources of economic growth will be crucial for long term economic stability.</p> <p>On the other hand, the use of supply side policies in facilitating job search will reduce frictional unemployment in both types of economies. The government can provide better job information services and set up employment agencies which give out information about job vacancies. For example, in Singapore, Workforce Singapore (WSG) and Community Development Councils (CDC) establish labour exchanges, organize job fairs and career seminars and legislate against excessive job hopping. Schools can also provide career</p>	<p>Point</p> <p>Elaborate</p> <p>Example</p> <p>Evaluation</p> <p>Elaboration</p> <p>Example</p> <p>Visit <a href="http://smiletutor.sg">smiletutor.sg</a></p>

<p>guidance to give students a better understanding of the job requirements in the labour market.</p> <p>Therefore, the use of supply side policies is effective in both small and open as well as large and less open economies. This stems from the fact that the root cause of unemployment is common between the two.</p>	<p>Link</p>
<p><u>Anti-Thesis 2: Conflict of macroeconomic objectives affects the choice of macroeconomic policies</u></p> <p>Besides the nature of economy, the conflict of macroeconomic objectives will also affect government's policy choice across economies.</p> <p>In both small and open economies as well as large and less open, the use of demand management policies to reduce cyclical unemployment will eventually lead to rising demand-pull inflation as the economy approaches full employment level of output and beyond. Rising inflation will reduce export competitiveness as price of exports increase relative to those produced in other economies. This will worsen the current account and balance of payment. Therefore, to minimize the impact of such conflicts – the use of supply side policy to expand productive capacity in both types of economies will not only reduce the pressure on general price level; but also improve the non-price competitiveness of exports. This can be observed in the real world where countries like Singapore and China have invested heavily on productivity improvements in order to expand productive capacity.</p> <p>Additionally, supply side policy can be focused on the development of green technology to reduce carbon footprints or renewable energy sources to reduce depletion rate of non-renewable resources. At the same time, measures targeting skills upgrading / education of the lower-income group can be implemented to allow the disadvantaged groups to be socially mobile. The effect can be complemented with the appropriate tax policies to narrow the income gap. Strategically, the use of such policies will minimize the conflicts of economic growth with inclusivity and sustainability. For example, in the recent National Day Rally, Prime Minister of Singapore, Mr Lee Hsien Loong outlines the efforts to combat climate change as well as lowering of educational fees for students from low-income families, all in the aim of inclusive and sustainable growth</p> <p>Hence, besides the nature of economy, there are other considerations such as the conflicts of macroeconomic objectives that will influence governments' choice of policy tools.</p> <p><i>*Other possible arguments: Fiscal health of government (to determine the extent of use of Exp FP), Severity / Urgency of problem where time is a constraint, Root cause of problems</i></p>	<p>Point</p> <p>Elaborate</p> <p>Example</p> <p>Elaborate</p> <p>Example</p> <p>Link</p>
<p><b>Synthesis</b></p> <p>In my final analysis, the nature of economy affects the choice of macro policies in addressing unemployment to a certain extent as it determines the effectiveness of the macro policies. But this factor is only limited to cyclical unemployment.</p> <p>The clear-cut distinctiveness is in the use of exchange rate policy as their monetary policy approach for small and open economies, unlike the case in large and less open economies which tend to adopt interest rate intervention to increase AD. Both economies adopt fiscal policy but the intensity as a fiscal stimulus differs based on the size of multiplier.</p> <p>On the flipped side, both types of economies need to use supply-side policies more actively to deal with structural unemployment arising from automation or loss of international competitiveness. This proves that root cause of unemployment is a key consideration in decision making process by government.</p> <p style="text-align: right;">Need a home tutor?</p>	<p>Stand</p> <p>Substantiation</p> <p>Something Special</p> <p>Visit <a href="http://www.smiletutor.sg">smiletutor.sg</a></p>

In my personal opinion, the key to arrive at the optimal choice within inherent constraints involves the constant weighing of costs/benefits in using different policies and gathering information that are accurate (labour market participation rate / flexible working arrangements). This process of fine-tuning will be crucial as governments adjust and plan forward in this VUCA global environment.	
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### LORMS

Level	Descriptors	Marks
L3	<p>For an answer which:</p> <ul style="list-style-type: none"> <li>Provides balanced and well-developed argument on the extent to which size of the economy influences the choice of macro policy tools.</li> <li>Explains other variables that will also influence the choice</li> <li>Good and accurate use of economic analysis.</li> </ul> <p>High L3 (9m and above)</p> <ul style="list-style-type: none"> <li>Has a breadth of macro-economic policy tools that include both demand-management and supply-side.</li> <li>Is sufficiently contextualised to how large vs small economies chooses the macroeconomic policy tools.</li> </ul>	8 - 10
L2	<p>For an answer which:</p> <ul style="list-style-type: none"> <li>Is either one-sided or under-developed and contains some explanation and link to the "nature of the economy".</li> <li>Able to give examples of large vs small economies but lacks the depth and precision in how they choose the macro policy tools depending on their nature of economy.</li> <li>Other variables are mentioned but not adequately explained.</li> <li>Use of economic analysis is sufficient and largely accurate.</li> </ul>	5 - 7
L1	<p>For an answer which:</p> <ul style="list-style-type: none"> <li>Vaguely provides some understanding of the 'nature of economy'.</li> <li>Some economic explanation on how some macroeconomic policy tool works.</li> <li>Some weak and incidental attempts at linking nature of economy to the choice of policy tools.</li> </ul>	1 - 4

Level	Descriptor	Marks
E3	<p>Good attempt to provide well-reasoned evaluation/opinions, supported with clear explanation/evidence on the overall extent.</p> <p>E.g. The nature of the economy gives an indication to the government on the pillars of growth for their country, which will determine the main type of unemployment faced and its associated policies.</p>	4 - 5
E2	<p>Some attempt to provide synthesis/conclusion but lack clear substantiation/elaboration</p> <p>E.g. The size of the economy would determine the choice of macroeconomic policy tools but is not the only variable to be taken into consideration.</p>	2 - 3
E1	Listing of opinion/conclusion, without any substantiation	1

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## Essay Question 6

On 8 March 2018, Singapore and 10 other countries signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a free trade agreement. Minister for Trade and Industry Chan Chun Sing said, "The CPTPP will strengthen trade among countries in the Asia-Pacific, resulting in a more seamless flow of goods, services and investment."

Source: Ministry of Trade & Industry, accessed 17 July 2019

Discuss the impact of Singapore's policies to promote free trade on consumers and producers in Singapore. [25]

### Question Analysis

Command	"Discuss the impact on..." – consider various perspectives (consumers and producers) and types of consequences (positive and negative) on these economic agents.
Content	<p>"Policies to promote free trade": Identify at least two types of policies, one being Free Trade Agreements (FTAs). Other policies that help facilitate greater trade include:</p> <ul style="list-style-type: none"><li>• Supply-side policies (SSP)</li><li>• Fiscal policy</li><li>• Exchange rate policy</li></ul> <p>"Consumers, producers": Identify what these economic agents are interested in</p> <p>Consumers:</p> <ul style="list-style-type: none"><li>• Micro impacts – maximize utility which may include consideration of price, variety, quality of goods (can also explain using impacts on allocative, productive, dynamic efficiency)</li><li>• Macro impacts – standard of living through actual economic growth, employment (or unemployment), cost of living, and quality of life</li></ul> <p>Producers</p> <ul style="list-style-type: none"><li>• Impacts on profit (costs and/or revenue)</li><li>• Impacts on innovation (dynamic efficiency)</li><li>• Impacts on investment decisions</li></ul>
Context	Singapore – macro policies by Singapore government; effects on consumers and producers in Singapore
Approach	<p>Introduction: Identify policies</p> <p>Body P1: Explain policy 1 (e.g. FTAs) and how it promotes free trade P2: Explain impact on consumers P3: Explain impact on producers</p> <p>Body P4: Explain policy 2 (e.g. SSP) and how it promotes free trade Body P5: Explain impact on consumers P6: Explain impact on producers</p> <p>Conclusion: Conclude on general impact on consumers/producers (positive or negative?)</p> <ul style="list-style-type: none"><li>• What criteria can be used to evaluate the extent/nature of impact?</li><li>• What assumptions can be questioned that would lead to a different impact?</li></ul> <p><i>Note: Other possible approaches are acceptable, provided economic analysis is valid and of sufficient depth. See the end of this suggested answer.</i></p>

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## Suggested Answer Scheme

<p><u>Introduction</u></p> <p>A <b>free trade agreement (FTA)</b> is a legally binding agreement between 2 or more nations to lift bilateral trade through measures such as lowering tariffs and other trade barriers to bring about closer economic integration. As a <b>small and open economy</b>, Singapore is heavily reliant on trade (X+M makes up over 300% of GDP). Hence, many of our policies directly or indirectly aim to promote free trade. In this essay, I will discuss the impact of two of such policies (FTAs and supply-side policies) on consumers and producers in Singapore.</p>	<p>Definition</p> <p>Set context</p> <p>Overview of essay</p>
<p><u>Body Point 1: One policy that Singapore uses to promote free trade is the signing of FTAs.</u></p> <p>FTAs aim to increase trade between signatory countries through the lowering/removal of trade barriers. This would increase trade flows and investment flows between these countries. In theory, according to the principle of <b>comparative advantage</b>, when countries specialise in the production of goods for which they incur a relatively lower opportunity cost and subsequently trade with each other, this benefits all countries involved by allowing them to consume beyond their Production Possibilities Curve (PPC). Furthermore, increased <b>investment flows</b> into the country due to lowering of trade restrictions can result in increases in LRAS.</p>	<p>Point</p> <p>Explain the policy (FTAs)</p> <p><i>Consider both trade flows and investment flows.</i></p>
<p><u>Point 2: Signing of FTAs can impact consumers in Singapore both positively and negatively.</u></p> <p>With the increase in free trade from FTAs, consumers may <b>benefit</b> by being able to consume a <b>greater variety of goods and services</b> as they now have access to goods from other countries. They may also be able to consume goods at <b>lower prices and higher quality</b> due to the increase in competition for domestic firms, which would incentivize firms to conduct both product and process innovation to lower prices and improve their products (i.e. dynamic efficiency). For example, the ASEAN Trade in Goods Agreement (ATIGA), which entered into force in 2010, allowed Singaporeans to access a wider variety of goods and services from our ASEAN neighbours at lower prices.</p> <p>However, consumers may also experience negative impacts. While FTAs are able to increase trade volume between signatory countries and generate economic growth, it also results in <b>greater vulnerability to external shocks</b>. For example, when Singapore's trading partners experience slow growth or recession, demand for Singapore's exports would fall, resulting in a fall in AD (ceteris paribus) and a rise in <b>cyclical unemployment</b> and a fall in income for workers. This results in reduced purchasing power and higher stress for consumers, lowering both material and non-material SOL. Furthermore, if FTAs lead to greater specialisation by Singaporean producers, there may be structural shifts in the economy leading to structural unemployment. For example, with greater free trade in the ASEAN bloc, Singapore's economy may shift away from low-skill manufacturing, resulting in such jobs being lost. The resulting <b>structural unemployment</b> may also reduce material and non-material SOL if not mitigated by government policies.</p>	<p>Point</p> <p>Explain how consumers benefit (price, quality, variety)</p> <p>Example</p> <p>Explain how consumers may not benefit – link to SOL</p> <p>Example</p>
<p><u>Point 3: Signing of FTAs can impact producers in Singapore both positively and negatively.</u></p> <p>Producers may benefit from <b>lower costs</b> as with lowered trade barriers, they are now able to buy imported factor inputs at lower prices. With lower COP, this would increase their profit, ceteris paribus. Producers can also benefit from higher revenue and lower costs due to access to larger markets. Domestic firms</p>	<p>Point</p> <p>Explain how producers benefit (link to</p>

<p>previously constrained by Singapore's small market can expand in other countries (through outward investment). This allows them to increase their scale of production and reap <b>internal EOS</b>, for example through financial economies of scale, leading to a fall in average cost. Demand may also rise due to the larger pool of potential consumers, leading to higher <b>revenue</b> and increase in profit, ceteris paribus. For example, the CPTPP would eliminate 94% of tariffs for goods traded within member countries, allowing domestic firms easier access to large markets such as Canada, Japan and Mexico.</p> <p>On the other hand, signing of FTAs may lead to negative impacts for domestic producers due to <b>greater competition from foreign firms</b>. If local consumers switch to imported substitutes, local producers would experience a fall in demand, and a fall in TR and profit, ceteris paribus. For example, Singapore signed the India-Singapore Comprehensive Economic Cooperation Agreement (CECA). With greater competition from Indian food producers, local firms may find that demand for their food products falls. Furthermore, a greater dependence on imported inputs would also make domestic producers more <b>vulnerable to changes in import prices</b>, which would then affect their profits.</p>	<p>profit through costs and revenue)</p> <p>Example</p> <p>Explain negative impact (link to cost/revenue, profit)</p> <p>Example</p>
<p><u>Point 4: Another policy that Singapore uses to promote free trade is supply-side policies.</u></p> <p>Singapore uses a variety of supply-side policies to increase long-run aggregate supply and promote potential economic growth. These include policies to increase quality of labour, such as SkillsFuture to promote skills training and lifelong learning. Other policies include efforts to increase the quality of infrastructure/level of technology, such as increasing connectivity through MRT lines and providing emerging industries with infrastructure, for example in the case of Jurong Island. Generally, supply-side policies promote free trade by</p> <ul style="list-style-type: none"> <li>• Making SG an attractive destination for investment</li> <li>• Increasing export competitiveness (e.g. lowering unit costs through higher labour productivity)</li> </ul>	<p>Brief explanation</p> <p>Examples</p> <p>Link to question</p>
<p><u>Point 5: Supply-side policies can impact consumers in Singapore both positively and negatively</u></p> <p>Consumers may benefit from the potential economic growth that results from supply-side policies. In general, such policies shift LRAS outwards, allowing potential economic growth and a fall in GPL. This can help increase or maintain <b>purchasing power</b> for consumers.</p> <p><i>[Diagram] to show fall in GPL and increase in RNY. The increase in income also increases purchasing power to buy goods and services, improving <b>material SOL</b>.</i></p> <p>Furthermore, policies like SkillsFuture increase workers' skill level, addressing <b>structural employment</b> by <b>reducing the skills mismatch</b> and making it easier to find jobs. This results in a fall in structural unemployment and higher SOL, as earlier explained. For some supply-side policies such as infrastructure projects, consumers also benefit through increased <b>convenience</b>, e.g. being located closer to MRT lines, which may increase their <b>quality of life</b> and hence <b>non-material SOL</b>.</p> <p>However, the <b>opportunity cost</b> incurred from spending on supply-side policies means that consumers may not be able to benefit in other areas. For example, funds spent on SkillsFuture/infrastructure projects cannot be used for other policies that may help improve SOL, such as improving healthcare or increasing transfer payments to lower-income households. Furthermore, some supply-side policies, such as those that aim to reduce the power of trade unions, may reduce</p>	<p>Explain how consumers benefit</p> <p>Explain using diagram + Link to SOL</p> <p>Explain + Examples</p> <p>Explain possible negative impacts with link to SOL</p>

<p><b>workers' bargaining power</b> and prevent wage rises that would increase purchasing power and material SOL. Lastly, skills training is often concentrated in certain knowledge-based industries; despite greater availability of training in these areas, those without prior knowledge or disposition to enter these industries may lose out, especially older workers. Hence, they would not experience an improvement in SOL.</p>	
<p><u>Point 6: Supply-side policies are likely to have mainly positive impacts on producers in Singapore</u></p> <p>In general, supply-side policies are likely to result in a <b>fall in COP</b> for producers, increasing their profit, ceteris paribus. For example, SkillsFuture aims to improve the quality of the labour force, increasing <b>productivity</b> and reducing firms' <b>unit cost of production</b>. With lower costs, producers' <b>profits</b> would rise, ceteris paribus. Furthermore, some firms may benefit from <b>external EOS</b> through government's provision of infrastructure to support a particular industry, such as in the case of the chemicals/energy industry located at Jurong Island. However, the extent of such benefits may depend on type of industry – sunset industries may get less support; strategic industries may benefit most</p>	<p>Point</p> <p>Explain benefits (link to costs + profit)</p> <p>Examples</p>
<p><u>Conclusion (Synthesis)</u></p> <p>In general, Singapore's policies to promote free trade are likely to have more positive than negative impacts on consumers and producers.</p> <p><b>Substantiation:</b></p> <ul style="list-style-type: none"> <li>• Based on <u>nature of economy</u>: Small &amp; open → rely on trade and access to bigger markets; export-oriented industrialisation (EOI) has been cornerstone of economic growth leading to higher SOL and success for Singapore-based firms</li> <li>• Based on <u>time period</u>: <ul style="list-style-type: none"> <li>○ While FTAs may cause short-term problems (e.g. structural unemployment), these can be mitigated in the long run using SSPs to maintain or improve SOL for consumers</li> <li>○ Both FTAs and SSPs allow for potential growth, allowing for greater increases in RNY in the long run → higher mSOL for consumers and higher profit for producers (since COP falls)</li> </ul> </li> </ul> <p><b>Something Special:</b></p> <ul style="list-style-type: none"> <li>• Overall impact depends on <u>ability of government</u> to manage the negative impacts while maximizing positive impacts <ul style="list-style-type: none"> <li>○ E.g. negotiating the best deal for Singapore in FTAs, while ensuring unemployment is effectively addressed by supporting sunset industries where appropriate;</li> <li>○ E.g. depending on state of economy, implementing fiscal policy where necessary to mitigate vulnerability to external shocks;</li> <li>○ E.g. if greater trade leads to growth that is unsustainable/not inclusive, being able to recognise this and implement mitigating policies such as carbon tax or readjusting income tax to be more progressive</li> </ul> </li> <li>• Impact on consumers may depend on income level/skill level of consumers/workers; extent of labour mobility</li> <li>• Impact on producers may depend on size/market power of firm or the nature of the industry in which it operates</li> </ul>	<p>Stand</p> <p>Criterion 1</p> <p>Criterion 2 + Critical consideration of point made in body of essay</p> <p>Criterion 3 Show understanding of how these policies work; Address assumptions, e.g. state of economy, production methods</p> <p>Consider perspectives of diff groups of consumers and producers</p>

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**Note: Students may also be credited for other possible policies/approaches to answer the question, including but not limited to the following:**

Students who discuss the following policies can also be credited:

- Fiscal policy – tax incentives for foreign companies (e.g. tax holiday); low corporate taxes → encourage inward FDI to SG and allows for freer trade
- Exchange rate policy – gradual and modest appreciation (GRAMA) + stable exchange rate
  - Stability and predictability of returns makes Singapore an attractive investment destination
  - GRAMA may help reduce COP of exports, increases export competitiveness → sell more exports

Students who go into detail to consider the impacts on different types of consumers and producers can also be credited

- Producer impacts:
  - Students may consider the impact of greater competition from free trade on different market structures
  - Or impact on producers of different types of goods, e.g. luxury goods, necessities or inferior goods
  - Or impact on firms producing for export vs for domestic consumption
- Consumer impacts:
  - Students may consider different types of consumers (e.g. lower-income vs high-income, older vs younger)
  - Students may consider impacts on material vs non-material SOL

**LORMs**

<b>L3</b>	Well-developed argument with a balanced discussion of the positive and negative impacts of Singapore’s policies to promote free trade on both consumers and producers.  Answer considers more than one type of policy. Good economic analysis with reference to diagrams Good use of examples.	<b>15-20</b>
<b>L2</b>	Valid and coherent arguments of the impacts of Singapore’s policies to promote free trade on consumers and producers; arguments may not be well-balanced.  Economic analysis may not be so well-elaborated with some gaps. Some reference to diagrams. Some attempts to relate to context  Capped at L2: For an answer which only considers ONE policy (though impacts may be well-explained). Low L2 (9-11): <ul style="list-style-type: none"> <li>• For an answer which attempts to explain policies, but does not contextualise impacts to the relevant economic agents (consumers and producers).</li> <li>• For an answer that considers impacts on only consumers OR producers.</li> </ul>	<b>9-14</b>
<b>L1</b>	Lack of economic analysis and largely descriptive No use of examples; answer purely theoretical.	<b>1-8</b>

<b>E3</b>	Answer provides a well-justified stand that considers unstated assumptions and provides a new perspective.	<b>4-5</b>
<b>E2</b>	Answer makes a stand that attempts to use economic justification.	<b>2-3</b>
<b>E1</b>	Answer makes an unjustified stand.	<b>1</b>

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**CANDIDATE NAME**

**CT GROUP**

**18**

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**ECONOMICS**

Paper 1 Case Study Questions

**9757/01**

**2 September 2019**

**2 hours 15 minutes**

Additional Materials: Answer Paper

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**READ THESE INSTRUCTIONS FIRST**

Read all instructions printed on the cover page of the 12-page answer booklet carefully.

Write all your particulars clearly on the cover page of the 12-page answer booklet.

Write in dark blue or black pen on both sides of the paper.

You may use a soft HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer ALL questions.

Write all your answers in the 12-page booklet and subsequent 4-page booklets (if required).

Do all your rough work in pen using the answer booklet and cross it through without making it illegible.

Do not tear out any part of this booklet.

Begin case study question 1 and question 2 on a new page within the answer booklet.

All work must be handed in. If you have used any additional 4-page booklets, please insert them inside the 12-page answer booklet.

The number of marks is given in brackets [ ] at the end of each question or part question.

You may use a calculator.

You are advised to spend several minutes reading through the questions before you begin writing your answers.

You are reminded for the need for good English and clear presentation in your answers.

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This document consists of **7** printed pages and **1** blank page.

Answer **all** questions**Question 1: US-China Trade war****Table 1: Change in Chinese Yuan per US dollar from 2013 to 2016**

	2013	2014	2015	2016
Exchange Rate (Yuan per USD)	6.15	6.16	6.28	6.64

Source: *Focus Economics***Extract 1: US fights for protectionism**

Tapping into economic discontent, President Donald Trump has argued for protectionism and asserted that decades of free trade policies were responsible for the collapse of the American manufacturing industry and its ballooning trade deficit. He has been feeding on the perception among many Americans that globalisation has brought more pain than gain. For example, globalisation has brought cheap consumer goods into the country, costing domestic jobs and depressing wages. Outsourcing of jobs to cheaper markets has also been a concern.

President Trump wants to renegotiate the North American Free Trade Agreement (NAFTA) which lowers trade barriers between the US, Canada and Mexico and rejected claims that the deal has helped the US economy create more jobs and reduce trade deficit by opening up export markets. He has also argued that since China joined the World Trade Organisation (WTO), Americans have witnessed the closure of more than 50,000 factories and the loss of tens of millions of jobs. He wants the US government to label China a “currency manipulator” and has lambasted the rapidly growing Asian economy for “unfair subsidy behaviour”.

Source: *The Guardian*, 9 November 2016**Extract 2: Vietnam, a prime location for investors**

In recent years, Vietnam is well on its way to becoming a key destination for electrical and electronic products manufacturing for companies like Samsung and LG Electronics. Exports of smartphones and computer parts now account for more in export earnings than oil and garments. Samsung has turned Vietnam into a global manufacturing base for its products, producing almost a third of the firm’s output. Samsung has invested over US\$17 billion into the country.

Compared with other developing markets in the region, Vietnam is emerging as the clear leader in low-cost manufacturing. Currently, labour costs in Vietnam are 50 percent of those in China and around 40 percent of those reported in Thailand and the Philippines. With the country’s workforce growing annually, Vietnamese workers are inexpensive, young, and, increasingly, highly skilled.

In the past few years, a growing number of businesses have relocated their operations from China to Vietnam in an attempt to escape rising costs and an increasingly complex regulatory environment. Given the recent trade war between China and the US, alongside the signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and EU-Vietnam FTA, the country is steadily becoming more open to international trade and investment.

In terms of regulatory and financial incentives, Vietnam has become increasingly investor-friendly in recent years – the government has taken actions such as reforming its financial sector, streamlining business regulations, and improving the quality of its workforce. In addition, Vietnam has a zero percent tax on dividends remitted overseas and a low corporate tax rate of only 20 percent.

All these advantages have enabled Vietnam to become a premier “sourcing economy” in the eyes of many companies.

**Table 2: Vietnam’s top exports, 2017**

Top Exports	Export Value
Phones	US \$45.1 billion
Textiles	US \$25.9 billion
Electronic goods/Computers	US \$25.9 billion

Source: *Vietnam Briefing*, 19 November 2018

### **Extract 3: Trade war will hurt the US**

The US imports machinery, clothing and consumer electronics from China, with a lot of it made by US companies which profit from them. President Donald Trump's proposed measures of raising tariffs against Chinese products and declaring China a currency manipulator might end up hurting both economic giants and others. All this, without quite achieving Mr Trump's objectives of bringing back manufacturing jobs to the US or reducing its \$552 billion trade deficit with China.

While even Chinese economists admit that China's economy will suffer if Mr Trump went ahead to slap tariffs on Chinese products and take other punitive trade measures against China, other economies are set to be hurt too. This is because many products exported from China to the US are assembled in China with components made in other countries as part of an international supply chain. In an interconnected world built on a complex web of supply chains and mutual economic interdependencies, China’s trade partners, particularly in east and south-east Asia are likely to be among those hit hardest by the fallout.

On the other hand, the US economy could be hurt by a trade war too. First, more expensive imports as a result of the tariffs would hurt Americans' pockets, particularly those in the low-income groups. Second, the Chinese are likely to hit back at any US action with their own punitive measures. China is also the US' third-largest export market, and one that is expanding rapidly. The Communist Party-linked *Global Times* warned: "A batch of Boeing orders will be replaced by Airbus. US automobile and iPhone sales in China will suffer a setback, and US soybean and maize imports will be halted." The Trump administration's moves against China could hurt American firms with investments in China and the burgeoning American exports there.

Yet, for all that trouble, Mr Trump may not see many manufacturing jobs returning to the US. In industries like textiles, where factories were lost decades ago to China, the jobs will simply move to countries where labour is less expensive, such as Bangladesh and Vietnam.

**[Turn over****Questions**

- (a) (i) State what happened to the nominal exchange rate of the Chinese Yuan between 2013 and 2016.  
[1]
- (ii) With a relevant diagram, explain how intervention by the Chinese government could have led to the change identified in (a)(i).  
[3]
- (b) Explain how “currency manipulation” mentioned in Extract 1 might widen US’ trade deficit with China.  
[2]
- (c) (i) Using a tariff diagram, explain the impact of China’s tariff on the revenue of US exporters of soybeans to China.  
[3]
- (ii) With reference to the concepts of price elasticity of demand and price elasticity of supply, explain why the impact of the tariff on the revenue of US exporters of soybeans to China would likely be small in the short-run.  
[3]
- (d) Discuss how far the concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors.  
[8]
- (e) In light of globalisation, discuss the extent to which US economy would benefit from a protectionist stance on trade.  
[10]

[Total: 30]

## Question 2: Internet Connectivity and Lifelong Learning

### Extract 4: Benefits of the Internet

The internet is a pervasive, fundamental part of daily life that continues to deliver massive economic and social benefits around the world. Yet some 3.9 billion people – more than 52% of the world’s population – are still not online. Although much progress has been made in closing the digital divide, the challenge remains huge, complex and multidimensional. Multiple studies by The Boston Consulting Group have detailed the internet’s macroeconomic benefits to Gross Domestic Product (GDP), the broad economic and job impact of the digital economy’s rapid growth in online retail and advertising and infrastructure, and the big impact of information and communications technology (ICT) on small-business revenue growth and job creation. Most studies have verified the positive impact of greater broadband penetration on the growth in GDP. One of the first, by the World Bank, concluded that every 10 percentage point improvement in broadband penetration increases GDP by 1.3%.

Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered internet usage including social networking sites as one type of leisure activities. The internet is also increasingly a source of high-quality educational content and online courses, which can increase the availability of formal instruction to underserved population segments. Already a fixture in developed nations, educational institutions and for-profit universities are expanding their online offerings in emerging countries, where rapid economic growth has increased the demand for skilled workers.

Source: World Economic Forum, *White Paper: Internet for All*, April 2016

### Extract 5: Singapore, Sweden top the Global Inclusive Internet Index

Singapore and Sweden lead the world in terms of internet inclusivity, according to a recent report. The Inclusive Internet Index measures how effectively individual countries have adopted internet usage and the benefits derived from it. Device innovation, technological advances and declining prices afford increased connectivity; yet prices are still quoted as one of the key barriers to access in developing economies. Also prominent, among other reasons, is the proportion of those who do not use the internet because they do not see the need and lack knowledge of how to use it. The Singapore government will roll out a series of new courses targeted at the elderly, covering topics from the use of e-payment, chat apps and digital government services, in an expansion of the official Silver Infocomm Initiative, which has promoted IT literacy among more than 130,000 seniors.

The availability aspect primarily entails ease of access to the internet. Singapore tops the availability rankings, owing largely to initiatives taken by the government. For example, the report says that Singapore is “arguably a standard-bearer” of public-access Wi-Fi which provides free internet access in public areas and now reportedly has more than 10,000 hotspots across the city. Internet access remains unaffordable for most income groups in many developing countries. The United Nations-defined threshold for affordability is 5 percent of average national monthly income and efforts are underway to reduce it to 2 percent. By 2016, 106 countries had reached the target of offering basic fixed-broadband services at less than 5% of monthly Gross National Income (GNI) per capita. In Singapore, while fibre broadband prices have dropped drastically, there are various programmes in place to ensure that vulnerable segments of the community can enjoy the benefits of the internet.

Source: [www.edb.gov.sg](http://www.edb.gov.sg), 12 April 2017 and *The Straits Times*, 2 June 2018

[Turn over

**Table 3: Prices of fixed-broadband services of selected economies in 2016**

Economy	as % of GNI per capita	USD	PPP\$
United Kingdom	0.22	8.10	7.55
Norway	0.5	39.17	32.35
Singapore	0.5	21.64	25.02
United States	0.82	38.10	38.10
Sweden	0.89	43.10	39.50
China	2.42	15.95	27.73

Source: *International Telecommunication Union*

### Extract 6: Higher learning institutes to train more adults

A major revamp of how working adults are trained for the new economy is under way, with more courses, more funding and a more significant role for Singapore's institutes of higher learning (IHLs). The Ministry of Education (MOE) is pumping in \$70 million towards this effort over the next three years, with IHLs expected to spend \$40 million a year on the SkillsFuture Series by 2020, compared to less than \$5 million now. For a start, each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship. The programmes will be delivered as short modules, making them easier for working adults to take. They will be subsidised up to 70 per cent for Singaporeans and permanent residents. The rest of the fee can be paid using the \$500 SkillsFuture credit given to every Singaporean above the age of 25 from last year onwards.

Education Minister (Higher Education and Skills) Ong Ye Kung said funding levels for programmes with coursework components that are "purely academic" in nature will have to be relooked, while coursework that could be vocation-based could be delivered in a bite-sized format that can be accumulated and lead to graduate certifications. Some of the universities, such as Singapore Management University (SMU), are already doing this. SMU Academy, the university's lifelong learning unit, will be offering financial technology modules that can be "stacked up" towards a Master of IT in Business. The MOE noted that having such courses will give them exposure to an area of interest without having to pursue a full degree.

Although micro-credentials can be used to provide "a milestone for adult learners to aim towards and which employers can recognise", Mr Ong cautioned that it should not become a new "arms race" to collect credentials. "IHLs should instead focus on imparting skills and knowledge needed by industry, and package them into a nice bundle that represents a meaningful upgrading of skills and knowhow," he said. "Learners too, should focus on picking up what is necessary for their upgrading."

Source: *The Straits Times*, 29 October 2017

### Extract 7: Education, infrastructure and fiscal sustainability vital to Singapore's future

While cohort sizes may be falling and money "may be tight", Singapore is ploughing more investments into education which "has, and must, continue to be the backbone" in the Republic's economic strategy, said Minister in Prime Minister's Office Chan Chun Sing. Noting that it is no longer just about providing Singaporeans with 10 years of compulsory schooling but a "lifetime of continuing education", Mr Chan also cited the need to continue investing "seriously" in infrastructure for the next generation while maintaining the country's long-term fiscal sustainability and discipline.

Mr Chan referred to the 2018 Budget and pointed out that the Government has “not slowed down” its investment in education. “Instead, we are strengthening our investment,” he said. He stressed that beyond the formal school system, new ways must be developed to “continuously train and retrain our people for tomorrow’s economy”. Adding that going back to school for long courses “is a luxury that few can have in today’s fast-paced economy”.

From 2019, foreign students will no longer receive subsidies for most of the vocation-based master’s degrees and post-graduate diplomas offered by the autonomous universities, while the subsidies for permanent residents (PRs) will be reduced. Changes in subsidies will generate S\$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs at both undergraduate and post-graduate levels.

A history professor at the National University of Singapore noted that foreign students make up more than 50 per cent of the students in his class as “locals are not interested to pursue postgraduate studies. If there is a fall in the number of international students, then some faculty members might not see the need to improve the quality of lessons. This could eventually affect our standing in the global rankings,” he added.

Noting that unsubsidised postgraduate courses attract many students, the MOE expects such students “will continue to take up courses at our autonomous universities if they see value in the education and training offered”.

Source: *The Straits Times*, 5 March 2018

## Questions

### (a) With reference to Table 3:

- (i) Explain what could be inferred from the difference in values between prices of fixed broadband services in USD and PPP\$ for Singapore. [2]
- (ii) Explain the difference between using GNI per capita and GDP per capita as an indicator of affordability of internet access. [2]

(b) Using the information in Extract 4, explain how the internet would affect standard of living. [4]

(c) With reference to Extract 5, explain **two** economic reasons for government intervention in the market for internet access. [4]

(d) ‘Changes in subsidies will generate S\$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs.’ (Extract 7)

Discuss the factors considered by the government in making a rational decision to proceed with the above changes in subsidies. [8]

(e) Discuss the extent to which a ‘lifetime of continuing education’ is more effective than ‘10 years of compulsory schooling’ in reducing factor immobility and asymmetric information in the labour market. [10]

[Total: 30]

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CANDIDATE NAME

CT GROUP

CENTRE NUMBER

INDEX NUMBER

**ECONOMICS**  
Paper 2 ESSAY

**9757/02**  
**17 September 2019**  
**2 hours 15 minutes**

Additional Materials: Answer Booklet(s)

**READ THESE INSTRUCTIONS FIRST**

Write your **name, CT group, Centre and Index numbers** clearly on every sheet of answer paper that you hand in.

Write in dark blue or black pen on both sides of the answer paper.  
You may use a soft HB pencil for any diagrams, graphs or rough working.  
Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from either Section A or Section B.

Write all your answers in the 12-page booklet and subsequent 4-page booklets (where required).

**Start each question on a new page in the answer booklet.**

Do not tear out any part of this booklet.

All work must be handed in. If you have used any additional 4-page booklets, please insert them inside the 12-page answer booklet.

The number of marks is given in brackets [ ] at the end of each question or part question.

You are advised to spend several minutes reading through the questions before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **3** printed pages and a **blank** page.

**[Turn over**

Answer **three** questions in total.

### Section A

**One or two** of your three chosen questions must be from this section.

- 1 In his Budget 2018 speech, Finance Minister Heng Swee Keat announced that Goods and Services Tax (GST) will rise from 7 per cent to 9 per cent between 2021 to 2025 as government spending grows. Some have suggested the exemption of basic necessities like food and utilities from the rise in GST to help the lower income households with the cost of living.

Explain how the proposed change in tax policy might impact consumers and producers of different types of goods and services and discuss whether the Singapore government should exempt basic necessities from the rise in GST to help the lower income households.  
[25]

- 2 In the era of a sharing economy, technology is used to facilitate the exchange of goods or services between two or more parties, as seen in the case of Airbnb and ride-hailing services. This has lowered barriers to entry and traditional firms are facing new business risks and uncertainties. Some firms have taken the opportunity to increase their output while others have decided to close permanently.

(a) Explain what needs to be considered when a producer makes rational output decisions in view of new business risks and uncertainties.  
[10]

(b) Discuss different strategies that could be used by traditional firms when barriers to entry are lowered and how their actions might impact other firms and consumers.  
[15]

- 3 In the move towards a more sustainable and liveable city, Singapore introduces a carbon tax rather than tradable permits to incentivise industries which use fossil fuel, such as power stations and oil refineries, to cut their carbon emission and spur the growth of cleaner energy. However, the government will continue its decision of not subsidising the use of solar energy to avoid over-consumption.

(a) Explain the economic case for the Singapore government imposing a carbon tax and not subsidising the use of solar energy.  
[10]

(b) Assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore.  
[15]

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## Section B

**One or two** of your three chosen questions must be from this section.

**4** The British voted in a referendum in 2016 to withdraw the United Kingdom (UK) from the European Union (EU) and this is commonly known as Brexit. This has raised the fear of an adverse impact on exports and foreign direct investment. It has also resulted in an immediate drastic depreciation in the pound that caused inflation to rise above the 2% target, to 3.1% in 2017, adding to the UK cost of living squeeze. This happens at a time of stagnant living standards which has persisted since the global financial crisis.

**(a)** Using the circular flow of income, explain how the Brexit referendum might impact UK's national income.  
[10]

**(b)** Assess the extent to which the Brexit referendum would increase cost of living and decrease standard of living in the UK.  
[15]

**5** Singapore's inflation rate turned positive in 2017 after two years of negative inflation. But with the pace of price increases set to remain modest, economists are divided over the question of how soon the central bank will move to appreciate the Singapore dollar.

Source: *The Business Times*, 24 Jan 2018

**(a)** Explain the internal and external factors that are likely to have contributed to the reported change in inflation rate in Singapore.  
[10]

**(b)** Discuss whether you will support a move by the central bank to appreciate the Singapore dollar to reduce inflation even though it might result in unintended consequences for the economy.  
[15]

**6** US and UK have had almost a decade of low interest rates which was between 0.25% and 1.5%. At the same time, economists are advocating for a greater role of fiscal policy to achieve economic growth even as economies adapt to global trends caused by shifting demographics towards an ageing population, rapid technological progress and high levels of government debt.

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Discuss whether fiscal policy could play a greater role than monetary policy in achieving economic growth given the change in global trends. [25]

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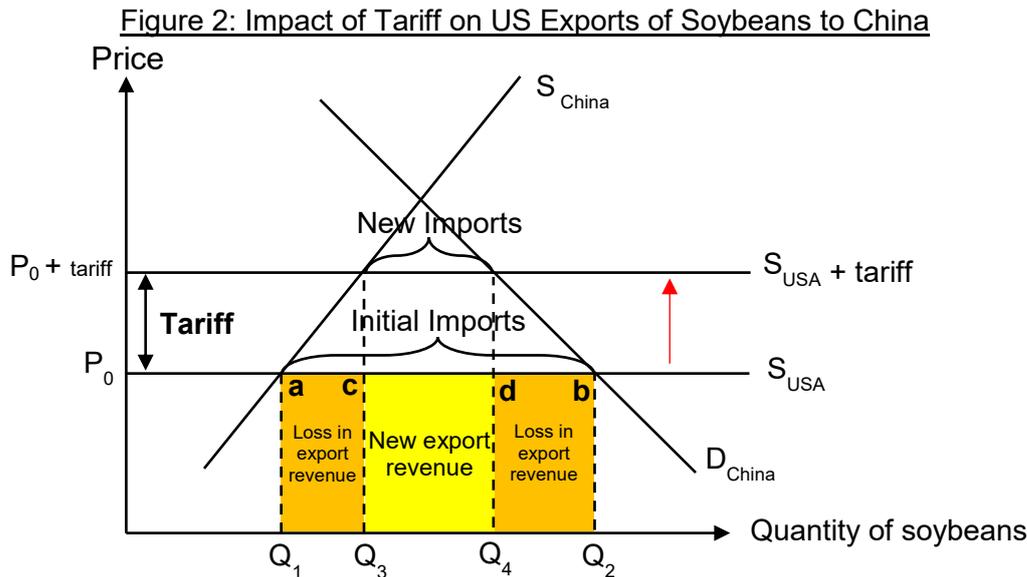
Hwa Chong Institution H2 Economics Preliminary Examinations Suggested Solutions for Case Study Question 1

(a)	(i)	<p>State what happened to the nominal exchange rate of the Chinese Yuan between 2013 and 2016.</p>	[1]										
		<p style="text-align: center;"><b>Table 1: Change in Chinese yuan per US dollar from 2013 to 2016</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>2013</th> <th>2014</th> <th>2015</th> <th>2016</th> </tr> </thead> <tbody> <tr> <td>Exchange Rate (Yuan per USD)</td> <td>6.15</td> <td>6.16</td> <td>6.28</td> <td>6.64</td> </tr> </tbody> </table> <p>The Yuan <b>depreciated</b> [1m] (against the US dollar).</p> <p><i>* Exchange rate <u>increased</u> is NOT accepted.</i></p>		2013	2014	2015	2016	Exchange Rate (Yuan per USD)	6.15	6.16	6.28	6.64	
	2013	2014	2015	2016									
Exchange Rate (Yuan per USD)	6.15	6.16	6.28	6.64									
		<p>(ii) With a relevant diagram, explain how intervention by the Chinese government could have led to the change identified in a)i).</p>	[3]										
		<p style="text-align: center;"><b>Figure 1: Market for Yuan</b></p> <ul style="list-style-type: none"> <li>• [1m] – For AWESOME diagram <ul style="list-style-type: none"> <li>○ Correct axis</li> <li>○ Supply of Yuan shift right</li> <li>○ USD/Yuan ↓ &amp; quantity of Yuan ↑</li> </ul> </li> <li>• [1m] – For correct intervention: Chinese government <u>sell Yuan</u></li> <li>• [1m] – For correct explanation of the impact of selling Yuan with reference to the diagram drawn: <u>increase supply</u> of Yuan in foreign exchange market, causing the Yuan to <u>depreciate</u>, as shown by the fall in exchange rate in <u>Figure 1</u> from <math>E_1</math> to <math>E_2</math>, where less units of USD is needed to exchange for a unit of Yuan.</li> </ul>											
(b)		<p>Explain how “currency manipulation” mentioned in Extract 1 might widen US’s trade deficit with China.</p>	[2]										
		<p>In Extract 1, “currency manipulation” refers to the deliberate weakening of the Yuan against the USD by the Chinese government/central bank.</p>											

By depreciating the Yuan against the USD, **US exports to China** would be **more expensive in Yuan**. If the **demand** for **US's exports** to China is **price elastic**, there would be a **more than proportionate fall in quantity demanded** for **US's exports** and hence **US export revenue** would **fall**, widening US's trade deficit with China [1m].

By depreciating the Yuan against the USD, **US imports from China** would be **cheaper in USD**. If the **demand** for **US's imports** from China is **price elastic**, there would be a **more than proportionate rise in quantity demanded** for **US's imports** and hence **US import spending** would **rise**, widening US's trade deficit with China [1m].

(c) (i) Using a tariff diagram, explain the impact of China's tariff on the revenue of US exporters of soybeans to China. [3]



- [1m] – For AWESOME diagram
  - Correct axis
  - Correct impact of tariff (on supply, P & Q) illustrated
  - \* Note: labelling of “initial/new imports, loss in export revenue & new export revenue” are NOT required for this 1 mark. They are here for clarity in post mortem explanation to students.

As shown in Figure 2, a retaliatory tariff would **increase** the **price** of soybeans from  $P_0$  to  $P_0 + \text{tariff}$ . This will **increase** the **quantity** of soybeans **supplied by Chinese farmers** and **decrease** the **quantity demanded** of soybeans **by Chinese consumers**. This **reduces** the **quantity of soybean imports** from US (or US exports to China) from  $Q_2 - Q_1$  to  $Q_4 - Q_3$ . [1m] Given that the **price remains unchanged for US producers**, this **reduces** their **export revenue** from  $[P_0 \times (Q_2 - Q_1)]$  to  $[P_0 \times (Q_4 - Q_3)]$ . [1m]

(c) (ii) With reference to the concepts of price elasticity of demand and price elasticity of supply, explain why the impact of the tariff on the revenue of US exporters of soybeans to China would likely be small in the short-run. [3m] [3]

*\*This question would require student to apply to the given context.*

**1m: Identify** that Chinese **demand** for soybeans in the short-run is **price inelastic + relevant**

	<p><b>PED factor.</b>  <b>1m: Identify</b> that Chinese domestic <b>supply</b> of soybeans in the short-run is <b>price inelastic + relevant PES factor.</b>  <b>1m: Link back to why impact on revenue</b> of US exporters would be <b>small.</b> (i.e. less than proportionate change in <math>Q_d</math> and <math>Q_s</math>, limiting the fall in US exports of soybeans to China and hence fall in revenue of US exporters soybean to China is likely to be small in the short-run.)</p>	
(d)	<p><b>Discuss how far the concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors.</b></p>	[8]
<p><b>Introduction:</b></p> <ul style="list-style-type: none"> <li>- Define “comparative advantage” – <i>A country is said to have comparative advantage in the production of a good when she can produce the good at a lower opportunity cost than another country</i> → each country will then <b>specialize</b> in producing the goods in which they have comparative advantage in</li> </ul> <p><u><b>Thesis: The concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors</b></u></p> <p><b>Briefly explain the concept of comparative advantage with reference to the appropriate assumptions – diagrammatic explanation is not necessary</b></p> <p><i>Focus of explanation is the resource endowment that causes Vietnam to possess comparative advantage in electronics – the essential part of the explanation is the “relative” idea – Vietnam has relatively lower skilled labour costs</i></p> <p><i>Key concept: <b>Lower opportunity cost</b> of producing electrical and electronics products</i></p> <p><b>Static comparative advantage</b> arises due to <b>differences in factor endowment</b> between Vietnam and other countries. Differences in factor endowments lead to differing factor prices which in turn affect the prices of goods and services produced by different countries.</p> <p>Vietnam is <b>relatively abundant</b> in skilled labour since <i>“the country’s workforce growing annually, Vietnamese workers are inexpensive, young, and, increasingly, highly skilled. (Extract 2)”</i> and hence labour costs are <b>relatively lower</b> than other electronics exporting countries such as China where <i>“labour costs in Vietnam are 50 percent of those in China and around 40 percent of those reported in Thailand and the Philippines.(Extract 2)”</i>. Hence Vietnam has a comparative advantage in electronics which requires <b>intensive use of skilled labour</b> compared to other similar countries such as China.</p> <p>Hence, Vietnam will specialize in electronics and electrical products which it possesses comparative advantage in, resulting in Vietnam becoming a “key destination for electrical and electronics products manufacturing” for foreign investors.</p> <p><i><b>The main thesis argument focusses on factors like domestic resource endowment and if applicable, business friendly environment to facilitate the development of CA – but the main concept is “lower opp cost”</b></i></p> <p><u><b>Anti-thesis: Other reasons (besides comparative advantage) can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors</b></u></p> <p><b>Vietnam has increasingly become a more business friendly environment which has attracted</b></p>		

### foreign investors to invest in the Vietnamese economy

Vietnam has also developed a business friendly environment by *“reforming its financial sector, streamlining business regulations, and improving the quality of its workforce (Extract 2)”* This has further enhanced Vietnam’s comparative advantage in electronics as the market conditions present in Vietnam have accelerated the development of the electronics industry by attracting foreign direct investment, especially since *“Vietnam has a zero percent tax on dividends remitted overseas and a low corporate tax rate of only 20 percent. (Extract 2)”*. Over time, Vietnam’s commitment to an attractive business environment for investment has attracted foreign investors, further developing Vietnam as a key destination for foreign investment.

**Can also be classified as a factor that enhances Vietnam’s existing CA in electronics**

### Vietnam has increasingly become a preferred choice for exporters of electronics due to the effects of protectionism in the context of the US-China trade war

Vietnam has benefited from the effects of the US-China trade war and has become a viable alternative to China as an exporter of electronics due to rising costs caused by protectionism. This is seen from the *“a growing number of businesses have relocated their operations from China to Vietnam in an attempt to escape rising costs and an increasingly complex regulatory environment (Extract 2)”* Hence, rising tariffs imposed on Chinese goods has eroded China’s comparative advantage in electronics and has diverted trade towards Vietnam. Relatively, Vietnam’s export competitiveness in electronics has increased due to their comparatively lower factor costs and also less complex business practices, resulting in Vietnam increasingly becoming a key destination for foreign investment.

**Can also be explained as Vietnam is further developing CA in relation to China.**

### Vietnam has increasingly become a preferred choice for investment due to the gradual shift towards trade liberalization in Vietnam

Vietnam’s economy is also steadily becoming more open which allows it to further attract longer term FDI which further boosts Vietnam’s attractiveness as a choice destination for the export of electronics. This is seen in the context of the *“signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and EU-Vietnam FTA (Extract 2)”*, where Vietnam is *“steadily becoming more open to international trade and investment (Extract 2)”*. As a result, Vietnam’s openness to long term FDI has attracted further investment by foreign firms and enhanced Vietnam’s position as key destination for foreign investment.

**Important to note that increasing openness to trade only fulfils the conditions for the theory of CA to apply, but does not necessarily influence changes in conditions in Vietnam itself – to some extent can be explained under the Thesis.**

### **Conclusion**

- In conclusion, the concept of comparative advantage can explain why Vietnam is the key destination for foreign investments to a **small extent** as the role of other factors is more significant.
- Although Vietnam’s resource endowment of abundance of skilled labour can explain why Vietnam was able to successfully develop comparative advantage in the initial stages of development of the industry, increasingly **other factors prove to be more significant** in retaining the advantage.

- The gradual liberalisation of the Vietnamese economy and adoption of business friendly practices like low taxes on remittance of income and low corporate taxes are factors that enhance the existing comparative advantage that Vietnam enjoys and may be **more significant** than the initial reasons for comparative advantage. This is due to the fact that these longer term structural factors ensure that the comparative advantage will not be eroded and that Vietnam will be a destination for more than one type of investment.
- In addition, the effects of the US-China trade war are likely to be persistent and hence Vietnam's relative advantage in relation to China will continue to increase, further enhancing Vietnam's position as a key destination for foreign investment. Hence the effects of the US-China trade war are likely to be **more significant**.
- Overall, it is **unlikely** that the concept of comparative advantage is the **key factor** to explain why Vietnam is increasingly becoming a key destination for foreign investment.

#### Mark Scheme

L2: (4-6)	<ul style="list-style-type: none"> <li>• Provides a balanced response (i.e. analyses both how concept of CA and other factors have caused Vietnam to be a key destination for manufacturing for foreign investors)</li> <li>• Covers sufficient scope (i.e. analyses at least 1 factor under the thesis and 1 factor under the anti-thesis )</li> <li>• Applies case evidence to support answers</li> <li>• Applies economic concepts or theories</li> <li>• Demonstrates sufficient depth and rigour in the analysis</li> </ul>
L1: (1-3)	<ul style="list-style-type: none"> <li>• Lacking in any of the L2 criteria</li> </ul>
E (+2)	<ul style="list-style-type: none"> <li>• Makes a substantiated stand on the extent to which Vietnam's position as choice exporter of electronics can be explained by the concept of CA</li> </ul>

(e) **In light of globalisation, discuss the extent to which US economy would benefit from a protectionist stance on trade.** [10]

**Globalisation** refers to the integration or **inter-connectedness** of **national economies** through **trade of goods and services, foreign direct investment, capital flows, spread of technology and labour migration.**

**Thesis: US's economy would benefit from a protectionist stance on trade (arguments for protectionism)**

**US** has **proposed protectionism** as a response to the **costs of globalisation**. The **tariffs** seek to **reduce unemployment** in US by *"bringing back manufacturing jobs to the US"* (Extract 3) and **improve** her **current account and BOP** by *"reducing its \$552 billion trade deficit with China"* (Extract 3).

#### **BOP**

From *Extract 1, "decades of free trade policies were responsible for the collapse of the American manufacturing industry and its ballooning trade deficit."* As shown and explained via Figure 2 in part c)i), **tariffs** would **increase** the **price of imported goods, causing a fall in imports via a fall in domestic consumption** as well as a **rise in domestic production**. The **fall in import expenditure** would **reduce** America's **trade deficit** and hence **improve** her **current account and BOP**.

#### **Unemployment**

From *Extract 1, "since China joined the WTO, Americans have witnessed the closure of more than*

50,000 factories and the loss of tens of millions of jobs”.

(Alternative evidence from Extract 1):

- “decades of free trade policies were responsible for the collapse of the American manufacturing industry”
- “globalisation has brought cheap consumer goods into the country, costing domestic jobs”
- “Outsourcing of jobs to cheaper markets has also been a concern.”

The increase in domestic production due to tariffs on imports would **create more jobs** and hence **reduce unemployment**.

### **BOP & Economic Growth Unemployment Potential Additional Analysis**

Furthermore, since the **tariffs on imports would not apply to goods made in US**, the **protectionist stance seeks to encourage producers to relocate** their manufacturing plants to US to avoid the tariffs. Doing so would **increase the inflow of foreign direct investments into US**, improving her **financial account and BOP**. With **more goods made locally**, there would **less need for US to import**, reducing her **trade deficit**, improving her **current account and BOP**. With more investments into US, her **AD would rise**, increasing her **real national output** and hence **creating demand for more inputs** such and **labour** as her **economy grows**. Hence, **unemployment in US can fall** too.

*\*Answer can also consider how protectionism protects domestic firms against unfair trading practices such as currency manipulation and unfair subsidies (Extract 1).*

### **Anti-thesis: US’s economy would not benefit from a protectionist stance on trade (negative & unintended consequences of protectionism)**

#### **BOP**

- **Globalisation → globally mobile capital & trade → likely trade diversion to other countries such as Vietnam as explained in part c) → less imports from China may be offset by more imports from Vietnam → US current account deficit not necessarily reduced**
- **Tit-for tat retaliation from China would reduce exports → US current account deficit not necessarily reduced**
  - *Evidence: Extract 3: “Second, the Chinese are likely to hit back at any US action with their own punitive measures. China is also the US’ third-largest export market, and one that is expanding rapidly. The Communist Party-linked Global Times warned: “A batch of Boeing orders will be replaced by Airbus. US auto and iPhone sales in China will suffer a setback, and US soybean and maize imports will be halted.”*
- **Beggar thy neighbor effects in a globalized world: Globalisation → mutual economic interdependence → reduced trade and economic slowdown in US & China → economic slowdown in other trading partners too → reduced ability of trading partners to purchase US exports → US current account deficit not necessarily reduced**
  - *Evidence: Extract 3: “In an interconnected world built on a complex web of supply chains and mutual economic interdependencies, China’s trade partners, particularly in east and south-east Asia are likely to be among those hit hardest by the fallout.”*
- **Globalisation → many US companies invest overseas to tap on the cost efficiencies provided by other countries → tariffs would reduce their sales or increase their costs if they have to shift to higher cost but lower tariff countries → lower profits and dividends from investment income → fall in primary income balance → US current account deficit**

not necessarily reduced

- *Evidence: Extract 3: “The US imports machinery, clothing and consumer electronics from China, with a lot of it made by US companies which profit from them.”*
- **Globalisation → globally mobile capital → tariffs on China would simply shift production to other lower tariff or tariff free countries & export to US → not cause the return of investments & manufacturing jobs to US → US current account deficit not necessarily reduced & its financial account not improve**
  - *Evidence: Extract 3: “Yet, for all that trouble, Mr Trump may not see many manufacturing jobs returning to the US. In industries like textiles, where factories were lost decades ago to China, the jobs will simply move to countries where labour is less expensive, such as Bangladesh and Vietnam.”*

### Inflation

- **Tariffs ↑ price of imports → can ↑ cost of production → SRAS shift left → cost-push inflation**
  - *Evidence: Extract 3: “The US imports machinery, clothing and consumer electronics from China”*

### Economic Growth & Unemployment

- The **adverse impact on BOP** above would **reduce exports** and **reduce US’s AD**.
- The **cost-push inflation** above would **reduce US’s SRAS**.
- The **combined fall in AD & SRAS** would cause **US’s real output to fall, slowing her economic growth, creating less jobs** and possibly **increasing unemployment if jobs creation lag behind increase in size of labour force**.

### Conclusion

In conclusion, the US economy is **unlikely to benefit from a protectionist stance on trade** as it is **unlikely to reduce US’s trade deficit nor bring manufacturing jobs back to US**. In a **globalised world, US companies are themselves benefitting from the greater profitability offered by lower costs from tapping on the global supply chains and higher revenues from foreign consumer markets**. A **protectionist stance would deny them from such advantages due to consequences such as retaliation or beggar they neighbor effects**. While the **protectionist stance may be triggered by unfair trading practices** such as “currency manipulation” and “unfair subsidies”, it is **unlikely that such issues can be resolved simply by protectionism**. **Neither does protectionism address the root cause of US’s problem – the shifting of comparative advantage in labour-intensive manufacturing to nations with cheaper labour**. In light of globalization, instead of turning inwards with a protectionist stance, **US should adopt the real solutions of supply-side measures that enhance global competitiveness in her areas of comparative advantage, improving trade relations and addressing alleged unfair trading practices through diplomatic means or arbitration platforms such as WTO**.

### Mark Scheme

L2: (5-7)	<ul style="list-style-type: none"> <li>● Provides a balanced response that how the US economy would both benefit and not benefit from a protectionist stance.</li> <li>● Aspects of globalization was applied in the analysis.</li> <li>● Analyses with depth and rigor, using appropriate economic concepts</li> <li>● Supports answers with case evidence</li> </ul>
L1: (1-4)	<ul style="list-style-type: none"> <li>● Lacking in any one of the L2 criterions</li> </ul>
E: (+3)	<ul style="list-style-type: none"> <li>● Provides a substantiated stand as to whether the US economy would benefit from a protectionist stance.</li> <li>● Stand taken is applied to the US context</li> <li>● Stand takes globalisation into account</li> <li>● To score 3m: demonstrate how costs are more significant and benefits are less</li> </ul>

	significant – evident in both thesis and anti-thesis	
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## Hwa Chong Institution H2 Economics Preliminary Examinations Suggested Solutions for Case Study Question 2

<b>(a)</b>	<b>With reference to Table 3:</b>	
	<b>(i)</b>	<p>Explain what could be inferred from the difference in values between prices of fixed broadband services in USD and PPP\$ for Singapore. [2]</p> <p><i>Singapore: Prices of fixed broadband services is 21.64USD but 25.02PPP\$</i>  <i>*Note there is no difference between USD and PPP\$ for USA.</i></p> <p><i>Inference:</i></p> <ul style="list-style-type: none"> <li>○ <i>SG dollar is undervalued relative to US\$ in terms of relative purchasing power [1m]</i></li> <li>○ <i>The underlying reason is COL in SG is lower relative to US [1m]</i></li> </ul>
	<b>(ii)</b>	<p>Explain the difference between using GNI per capita and GDP per capita as an indicator of affordability of internet access. [2]</p> <p><i>Given that <math>GNI = GDP + NFIA</math></i>  <i>where NFIA = net factor income from abroad = wages, interest, profits and dividends from abroad</i></p> <p><i>1m for accurate definitions/ highlighting the difference accurately</i>  <i>GNI includes income derived by residents from output produced anywhere in the world WHILE GDP measures only factor incomes received by residents from ownership of resources located within the country [1m]*</i></p> <p><i>1m for link to affordability as below</i>  <i>Using GNI per capita as an indicator of affordability of internet access considers the rising number of residents working or investing abroad and having their incomes sent home which may be a more accurate representation of income in today's globalised world and could better indicate affordability as compared to using GDP per capita [1m]</i></p>
<b>(b)</b>		<p>Using the information in Extract 4, explain how the internet would affect standard of living. [4]</p> <p><i>Positive impact on material SOL [2m]</i>  <i>Ext 4: internet's macro benefits to GDP...</i>  <i>Every 10 percentage point improvement in broadband penetration increases GDP by 1.3%</i>  <i>Analysis: Internet spurs growth in on-line retailing and advertising and hence boosts C and I leading to increase in AD and GDP levels (AD-AS analysis not required; as long as there's some explanation and link to material SOL e.g. in terms of amount of goods &amp; services available for consumption)</i>  <i>→ raise RGDP per capita, cp</i>  <i>→ raise material SOL</i></p> <p><i>Positive impact on intangible or non-material SOL [2m]</i>  <i>Ext 4: Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered Internet usage including social networking sites as one type of leisure activities</i>  <i>Analysis: The availability on the internet of social networking as a form of leisure and high quality on-line educational courses which improves skills and literacy levels enables the average resident to enjoy a better quality of life</i>  <i>→ raise non-material SOL</i></p>
<b>(c)</b>		<p>With reference to Extract 5, explain <b>two</b> economic reasons for government intervention in the market for internet access. [4]</p> <p><b>1. Efficiency [2m]</b>  <i>Identify government intervention from Ext 5:</i>  <i>'The Singapore government will roll out a series of new courses targeted at the elderly, covering topics from the use of e-payment, chat apps and digital government services, in an expansion of the official Silver Infocomm Initiative, which has promoted IT literacy among more than 130,000 seniors.'</i></p> <p><i>Explain reason for above measure:</i>  <i>To reduce info gap</i></p>

Ext 5 'proportion of those who do not use the internet because they do not see the need and lack knowledge of how to use it') ( $PMB_{perceived} < PMB_{actual}$ )  $\rightarrow$  imperfect info

**2. Equity (fairness in distribution of economic welfare) [2m]**

Identify government intervention from Ext 5:

'... provides free internet access in public areas and now reportedly has more than 10,000 hotspots across the city' and '... there are various programmes in place to ensure vulnerable segments of the community can enjoy the benefits of the internet'

Ext 4 'UN defined threshold for affordability is 0.5 of average national monthly income. Aim to hit 2% eventually'

Explain reason for above measure:

government views internet access as an **essential good** for which there must be **equitable access to by everyone**, hence explaining the aim to increase affordability and narrow the income inequality gap

(d) 'Changes in subsidies will generate S\$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs.' (Extract 7)

Discuss the factors considered by the government in making a rational decision to proceed with the above changes in subsidies. [8]

**INTRODUCTION**

Clarify 'changes in subsidies' – removal of subsidies for foreigners and reduction of subsidies for PRs for vocation-based master's degrees and post-graduate diplomas offered by autonomous universities (Ext 7)

Aim – channel these saved resources to support shorter, industry-relevant modular courses for Singaporeans and PRs e.g. more funding for Singapore's IHLs and \$500 SkillsFuture credit given to every Singaporean above the age of 25 (Ext 6)

**FACTORS CONSIDERED (DM FRAMEWORK):**

**1. Constraints**

limited government's budget for infrastructure for next generation and various sectors of the economy – MOE has limited funds for different programmes, has to choose the best-ranked choice that enables govt to achieve objectives considering the need to maintain long term fiscal sustainability (Ext 7)

In other words, S\$25m could be used either for:

(a) subsidies for foreigners & PRs for vocation-based master's degrees and post-graduate diplomas offered by autonomous universities

OR

(b) support shorter, industry-relevant modular courses for Singaporeans and PRs

**2. Potential relative benefits of (a) & (b)**

Government views extent of EMB (in terms of contribution to society by jobs demand, productivity, impact on GDP growth) to be lower for (a) vocation/course-based programmes (e.g. architecture & music) as compared to that of (b) industry-relevant modular courses, hence justifying the reduction in subsidies for course-based programmes and rise in subsidies for the latter since  $subsidy = EMB$  at  $Q_s$

The channeling of resources from foreigners to Singaporeans and PRs may also be due to their lower potential contribution to society after graduation as foreigners are at most bonded by a number of years to work in Singapore.

**3. Potential costs (unintended consequences)**

Cutting subsidies in vocation-based master's degrees and post-graduate diplomas offered by autonomous universities may lead to lower take-up rate and graduates in these sectors, hence no incentive to improve quality of lessons, breeding inefficiencies in the market for such programmes and affecting Singapore's global ranking as stated in Ext 7: 'If there is a fall in the number of international students, then some faculty members might not see the need to improve the quality of lessons. This could eventually affect our standing in the global rankings'

#### 4. Others

##### Information:

Higher risk of government failure

Ext 6 'each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship.' → failure to identify the skillset to focus on accurately

OR failure to identify EMB, hence appropriate amount of subsidy accurately

Potential market failure issue (imperfect info - ignorance)

Intended target group may be unaware of such scheme or not fully utilizing such scheme to achieve effectiveness or Ext 6 'arm race of collecting credentials...', not 'picking what is necessary for their upgrading' → under/over-estimate PMB ( $PMB_{perceived} \neq PMB_{actual}$  of CET courses/ micro-credentials)

#### **CONCLUSION**

Justify why government decided to go ahead with the changes in subsidies after considering the above factors :

Weighing the potential costs & benefits of decision and reached a rational decision based on benefits > costs  
Govt weighed the benefits (2) against costs (3), together with other considerations (1 and 4) and **decided that the net benefit of the changes in subsidies is higher** due to the following:

##### **Government placed higher value on benefits -**

- government prioritises macro objectives of employment, productivity, GDP growth of decision → benefits higher

Government places emphasis on 'lifetime of continuing education' in view of changing/ evolving landscape of labour market and feels that the best way forward is to invest more in this area and move away from formal education that are 'purely academic' while facing budget constraints. Hence the decision is in line with their move

##### **AND/ OR**

##### **Government placed lower value on costs (ensured costs are lowered/ minimized) -**

- Ext 7: 'Noting that unsubsidised postgraduate courses attract many students, the MOE expects such students "will continue to take up courses at our autonomous universities if they see value in the education and training offered'

→ PED for unsubsidized courses tend to be low, even with reduction of subsidies which increase the fees, there would be a less than proportionate fall in quantity demanded for such courses, hence unlikely to affect the intake for such courses

- gathered sufficient info on the identification of emerging areas of growth

→ lower probability/ risk of government failure

- Ext 6 'imparting skills and knowledge needed by industry, and package them into a nice bundle that represents a meaningful upgrading of skills and knowhow' AND Ext 6 'focus on picking up what is necessary for their upgrading'

→ encourages IHLs to provide the required and useful courses as well as target group to be selective in picking of courses (reduce info gap by education)

#### **LORMs**

L2 (4-6)	<ul style="list-style-type: none"><li>• Balanced response that covers 2 groups of well-explained factors (costs &amp; benefits)</li><li>• Applies relevant economic concepts or theories</li><li>• Applies case evidence to support answers</li><li>• Explains with rigour and detail</li></ul>
L1 (1-3)	<ul style="list-style-type: none"><li>• Lacking in any one of the L2 criterions</li></ul>
E (+2)	<ul style="list-style-type: none"><li>• Gives a summative conclusion on government's decision with justification – able to explain government's decision is based on weighing of potential costs and benefits and considering a number of factors discussed and justify which are the more/ most important factor/s or one that government places higher values/ priority on</li></ul> <p>(Any 1 point under conclusion with justification)</p>

(e)	Discuss the extent to which a 'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in reducing factor immobility and asymmetric information in the labour market. [10]
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### SCHEMATIC PLAN

<b>INTRODUCTION</b>	
<b>BODY</b>	
<i>'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in...</i>	
1. reducing factor immobility in the labour market (labour immobility)	2. reducing asymmetric information in the labour market
<i>Explain how 'lifetime of continuing education' reduces occupational immobility</i>	<i>Explain how 'lifetime of continuing education' reduces asymmetric information in the labour market</i>
<i>Explain how 'lifetime of continuing education' is <b>more effective</b> than '10 years of compulsory schooling' in reducing labour immobility</i>	<i>Explain how 'lifetime of continuing education' is <b>more effective</b> than '10 years of compulsory schooling' in reducing asymmetric information in the labour market</i>
<b>HOWEVER...</b> (address 'extent to which')	
<b>SUMMATIVE CONCLUSION</b>	

### SUGGESTED ANSWER:

<b>INTRODUCTION</b>
Factor immobility and asymmetric information in the labor market represent 2 common types of labour market inefficiency.
In the context of preparing the best labour force for Singapore that meet the needs of the future economy the government has considered 2 possible approaches: invest more on continuous lifelong education aka 'lifetime of continuing education' vs. compulsory formal education aka '10 years of compulsory schooling'.
The relative effectiveness of these 2 approaches in reducing immobility and asymmetric information depends on factors such the type or nature of economy and type or profile of the learners/ workers, amongst others.
<b>BODY</b>
<i>'lifetime of continuing education' is more effective than '10 years of compulsory schooling' in...</i>
1. <b>reducing factor immobility in the labour market (labour immobility)</b>
<i>'lifetime of continuing education' reduces occupational immobility</i>
Immobility in the labour market refers to the difficulty in moving or switching from one job to another because of the lack of requisite skills. These CET (continuing education and training) courses are designed to help current workforce reskill/ retrain to switch jobs and fill up vacancies or jobs in growing sectors or switch jobs within the same organization. In addition, upskilling or upgrading courses are designed to help workers to improve job/ career prospects e.g. take up managerial or senior appointments.
Ext 4 'rapid economic growth has increased the demand for skilled workers'
Ext 7 'new ways must be developed to "continuously train and retrain our people for tomorrow's economy'
<i>'lifetime of continuing education' is <b>more effective</b> than '10 years of compulsory schooling' in reducing labour immobility...</i>
<ul style="list-style-type: none"> <li>• delivered in short modules thus overcoming possible resistance to picking up new skills or learning for adult learners i.e. addresses possible negative attitude towards training for older workers. Ext 6 'programmes will be delivered as short modules, making them easier for working adults to take'</li> <li>• <b>Relevant</b> to their work. CET courses are tailored to meet the changing needs of industry i.e. address right type of courses which will enhance workers' skills and productivity at the workplace Ext 6 'training targeted for 8 emerging areas of growth e.g. data analytics, finance, entrepreneurship</li> <li>• <b>Opportunity Costs (OC)</b> of training is lower for individuals Workers can work and earn an income and learn at same time. Compulsory schooling incurs loss of earnings or income especially for breadwinners of households. Ext 7 'going back to school for long courses is a luxury that few can have in today's fast-paced economy'</li> <li>• CET courses are highly subsidized by the government. This is a strong incentive for workers to go for reskilling/upskilling to improve their chances of clinching a good job. Ext 6 'subsidised up to 70 per cent for Singaporeans and permanent residents' and '... rest of the fee can be paid using the \$500 SkillsFuture credit...' (Though 10 years compulsory schooling is free in Singapore)</li> </ul>
Given the all these benefits, CET courses could potentially draw many workers to sign on for training and reskilling provided by IHLs and hence more effective in reducing occupational immobility due to lack of requisite skills to fill available job vacancies.

In contrast, '10 years of compulsory schooling' is a relatively inappropriate/ inferior approach to train workers to keep pace with the rapidly changing skills set requirements in a dynamic economy. Key drawbacks of such an approach:

- Knowledge gained from 10 years compulsory schooling can easily become outdated or obsolete especially in the context of a rapidly changing structure of the labour market. It is designed to provide a general education ("purely academic") and not specialized training for a specific type of job. Role of such schooling is to provide a foundation for a person/ individual to embark on further on the job training when the person enters the labour force.  
Ext 7 'beyond the formal school system, new ways must be developed to continuously train and retrain our people for tomorrow's economy'

## 2. reducing asymmetric information in the labour market

Background:

In the labour market, a common problem is asymmetric information which makes it difficult for prospective employers to find potential employees/jobseekers with the right skill sets. There is asymmetric information in the labour market as employers and potential employees do not have the same amount of information regarding the potential employee's true skill set. Often, the potential employee has an incentive to exaggerate his or her true qualifications in order to clinch the job offer during an interview. Consequently, employers may end up mis-hiring or employing workers who are "misfit" or workers with the wrong skill sets for the job. Such misfits are inefficient and adds very little to the firm's productivity and are therefore very costly to employ.

'lifetime of continuing education' **reduces** asymmetric information in the labour market...

CET courses serve as **credible signals** for prospective employers and it could be effective in reducing asymmetric information in the labour market if workers who have undergone skills training are certified by competent authority e.g. government and conducted by trusted training institutions such as IHLs. The process of collecting certificates as proof of competency is called signaling. In Singapore, IHLs are tasked with issuing "micro-credentials" which can provide credible signals or proof of relevant training chalked up by workers thus saving prospective employers time and cost to screen and hire the right type of workers.

Ext 6 'micro-credentials can be used to provide "a milestone for adult learners to aim towards and which employers can recognise'

Ext 6 'coursework that could be vocation-based could be delivered in a bite-sized format that can be accumulated and lead to graduate certifications'

Ext 6 'SMU Academy, the university's lifelong learning unit, will be offering financial technology modules that can be "stacked up" towards a Master of IT in Business. The MOE noted that having such courses will give them exposure to an area of interest without having to pursue a full degree'

'lifetime of continuing education' is **more effective** than '10 years of compulsory schooling' in reducing asymmetric information in the labour market...

Micro-credentials may be better than O level certificate in sending clearer signal to potential employers that indicate that they are good potential hires, possessing skills relevant to the job. Earning credentials by searching for and completing industry/ job-specific courses signals to potential employers a desirable attribute and the possibility of higher productivity and ability to work better → Lower probability of 'mis-hiring' → closing info gap/ equalizing info

## Evaluation (addressing 'extent to which 'lifetime of continuing education' is better than '10 years of compulsory schooling'...)

### POTENTIAL DOWNSIDES

1. Workers may abuse the system by acquiring paper qualifications for its own sake regardless of whether they are relevant to the job. In other words, it may degenerate into a "paper chase" sending the wrong signals to prospective employers and wasting precious time and resources.

Ext 6 'Mr Ong cautioned that it should not become a new "arms race" to collect credentials'

2. Opportunity cost and trade offs

Investment in education is funded by limited resources/tight government budget

As discussed in part (d)

Since, the government has decided to channel subsidies from foreigners' post-graduate education in local universities (S\$25m) to fund CET (part (d)), there is a tradeoff in terms of forgone potential benefits from this pool of foreign talent who may later contribute to driving growth for future new economy.

EV: However, in reality the impact of potential benefits forgone is likely to be minimal as it is stated that unsubsidized

postgraduate courses attract many students and MOE expects such students will continue to take up courses ... if they see value in the education and training offered.

3. Market failure (under-consumption)

Unlike '10 years of compulsory schooling' which is a formal education that is made compulsory or mandatory by government, 'lifetime of continuing education' is not compulsory and hence some workers may not voluntarily sign up or opt for training if they are ignorant of the benefits of such courses i.e.  $PMB_{perceived} < PMB_{actual}$

Hence, compared to '10 years of compulsory schooling', there is greater potential information failure leading to greater under-consumption of 'lifetime of continuing education'.

EV: In reality there is so much publicity (information dissemination) and incentives (subsidies) offered to workers that under-consumption of CET courses linked to information failure is unlikely to become a major issue in Singapore.

4. Government failure

Possibility of failing to identify the skillset to focus on accurately by the government as well as at the individual level

Ext 6 'each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship.'

Ext 6 'skills and knowledge needed by industry', 'Learners too, should focus on picking up what is necessary for their upgrading'

**SUMMATIVE CONCLUSION**

**STAND:**

On balance despite the potential drawbacks, 'lifetime of continuing education' is likely to be more effective in reducing immobility and asymmetric information compared to '10 years of compulsory education'.

**SUBSTANTIATION:**

As the Singapore economy continue to restructure in order to stay competitive over time there is constant need for its workforce to adjust to the changing manpower requirements of the economy. In this regard, 'lifetime of continuing education' is clearly more effective in preparing the workforce to meet the changing manpower needs of the economy over time as it provides industry relevant skills retraining and upgrading. In contrast, '10 years of compulsory education' is inadequate in dealing with this challenge as it is designed to provide only general basic education.

For Singapore, it is even more important to embark on 'lifetime of continuing education' as labour is her only natural resource. Singapore needs a productive and efficient workforce to drive future economic growth. The efficiency and productivity of the labour force is very much tied to reducing immobility and asymmetric information in the labour market. Hence in the face of rapid changes in the economic landscape it is best to invest more in 'lifetime of continuing education' to reduce immobility and asymmetric information so as to drive future economic growth for Singapore.

**Level of Response Marking descriptors**

**Marks for Analysis**

<b>L2 (5-7)</b>	<p><b>High L2 (7):</b> For a correct and balanced analysis which covered both labour immobility and asymmetric information issues and has got analytical depth. The candidate is able to demonstrate good understanding and application of the 2 concepts and recognize and explain clearly at least 2 key merits/ drawbacks of 'lifetime of continuing education' <u>in comparison to</u> '10 years of compulsory schooling'.</p> <p><b>Mid L2 (6)</b></p> <p><b>Low L2 (5):</b> For correct answers which has got analytical depth but is lop-sided/focused on only either reducing immobility or asymmetric information. Able to demonstrate sound understanding and application of the 2 concepts to the context. Recognise and explain in depth at least 1 key strength or drawback</p>
<b>L1 (1-4)</b>	<p><b>High L1 (4):</b> For a correct understanding of the 2 concepts but answer is lacking in analytical depth. Has good understanding of the 2 concepts of but explanation is too superficial. Application is weak and answer is at best sketchy.</p>

	<p><b>Mid L1 (3):</b> For a correct but sketchy/shallow and lop-sided answer which addresses only either reducing labour immobility or asymmetric information in the labour market.</p> <p><b>Low L1 (1-2):</b> Mostly descriptive, irrelevant or conceptually incorrect analysis with weak or no application.</p>
<b>Evaluation marks</b>	
<b>E2 (2-3)</b>	For a substantiated or explained judgment based on sound economic analysis.
<b>E1 (0-1)</b>	For an unsubstantiated or unexplained judgment

**Hwa Chong Institution 2019 Prelim Paper 2 Suggested Answers**

**HCI Prelim 2019 Question 1**

In his Budget 2018 speech, Finance Minister Heng Swee Keat announced that Goods and Services Tax (GST) will rise from 7 per cent to 9 per cent between 2021 to 2025 as government spending grows. Some have suggested the exemption of basic necessities like food and utilities from the rise in GST to help the lower income households with the cost of living

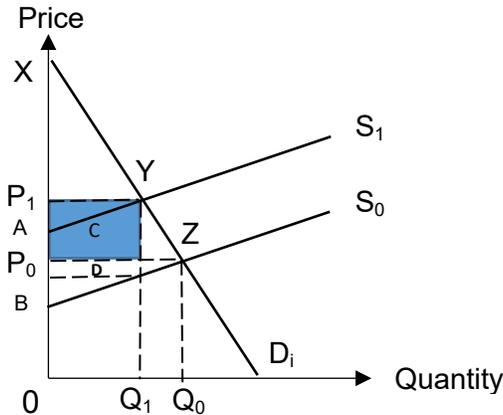
Explain how the proposed change in tax policy might impact consumers and producers of different types of goods and services and discuss whether the Singapore government should exempt basic necessities from the rise in GST to help the lower income households. [25]

Introduction:

- Impact of increase in GST (indirect tax) - increase in supply for goods and services, equilibrium price increases, quantity falls.
- Impact of the tax on consumers and producers depends on the tax burden producers can shift to consumers which in turn type of goods which face the tax (i.e. the differing PED and/or PES values).

**Impact of increase in GST on different types of goods**

**Goods with relatively price inelastic demand**

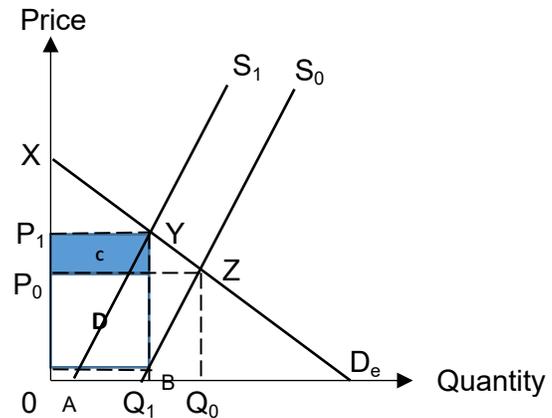


Examples: cigarettes, alcohol  
Reason: Consumers are addicted to the products. This means a rise in price from  $P_0$  to  $P_1$  will result in a less than proportionate fall in quantity demanded.

The consumer's share of the tax is given by area C while the producer's share of the tax is given by area D.  
Therefore consumer surplus will fall from  $P_0XZ$  to  $P_1XY$   
Producer surplus will fall from  $P_0ZB$  to  $P_1YA$   
Total Revenue will rise from  $P_0ZQ_00$  to  $P_1YQ_10$

The more price inelastic the demand (or more price elastic the supply), the greater the incidence of taxation on consumers.

**Goods with relatively price inelastic supply**



Examples: Agricultural produce (e.g. seasonal fruits, vegetables)  
Reason: Nature of production – takes a long time to produce the good  
This means a rise in price will result in a more than proportionate increase in quantity demanded.

The consumer's burden is represented by area C while the producer's burden is represented by area D.  
Therefore consumer surplus will fall from  $P_0XZ$  to  $P_1XY$   
Producer Surplus will fall from  $P_0ZB$  to  $P_1YA$   
Total Revenue will fall from  $P_0ZQ_00$  to  $P_1YQ_10$

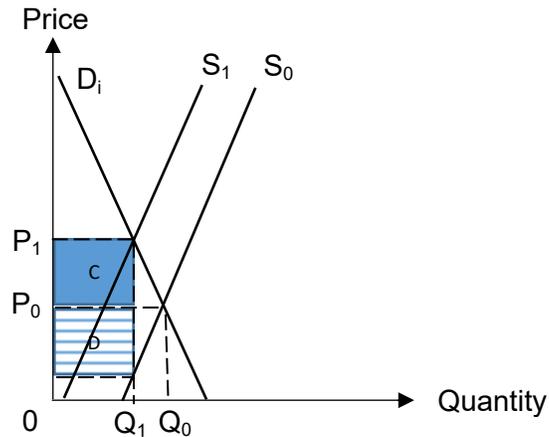
The more price inelastic the supply (or more price elastic the demand), the greater the incidence of tax on the producers.

**Discuss whether the Singapore government should exempt basic necessities from GST to help the lower income households with the cost of living**

Objective of government: Counter income inequality to help lower income households with cost of living

Issue is about unfair distribution of resources such that a widening income gap results in the lower income households unable to keep up with cost of living.

GST on Market for Necessities



Necessities include staples (e.g. rice, bread), utilities

Such necessities have relative price inelastic demand, and price inelastic supply

With GST, total tax revenue gained from necessities is given by tax per unit multiplied by the amount sold: the sum of areas C and D

(1) Proposed solution: Exempt basic necessities from GST

GST is a regressive tax. This means the percentage of income paid as taxes falls as income increases. Since the lower income households spend a larger proportion of their income on necessities in comparison with the higher income households, the burden of the GST on the lower income households will be greater than on higher income households.

Given GST is indeed less equitable, there is a need to help the lower income households and exemption of GST can help relieve lower income households from the tax burden.

Limitations:

Tax exemption is indiscriminate (i.e. applied across all income groups)

However, with an exemption of GST of necessities on all income groups, the income gap persists. This is because the higher income groups are also able to enjoy the exemption from GST even though the burden placed by the tax is relatively lower than the lower income groups.

Category of goods exempted from GST

In addition, with the exemption of GST on necessities, the loss in government revenue will be much greater (compared to non-necessities) with more price elastic demand and supply. This will have implications on the government budget and hence impede the ability of the government use spending as a means to address its economic objectives.

(2) Alternative solution: No GST exemption for necessities + GST vouchers for low income households

With no GST exemption, necessities will also face the increase in GST by 2% points and all income groups will have to pay the GST on necessities.

- This will help contribute to government revenue.
- This increase in tax revenue from the rise in GST can fund more targeted schemes to help the low income households such as the provision of GST vouchers. In Singapore, the GST vouchers are also progressive in nature as the payout is higher the lower the household income or the smaller the HDB flat that the family resides in.

Synthesis:

GST exemptions on necessities can help address the issue of the regressive nature of GST and the heavier burden placed by the tax on lower income households. However, the fall in tax revenue from the GST exemption on necessities together with all income groups enjoying the tax exemption will limit the government's ability to focus on its objective to counter income inequality due to cost of living. Therefore the use of GST vouchers may be a more targeted approach for the government to consider given that it is not a welfare state.

The effectiveness of this approach depends on the increase in cost of living relative to the value of the vouchers provided, as well as the sustainability of the policy. While GST vouchers can help alleviate the financial burden on the low income households, the root cause of the widening income gap will have to be addressed in the longer term, which in the case of Singapore is primarily due to the widening wage gap between the highly skilled and low skilled workers (heavy reliance on low-wage foreign labour).

**Mark Scheme**

Level	Descriptor	Marks
L3	Analyse impact of GST on <ul style="list-style-type: none"><li>• both consumers (CS) and producers (PS, TR)</li><li>• 2 markets with differing PED/PES</li></ul> Provides discussion of GST exemption: <ul style="list-style-type: none"><li>• Explains rationale for GST exemption to help low income households</li><li>• Analyses limitation of GST exemption</li></ul> Suggests alternative policy of GST vouchers	15 - 20
L2	Analyse impact of GST – any one criteria not met Provides discussion of GST exemption – any one criteria not met	9 - 14
L1	Misinterpretation of question, serious concept errors, descriptive response lacking economic analysis	1 - 8
Evaluation		
E3	On top of E2, analyses factors that could affect effectiveness of suggested alternative	4 - 5
E2	Clear stand + justification on GST exemption policy	2 – 3
E1	Clear stand on GST exemption policy	1

**HCI Prelim 2019 Question 2**

In the era of a sharing economy, technology is used to facilitate the exchange of goods or services between two or more parties as seen in Airbnb and Grab ride hailing services etc. This has lowered barriers to entry and traditional firms are facing new business risks and uncertainties. Some have taken the opportunities to expand their business while others have decided to close permanently.

- a) Explain what needs to be considered when a producer makes rational output decisions in view of new business risks and uncertainties. [10]
- b) Discuss the strategies that could be used by these traditional firms when faced with the above mentioned business risk and uncertainties. [15]

Part a Suggested Answer:

**Introduction:**

Therefore producers will also be faced with these constraints, need to decide on their highest-ranked choice to achieve their objective which in general, is to maximize their well-being, satisfaction or self-interest of profit maximizing or loss minimizing.

**Body:**

To first determine the eqm Q in the market:

- Need to show profit maximization to determine Q of the firm.
- Need the diagram with MC= MR condition

To then determine the change in the Q either to increase or Q=0 will require the decision-making process requires several considerations (note that it is not how the firm go about increasing output):

Factors	Elaboration
Constraints	<ul style="list-style-type: none"> <li>• Need to consider how constraints may affect the willingness or ability to grow. For instance, government policy may prevent firms from growing (prevent merger) or the amount of financial capital or loans that firms can get access to will also determine if a firm can fund expansion.</li> <li>• So in the case of SG, when the government are very supportive in small and medium enterprises, there are more help and possibilities for these firms to expand.</li> <li>• Firms may also be constrained by their own resources and as much they want to expand, they might not have the capital assets, human network etc to increase Q.</li> <li>• Firms may also be constrained by the market size. If it is a natural monopoly, then a market size could be too small for the EOS to be reaped or if it is a small firm in a monopolistically competitive industry, increasing Q might mean disEOS might set in.</li> </ul>
Benefits (Benefits that would enticed the producer to want to increase output / shut down)	<p><u>Possible Revenue advantages</u></p> <ol style="list-style-type: none"> <li>1. By become larger, firms can also gain more price setting ability to deter entry and increase market share by engaging in predatory pricing → AR can increase in the long run</li> <li>2. They might be able to get higher market share if their product sells. Their demand might become more price inelastic. Might have lesser substitutes, firms can now choose to increase prices to increase revenue rather than lower prices and thus it is more sustainable method to increase profits, ceteris paribus.</li> <li>3. There is might be still possible untapped demand in market → can easily increase demand for firm's product → by becoming larger, AR can increase. So like the silver</li> </ol>

	<p>population or the green movement might bring about new opportunities. And thus a possible chance of increasing the firm's A</p> <p>However, all these will also depend if the retailer has the capability to make its services more attractive to consumers and brands to use their retailing services and products.</p> <p><u>Possible Cost advantages</u></p> <ol style="list-style-type: none"> <li>1. There might be available internal economics of scale that firms can tap on as they grow large, e.g. marketing EOS where firms can purchase inputs (raw materials) in bulk and bargain for discounts and lower unit prices from brand suppliers or technical EOS will different people specializing in different aspect of the firm like one on improving the platform while other do the marketing and another deals with customer services →lower costs and hence, ceteris paribus, increase profits. (Students will need to elaborate a few points with their examples)</li> <li>2. Producers will also need to consider the nature of the industry that they in and if the market structure will change due to the risk and uncertainties. If the industry is more for the smaller firms, then MES will be closer to the left, nearer the axis and thus there is no point expanding. However, if the firm is in an industry that could accommodate big firms, then there might be room for more expansion.  (Students may show the MES)</li> <li>3. Producers will also need to consider if they will need to invest in new capital goods and if so, they need to determine if they can finance the loans for the investment for example to invest in developing a mobile and online presence.</li> </ol> <p>For changing Q to 0:</p> <p>In the long run, there is no fixed cost. All costs are variable costs. As long as the firm foresee that total revenue is unable to cover total cost, i.e., the firm will be making subnormal profits, it will <b>shut down permanently and leave the industry</b>. When a retailer decide to completely exit, it basically winds up all its operations and might feel that he or she can sell off the capital resources thus get the resources free for use in another venture.</p>
<p>Cost (Cost that would deter the producer to want to increase output / shut down)</p>	<p>Growing larger may result in the onset of diseconomies of scale →higher unit costs may lead to lower profits</p> <p>The company might incur higher loss if the continuous to operate.</p>
<p>Other possible factors:</p> <p><b>Considering different possibilities / perspectives given the new uncertainty and risk/ information issues:</b></p> <ul style="list-style-type: none"> <li>→ They will also need to speculate the condition of the global economy will be, in order to predict the possible returns. The decision will be different when they feel that the economy is slowing down or in a recession as compared to when the economy is recovering or booming. They might also move their target markets as a result too. Like if the original target market was China and they wanted to expand their output there suddenly is trade war, if the company forsee the situation will not be resolve, then instead of China, we might consider another countries like India. If the producer foresee that the intense situation will be resolved, then he might continue. However all these are hard to be definitive and the producers can only try to gather as much information as possible to take a calculated risk.</li> <li>→ It will also depend if the producer has the capability to make its services more attractive to consumers and brands to use their retailing services and products in such risky and uncertain times.</li> </ul>	

This is especially so as the barriers to entry in most industries are lowered with the revolution of technology. The firms need to either product developed such that they are at the fore front of the trends or find ways to be resilience of whatever challenges (which is also an unknown) to come.

→ Perspective of rival firms and rival's action in response to the firm growing, i.e. unsustainable price wars with uncertain effects. This is especially so with much disruptive technology and one never know when a game changer might appear. As such, there is always need to gather information and read the competitors behaviour and thus some may resort to commercial spies to gather inside information

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>Analyses how rational decisions are made in BOTH shut down and expansion</li> <li>Explains using decision making concepts and theoretical framework</li> <li>Explains with detail and rigor like cost revenue diagrams.</li> <li>Illustrates with relevant examples</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>Lacking in any of the L3 criteria</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>Largely irrelevant response</li> <li>Descriptive response which lack application of economic concepts or theory</li> <li>Serious and pervasive conceptual errors</li> </ul>	1-4

**b) Discuss the different strategies that could be used by these traditional firms when barriers to entry are lowered and how their actions might impact other firms and consumers. [15]**

Part b Suggested Answers:

Introduction: Will need to look into how traditional firms respond and impact on : 1) other firms 2) consumers

For Ride hailing with ComfortDelgro as the tradition firm example:

	Elaboration
Traditional firm's response:  <ul style="list-style-type: none"> <li>Pricing strategies</li> <li>Non-pricing strategies</li> </ul>	<p>ComfortDelgro is likely to operate in a competitive oligopolistic market structure where this is a high degree of mutual interdependence and rival consciousness.</p> <p>With the lower BTEs, new competitors Uber and Grab came into the ride hailing industry. With the price competition, ComfortDelgro also gradually offered fixed price calculated rides. This is the to match the lower price offered by the new competitors.</p> <p>Trend towards e-commerce→ ComfortDelgro also innovated and product differentiated by offering a variety of experiences for the customers. It moved into mobile platform where you can hail a ride via the app while still maintaining the call in service for the customers. It also still maintains the fixed fare option and also the metered services. With the variety, the company seeks to increase its consumer based and thus increase in AR.</p> <p><u>For the other traditional firms:</u></p> <ul style="list-style-type: none"> <li>Being the price leader, the other smaller traditional firms followed ComfortDelgro also made used of their mobile app to compete with the newcomer Grab.</li> <li>Though the market is now more competitive, they actually lose less than expected. Thus AR decreases less than expected.</li> <li>As they did not have to develop their own app, there was no increase in cost for these firms.</li> </ul> <p>Advertising and promotion campaigns → they will offer similar promotions i.e. extensive</p>

<ul style="list-style-type: none"> <li>Other possible strategy: Diversifying</li> </ul>	<p>membership programs and benefits to maintain market share and supernormal profits. Tie-ins with other places like Ezlink to get reward credits, Comfortpoints.</p> <p>A quick look at the company's financial report will reveal that the taxi segment only contributes 33% of total group revenue; Public transport segment, which comprises of buses and rail, is the largest contributing segment with over 60% of revenue.</p> <p>Their annual report will show that Comfort is a leading player in the transport industry: it has a diversified portfolio of transportation services in 35 cities and 7 countries, including Singapore, China, Australia, UK, Ireland, Vietnam and Malaysia, with the overseas segment contributing 36% of total revenue.</p>
<p>Effect on:</p> <ol style="list-style-type: none"> <li>Other firms</li> <li>Consumers</li> </ol>	<p><u>For the new ride hailing services</u></p> <ul style="list-style-type: none"> <li>this is a retaliation from the traditional firm to match their prices. At first Uber and Grab engaged in the price war among themselves and also against the traditional firms. However, when Uber and Grab merged to become one, market prices in the market started to stabilize.</li> </ul> <p>These demonstrated the price stickiness in this industry. This can be explained by the kinked demand curve theory. In the kinked demand theory, it is assumed that rival firms will match any price decrease initiated by any one firm among them, but will not match any price increases. In the long run, since any price changes results in less total revenue than before, any oligopolist would have no incentive to alter the market price.</p> <ul style="list-style-type: none"> <li>Grab started to diversify into other business to have a range of revenue stream rather than relying on ride hailing business as a non- price strategy.</li> </ul> <p><u>Consumers:</u></p> <ul style="list-style-type: none"> <li>With greater competition and lowered price, the industry moved to a more efficient level. As such, consumer will enjoy greater consumer surplus.</li> <li>There is increase consumer welfare due to the innovation. There is greater variety in consumer experiences and also with Grab's diversification, consumer enjoy greater link-up with other services.</li> <li>Consumer surplus diagram needed.</li> </ul> <p>Note : There should be the use of cost revenue diagram at least once in the entire analysis.</p>
<p>Conclusion</p>	<p>With the lowered BTEs, the greatest beneficiary is the consumers who enjoyed lowered price and better services.</p> <p>Price competition will only be temporary until the market stabilized. Non price strategies are the long run approach to maintain their market base.</p> <p>Effectiveness of the different strategies will work differently for different firms and different industries. Even political situation and</p>

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>Analyses 1) strategies 2) impact on other firms and 3 ) impact on consumer</li> <li>Uses the example of Airbnb or Grab or even give their own examples</li> <li>Analyses the impact using economic concepts or theory</li> <li>Explains with the situations and their responses in detail and rigour (diagrams?)</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>Lacking in any one of the L3 criterions</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>Largely irrelevant response</li> <li>Descriptive response which lack application of economic concepts or theory</li> <li>Serious and pervasive conceptual errors</li> </ul>	1-4

E3	<ul style="list-style-type: none"> <li>• Takes a stand on the overall strategies that a producer could adopt</li> <li>• Substantiates stand with convincing arguments that compares most of the points covered</li> </ul>	4-5
E2	<ul style="list-style-type: none"> <li>• Takes a general stand on the overall</li> <li>• Substantiates stand by evaluating one or two points without comparing the relative importance of most of the mentioned points</li> </ul>	2-3
E1	<ul style="list-style-type: none"> <li>• Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question</li> </ul>	1

### HCI Prelim 2019 Question 3

In the move towards a more sustainable and liveable city, Singapore introduces a carbon tax rather than tradable permits to incentivise industries which use fossil fuel, such as power stations and oil refineries, to cut their carbon emissions and spur the growth of cleaner energy. However the government will continue its decision of not subsidising the usage of renewable energy option such as solar energy to avoid over-consumption.

- (a) Explain the economic case for Singapore government imposing a carbon tax and not subsidising the use of solar energy. [10]
- (b) Assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore. [15]

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**Introduction:** The decision to impose carbon tax and not subsidizing renewable energy option such as the use of solar energy is meant to encourage more **efficient allocation of resources**.

#### Reason for carbon tax:

Carbon tax will reduce emission of greenhouse gases by heavy industries such as power stations and oil refineries.

Explain external cost on third party due to over-production associated in the production of oil refineries. There would be a divergence between PMC & SMC.

With a diagram, show how a carbon tax helps to reduce the production of oil refineries to the socially efficient level, thus resulting in the decreased emission of greenhouse gas.

#### Reason for not subsidising renewable energy options such as solar energy

Government would like to subject the renewable energy industry such as the use of solar energy to market forces so that resources will be efficiently allocated.

Assuming there is no EMB in the consumption of solar panel, price mechanism is able to allocate resources efficiently when  $PMC = PMB$  or when  $SS = DD$ .

Government subsidy in the use of solar energy would intervene in resource allocation or the price mechanism resulting in an artificially low price. This could lead to over-consumption on the part of consumers. Moreover, subsidy would beget complacency in renewable energy production as cost is reduced artificially via subsidy rather than through productive efficiency.

#### Conclusion

The implementation of carbon tax on heavy industries such as power stations and oil refineries served to reduce the emission of greenhouse gases and achieve a more **efficient allocation of resources**. In a similar vein, government did not subsidize renewable energy as it believes that price mechanism would be able to allocate resources in this market more efficiently as compared to the **possibility of misuse or wastages** when price is distorted if subsidy is given.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"><li>Using Cost-Benefit analysis diagram, explain why government imposed carbon tax to internalize the EMC of carbon emission.</li><li>Explain how without government intervention, price mechanism works perfectly in the solar energy market.</li><li>Explain how subsidies can lead to price distortion (under-price) and over-</li></ul>	8-10

	consumption & wastage in the solar energy market. <ul style="list-style-type: none"> <li>• Explain that the decision to tax ie intervening in the price mechanism and not to subsidize ie not intervening in price mechanism, are both on the ground of allocative efficiency</li> </ul>	
L2	<ul style="list-style-type: none"> <li>• Lacking in any one of the L3 criterions</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>• Largely irrelevant response</li> <li>• Descriptive response which lack application of economic concepts or theory</li> <li>• Serious and pervasive conceptual errors</li> </ul>	1-4

**[b]** Assess the extent to which a carbon tax is more appropriate than tradable permits in reducing carbon emission in Singapore. **[15]**

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**Introduction**

**Explain how carbon tax & tradable permits work**

**Carbon tax** is an example of a market-based approach as it relies on the use of the price mechanism. In the case of negative externalities in the context of power stations and oil refineries, the misallocation of resources arises as the free market cannot price in externalities in conjunction with the emission of greenhouse gases and thus under-priced the good, resulting in over-production. A carbon tax on these industries improves resource allocation because it helps the market price in external costs so that the full social costs is accounted for by consumers and producers.

**Tradable permit** is sometimes called a “Cap and Trade” system. The government places a “cap” (i.e. quota or limit) on the total permissible level of pollution. The government will estimate the socially efficient level of emission before it decides on the corresponding number of permits to issue to individual firms. The permits give the firms the legal ‘right’ to pollute. Firms are allowed to pollute up to the permitted level.

In order to assess **the extent** to which a **carbon tax** is more appropriate than **tradable permits** in reducing carbon emission in Singapore, the government needs to consider their respective **pros & cons** and the **ease of implementation** in the context of a small country.

**Examining the appropriateness of carbon tax & tradable permit in reducing the emission of greenhouse gases in Singapore**

**Pros of carbon tax: Government will gain in terms of more tax revenues collected**

R&D sectors on clean energy will benefit if more funds can be channelled to innovation to reduce greenhouse gas emission.

- Firms can also be incentivised to reduce carbon emission or switch to cleaner energy if different tax rates are imposed based on the quantity and types of greenhouse gases emitted. However, this would mean more complex calculation & higher administrative cost

Carbon tax would be more appropriate as it provides the funds towards achievement of sustainable growth. As carbon tax revenue is collected by the government, this will provide the necessary funding to spur the growth of the clean energy sector as well as subsidize other measures to reduce greenhouse gas emissions.

**Pros of tradable permits: encourage reduction of greenhouse gases**

In contrast, tradable permits approach is a quota system which allows firms which are given permits to pollute to sell their excess or unused permits to other firms. This measure provides an incentive for polluting firms to cut back on pollution e.g. adopting green technology. Firms that can cut back on pollution stand to benefit from selling their unused. Typically, such firms are those with lower pollution abatement costs than other firms. This

will attract more investment into green technology which can contribute to actual and potential growth of Singapore.

### **Evaluation on the appropriateness of carbon tax and tradable permit:**

Being a market-based approach, carbon tax is feasible and require less monitoring. The revenue collected can help subsidize innovation on clean energy.

On the contrary, there would be too few firms in Singapore to support carbon trading method, making it less appropriate. This problem is not an issue in big economies such as the US and the EU where they have pioneered the launch of pollution permits (carbon trading) to curb air pollution from air-travel and electricity generations plants. Moreover, tradable permit method could not reduce pollution in the case where profitable firms which have high clean-up costs, would rather pay for tradable permit and continue to pollute.

Note: For the case of carbon tax, some may argue that firms can always pass on the cost of higher tax to consumers if dd for their output is price inelastic eg power stations & oil refineries. Hence, there may be less incentives to switch to cleaner energy. Impact of higher energy cost is greater on the lower income group. To correct such inequity, government can provide more tax rebates example, in electricity usage to consumers according to housing types (2 rooms, 3 rooms etc).

### **Cons of carbon tax: erosion of export competitiveness of related industries & difficulty in determination of tax rate**

Carbon tax add on to business cost of certain export-oriented industries thereby erode their export competitiveness. In view of the significance of electricity & oil as a form of energy, business cost may increase, resulting in cost push inflation if the tax is high. This tax will result in the loss of Singapore export competitiveness if a similar tax is not imposed by her trading partners. Moreover, as trade is an important engine of growth, the imposition of this tax will increase the price of ship transportation and air-freight if the maritime and aviation industries have to bear this added cost. Moreover, tourism in Singapore will be adversely affected if airlines pass on this cost to consumers. Depending on the extent of the tax and its impact on export-oriented industries, Singapore's BOT & growth can be adversely affected.

**Evaluation:** Erosion of export competitiveness on related industries can be mitigated if the carbon tax is not excessive

For the carbon tax to be effective, **researcher** proposed that there should be **different tax rates** on different greenhouse gases. Certain gases can be more damaging than others. For example, **methane**, is actually much more damaging than carbon dioxide. If the same tax rate is imposed on all industries, certain industries might lose out because it is not **equitable**.

However, it is administratively costly to impose different tax rates for firms with different types and quantities of pollution. EMC is difficult to estimate as the harm to 3rd parties due to emission of greenhouse gases is difficult to measure in monetary term. Hence, government may over or under tax.

### **Cons of tradable permits: Difficulties in issuance of permits & Enforcement Cost**

To ensure that firms comply with the **pollution/tradable permits** issued, there must be effective monitoring and enforcement. Otherwise firms can flout the rules and pollute beyond their allocated quotas.

However, it is difficult for most countries to ascertain how much greenhouse gases the environment is able to accommodate. The task is much harder for a small country like Singapore as its airspace/atmosphere is limited and hence **air quality monitoring** and the **source of pollution** is much more difficult when subjected to wind.

**Evaluation:**

There are difficulties in estimating the amount of carbon tax to impose or the quota of tradable permits to issue. Nevertheless, implementation of carbon tax is more feasible since regardless its amount, the tax serves as a signal to all parties that the government is serious about fighting climate change. Moreover, as a market based solution, using carbon tax to internalise the externality requires no monitoring as it relies on the use of the price mechanism.

On the other hand, as a command and control measure, not only does tradable permit require close monitoring, there are also **too few firms** within Singapore's domestic sector to support this option - making it less appropriate.

**Overall Synthesis & Conclusion:**

Although certain industries such as power stations, oil refineries, and heavy industries that are fuel/energy dependent (eg petrol-chemical, steel, maritime and aviation) would experience a fall in profits as their COP will increase due to carbon tax, they may be incentivised to restructure by reducing carbon emissions or to adopt clean energy. Moreover, the revenue from a carbon tax can be used to fund or subsidize research in clean energy. In short, the gain by the clean energy sector and the **long term benefits** to society at large would **far exceed the short term loss** in related sectors that bear the cost of the carbon tax. Finally, the most important reason for **carbon tax** being **more appropriate** than tradable permit is because Singapore's **domestic market is too small** to support the implementation of tradable permit. The **smallness of the economy** and hence **limited number of firms** would make **trading of permit not viable**. In view of the aforementioned evaluation, **carbon tax will be a lot more appropriate** than tradable permit in reducing the emission of greenhouse gases & making Singapore a **more sustainable and liveable city**.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>• Explain and compare the pros &amp; cons in how carbon tax and tradable permits work in reduction of carbon emission</li> <li>• Identifies and explain the difficulties in the implementation of both methods in terms of measuring EMC and hence the corresponding valuation of tax &amp; quantity of tradable permits to be issued respectively.</li> <li>• Explain the feasibility or viability of each method</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>• Lacking in any one of the L3 criterions</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>• Largely irrelevant response</li> <li>• Descriptive response which lack application of economic concepts or theory</li> <li>• Serious and pervasive conceptual errors</li> </ul>	1-4
E3	<ul style="list-style-type: none"> <li>• Evaluates the pros &amp; cons &amp; feasibility of carbon tax &amp; tradable permits in the context of Singapore.</li> <li>• Substantiates with relevant and convincing arguments</li> </ul>	4-5
E2	<ul style="list-style-type: none"> <li>• Evaluates the pros &amp; cons &amp; feasibility of carbon tax &amp; tradable permits</li> <li>• Substantiates with arguments that are <b><u>not</u></b> entirely relevant nor convincing</li> </ul>	2-3
E1	<ul style="list-style-type: none"> <li>• Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question</li> </ul>	1

## HCI Prelim 2019 Question 4

The British voted in a referendum in 2016 to withdraw the United Kingdom (UK) from the European Union (EU) and this is commonly known as the Brexit. This has raised the fear of an adverse impact on export and foreign direct investment. It has also resulted in an immediate drastic depreciation in pound that caused inflation to rise above the 2% target, to 3.1% in 2017, adding to UK's cost of living squeeze. This happens at a time of stagnant living standards which has persisted since the global financial crisis.

- a) Using the circular flow of income, explain how the Brexit referendum might impact UK's national income. [10]  
b) Assess the extent to which the Brexit referendum would increase cost of living and decrease standard of living in the UK. [15]

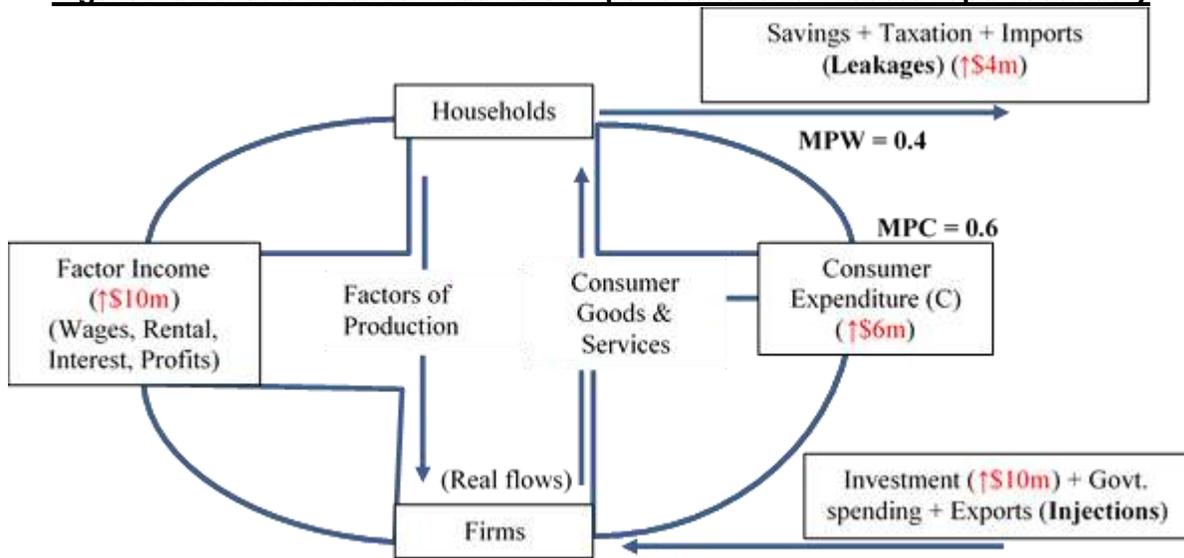
Suggested answer for Part a:

### **Introduction:**

The real world economy is often represented by a 4-sector model. a 4-sector real world model is made up of the following 4 sectors: (1) Households (2) Firms (3) Government (4) External or Foreign Trade

### **Body:**

**Figure 1b: Circular Flow of Income & Expenditure for a 4-sector open economy**



### **Withdrawals and Injections**

As seen in the analysis, **withdrawals (W)** are leakages from the circular flow. This happens when any income from households is not passed to firms or vice versa. The effect of any withdrawals is to cause the flow of income to CONTRACT or diminish. From the circular flow diagram above, these incomes could “leak out” of the flow for the following reasons:

1. Savings (S) e.g. household savings or business/corporate savings
2. Taxes (T) e.g. personal income taxes or corporate taxes
3. Import Expenditure (M) e.g. purchases of goods made from other countries

In the real world, not all of the household's income is spent on consuming goods and services produced by the firms. Some are withdrawn in the savings, taxes and imports. Savings is the income that households choose not to spend but to put aside for the future. These are normally deposited in financial institutions such as banks. Part of household's income is paid out as taxes to the government. Some taxes are such as personal income taxes are levied directly on a person's income. The last leakage from the circular flow diagram is the imports where income from households that is spent on imported goods and services. Although the money that households spend initially flows to domestic retailers, it will

eventually flow abroad either when the retailers or wholesaler themselves import them or when domestic manufacturers purchases imported inputs to make their products.

On the other hand, **injections** (J) are any spending that comes from 'outside' the flow. They are basically autonomous spending that is not dependent on the current level of income. The effect of any injections is to cause the flow of income to EXPAND. Injections occur for the following reasons:

1. Investment (I) e.g. purchase of real capital goods (exclude stocks and shares)
2. Government expenditure (G) e.g. spending on building of roads or infrastructure
3. Export Revenue (X) e.g. sales of goods to other countries

In a four-sector economy, we also note that the demand for firm's output arises not only from household expenditure but other injections such as investment, government expenditure and exports. Investment is the money that firms spend on machineries, equipment or on building up stocks of inputs, semi-finished or finished products. Government also spend on goods and services of firms. Some examples of these are spending on roads, hospital and schools. The last injections is export expenditure which flows into the circular flow from overseas market when foreigners buy our export.

Based on the preamble:

- 1) Export had fallen.
- 2) FDI into the economy have fallen

Assuming the UK's circular flow is at first at equilibrium, with the fall in export injection and rise in leakages, firms will respond to this by using less factor resources such as labor and thus pay our less income to households. Households consumption will then fall and the firms will sell less. Firms in turn again will respond by producing less and employ the use of even lesser factor resources. This means that the household income will fall again. Consumption and production will fall again and so on. There will be a multiplied fall in incomes and employment. This is known as the multiplier effect.

This is where an initial fall in aggregate demand for example of \$10 billion leads to an eventual fall in national income that is greater than \$10 billion. The process however does not continue forever. Each time households' income falls, the households save less, pay less taxes and buy less imports. When injections have fallen to match the fallen withdrawals, equilibrium will be restored and national income will stop falling.

### First Round

When there is an autonomous decrease in investment of \$10m into the circular flow,

- First, \$10m fell for the goods markets for the fall in exports.
- Second, this \$10m is revenue fall for the firms for this production.
- Third, this \$10m worth of fall will also be affecting the business sector as factor payments to the resources that produce the capital goods.
- Fourth, this fall of \$10m of factor payments becomes a fall in income of the household sector who are concurrently the resource owners.
- Fifth, the fall in \$10m of income is will then induce a fall in consumption (\$6m) and withdrawals in terms of savings, taxes and imports (\$4m) based on MPC=0.6 and MPW=0.4.

### Second Round

The fall in \$6m worth of consumption expenditures will again be experience in the circular flow resulting in another round of aggregate production, factor payments, income, and consumption. And so the process continues until injections have fallen to match the fallen withdrawals, equilibrium will be restored and national income will stop falling.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>• Analyses how circular flow is affected with Brexit given the preamble</li> <li>• Explains using economic concepts and theoretical framework</li> <li>• Explains the rounds of K process with detail and rigour</li> <li>• Illustrates with relevant examples</li> <li>•</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>• Lacking in any of the L3 criteria</li> </ul>	5-7

L1	<ul style="list-style-type: none"> <li>• Largely irrelevant response</li> <li>• Descriptive response which lack application of economic concepts or theory</li> <li>• Serious and pervasive conceptual errors</li> </ul>	1-4
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**b) Assess the extent to which the Brexit referendum increase the cost of living and decrease the standard of living in the UK. [15]**

Suggested answer for Part b:

On the increase of cost of living:

<p><u>Introduction</u> Definition of SOL, COL and economic growth</p>	<p>SOL measures the level of wealth, comfort, material goods and necessities which individuals can enjoy and also the level of happiness in the country they are living. The qualitative or material aspects of SOL is affected by the quality and quantity of goods and services consumed while the quantitative or non-material aspects of SOL is affected by leisure, absence of pollution, life expectancy, standard of education and other social factors.</p> <p>COL is the cost of maintaining a certain level of SOL. COL is affected by the changes in the general price level in the economy, usually measured using consumer price index (CPI), looking at the general basket of goods.</p>
<p><u>Body</u> Explanation of the link between COL and General Price Level (GPL)</p>	<p>As explained before, the COL in a country is dependent on how the GPL is changing with. GPL changes will depend what happens to the economy. Based on the preamble, there is depreciation of the currency which affected inflation drastically.</p> <ul style="list-style-type: none"> <li>• If GPL increase is due to increases in AS from imported inflation from the depreciation, AS will decrease and RNI will actually fall. This case, RNI will definitely fall.</li> <li>• This is especially so as Pound had drastically depreciation. This means that basic imports and import of primary or intermediate goods would cost more in Pounds now.</li> <li>• However GPL may not increase if AD fall drastically with the fall in X and I in fear of the Brexit.</li> <li>• This will mean that the cost of purchasing the standard basket of goods had really increase in the country for an average person. This means that in order for a person to maintain the consumption of the same basket of goods, the person will need to pay more now.</li> <li>• However if the person's consumption basket is different from the standard basket taken into consideration for the calculation, the effect might be different.</li> </ul>
<p>Overall impact</p>	<p>COL will definitely have increase for an average person as GPL have increase given the evident of inflation rate rising to 3.1% . RNI i.e purchasing power will fall.</p>

On the impact on SOL:

<p>Explanation of the link between COL and SOL</p>	<p>The level of SOL is affected by the COL in a country.</p> <ul style="list-style-type: none"> <li>• This is because the COL or general price level in an economy affects the real purchasing power of income which affects the level of material SOL.</li> <li>• Therefore, the higher the COL, the lower the SOL, ceteris paribus and vice-versa.</li> <li>• For example, if the COL is rising faster than the nominal income is rising, SOL fall as the real income level falls. Or</li> </ul>
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	if COL is rising, households will need a higher level of nominal income to maintain their current level of SOL.
Negative Impact	Positive Impact or other points needed
Material Aspects of SOL	
<ul style="list-style-type: none"> <li>AD might fall if the gloomy expectation (affecting C and I) and negative impact on I is very big to negate the rise in X. With the RNI falling, and inflation squeeze, the UK people will really be suffering a drastic drop in their purchasing power.</li> <li>Imported inflation might be so high that the SRAS (COL part) might shift more than the AD and RNI will actually fall.</li> <li>It could also be AS falling resulting in RNI dropping <ul style="list-style-type: none"> <li>Massive cyclical unemployment might occur.</li> </ul> </li> </ul> <p>Note: Students will need to demonstrate the AD-AS at least once with diagrams either in the COL or SOL part.?</p>	<ul style="list-style-type: none"> <li>Being a developed country with ageing population, the real GDP per capita may still increase if population growth is slower than the low GDP growth. Though this increase might be insignificant.</li> <li>Thus purchasing power may still increase, though by only a little bit if automatic stabilizers kick in and transfer payments are given to the workers who became unemployed as now they no longer need to pay taxes on the welfare benefit.</li> </ul> <p><u>Other points</u></p> <ul style="list-style-type: none"> <li>With RNI decreasing, despite much possible unemployment, the income distribution might have improved. More unemployment benefit would have been given out. As it is a welfare economy, the unemployment benefit given out could be even higher than when they were having a job especially given that the benefits are not taxed. And now there might be better distribution of income.</li> <li>Composition of RNI matters. If there is a fall but due to the fall of I, then the current consumption level of goods and services may not be affected. In fact, if export had fallen, it could also mean more is now available for the domestic markets instead of being sold abroad. <ul style="list-style-type: none"> <li>Composition of individual's consumption is also important. The COL will be affected if the individual consume similar basket of goods as the consumer price index. However, if the basket of goods included cars and fuel, which the lower income will not consume, then they may still maintain their SOL. These people could be using public transport etc.</li> </ul> </li> </ul>
Sub-conclusion for mSOL:	
<ol style="list-style-type: none"> <li>Overall mSOL may increase. As although growth is slowed, but real GDP is increasing. This actual purchasing power is still increasing but slowly with a more even income distribution.</li> <li>Overall mSOL may decrease due to the high level of unemployment from the mass offshoring by companies and given that previously the SOL had been stagnant.</li> </ol>	
Non – material SOL	
<ul style="list-style-type: none"> <li>A lot of fear and uncertainty of the future that makes life more stressful.</li> <li>Many riots and protest had resulted.</li> <li><a href="#">High chances of a no deal Brexit coupled with</a> political instability</li> </ul>	<ul style="list-style-type: none"> <li>The feel of national autonomy and pride: <ul style="list-style-type: none"> <li>The ability to take back some control of national security back like immigration border controls etc back.</li> <li>The ability to have better control on economic policies like MP (if they have to give up their own currency eventually), trade related policies, etc</li> </ul> </li> </ul>

where the prime minister keep changing from David Cameron to Teresa May and now Boris Johnson.	
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Final Conclusion:

The basket of goods that people consume need not be the same as the basket of good used to compute the consumer price index. The degree of impact on purchasing power on the consumer will depend on what the people consumer. At the same time, there is a lot of uncertainty of how the material SOL will turn out. Even though many are pessimistic, the GDP is still growing though at the lower rate. This does not mean that the consumption level had increased due to the massive job losses etc. Given the psychological fear and worry are really overwhelming on top of all these, overall SOL might actually have worsened.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>Analyses BOTH COL and SOL (Both mSOL and non-mSOL) with considerations of the preamble (need to consider the weighting of marks for the 2 parts)</li> <li>Analyses the impact using economic concepts or theory</li> <li>Explains with detail and rigour</li> <li>Explains using relevant diagrams (need to discuss if it is a must have during standardization)</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>Lacking in any one of the L3 criteria</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>Largely irrelevant response</li> <li>Descriptive response which lack application of economic concepts or theory</li> <li>Serious and pervasive conceptual errors</li> </ul>	1-4
E3	<ul style="list-style-type: none"> <li>Takes a stand on the overall COL and SOL</li> <li>Substantiates stand with convincing arguments that compares most of the points covered</li> </ul>	4-5
E2	<ul style="list-style-type: none"> <li>Takes a general stand on the overall</li> <li>Substantiates stand by evaluating one or two points without comparing the relative importance of most of the mentioned points</li> </ul>	2-3
E1	<ul style="list-style-type: none"> <li>Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question</li> </ul>	1

## HCI Prelim 2019 Question 5

Singapore's inflation rate turned positive in 2017 after two years of negative inflation. But with the pace of price increases set to remain modest, economists are divided over the question of how soon the central bank will move to appreciate Singapore currency.

Source: *The Business Times*, 24 Jan 2018

(a) Explain the internal and external factors that are likely to have contributed to the reported change in inflation rate in Singapore.

[10]

(b) Discuss whether you will support a move by the central bank to appreciate Singapore currency aimed at reducing inflation even though it might result in unintended consequences for the economy. [15]

**(a) Introduction: Define inflation, state types (DD pull, Cost push or statutory factors)**

### 2017 – Inflation rate was positive ie increase in rate of change in GPL

#### Internal factors:

Increase in price of **property and cars** (if weightage is high for the price index of these items, it may affect the Inflation rate as measured by % change in CPI). The over-heating of the private property market could be caused by speculative demand while the control of car population using COE is statutory in nature.

**Restrictive Immigration law** on foreign labour could increase wage cost, giving rise to cost push inflation

#### External Factors:

**Cost push:** increase in price of imports such as oil & food as in 2008. Oil price can increase depending on the SS policy of OPEC countries. If the oil cartel agree to restrict output to raise price, cost of crude oil will rise. Food price can increase due to SS shock which is affected by the vagaries of nature eg drought, flood & extreme weather caused by climate change.

**DD-pull:** Higher demand for Singapore exports resulting in greater competition for scarce resources => exerting an upward pressure on GPL as economy has little spare capacity or is near to full employment level.

#### COMBINED EFFECT (Draw Diagram)

#### Positive Inflation rate in 2017 :

**AD increase & AS fall or  $AD \uparrow > AS \uparrow$**

(global sentiments are still optimistic as US-China trade-war had not intensified, leading to vibrant export sectors). Higher productivity resulting in lower COP can dampen the increase in price => **modest** increase in rate of increase in GPL as in preamble.

**$AD \uparrow > AS \downarrow$**  (higher business cost due to increased energy and labour cost can add on to inflationary pressure).

As economic recovery is not in full swing, the **pace** of price increase is **modest**.

#### Conclusion

The internal source of inflation in 2017 are statutory in nature in conjunction with government's attempt to restrict car population and inflow of foreign labour. The external sources of inflation in 2017 can be recovery of export demand or supply shock in the form of fall in SS of essential items such as oil or food.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>• High L3 if students can explain <u>modest pace of price increase</u> clearly</li> <li>• Explain internal sources of inflation in Singapore by linking to statutory issues in relation to private property, cars or foreign labour</li> <li>• Explain external sources of inflation linking to either cost-push or dd-pull</li> <li>• Explanations are rigorous and detailed</li> <li>• Illustrate using clearly drawn diagram(s)</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>• Lacking in any one of the L3 criterions</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>• Largely irrelevant response</li> <li>• Descriptive response which is lacking in application of economic concepts or theory</li> <li>• Serious and pervasive conceptual errors</li> </ul>	1-4

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Singapore's inflation rate turned positive in 2017 after two years of negative inflation. But with the pace of price increases set to remain modest, economists are divided over the question of how soon the central bank will move to appreciate Singapore currency.

*Source: The Business Times, 24 Jan 2018*

(b) Discuss whether you will support a move by the central bank to appreciate Singapore currency aimed at reducing inflation even though it might result in unintended consequences for the economy. [15]

**Introduction:**

**Key Issues & Approach** – shows CONTEXT in which decision of appreciation is to be made

- In 2017, inflation rate is positive and GPL expected to continue to rise modestly.

**Body:**

Explain how appreciation can have positive or negative impact

**Appreciation or GRAMA policy helps tackle :**

**Imported cost push inflation** => If the cause of the price increase is due to **higher cost of imports**, appreciation can mitigate cost push inflation.

Elaboration: Imported input would be cheaper in domestic currency after appreciation.

**DD pull inflation** => If economy is already at full capacity. Appreciation can **cool down** the over-heated economy and reduce the upward pressure on price.

**Evaluation:** DD pull is unlikely given the context that inflation has just turned positive from negative in 2017.

**However, there is unintended consequences:**

Appreciation would result in  $P_x \uparrow$  in terms of foreign currencies in foreign markets. If  $PED_x > 1$ ,  $TR \downarrow$  as Qty falls by a greater proportion => adversely **affect BOT => fall in NI**

Appreciation of S\$ can affect the export-oriented sectors adversely if exports become less price competitive. This can lead to **retrenchment and unemployment**. => **fall in SOL**

**Evaluation:**

- However, Singapore can make its exports less price elastic by **SS side policies** ie improving the quality of its products via innovation etc which garners brand loyalty and reduce its substitutability.
- As current exchange rate policy is likely to be zero appreciation, it can be deduced that the global economy is experiencing slow growth & hence the threat of high import cost is low => mitigation of imported cost-push inflation is not applicable.

**Other possible adverse effects:**

**If appreciation is to a great extent and at rapid pace:** can result in higher cost for foreign investors to set up business ventures in Singapore. This will adversely **affect inflow of FDI, affecting financial account & BOP & job creation => employment opportunities.**

**Evaluation : extent & timing of appreciation**

The adverse impacts on growth, BOP and employment would be reduced if the appreciation is **gradual and modest**.

Moreover, the **timing** of the appreciation is significant. If the inflation rate has turned from negative to positive in 2017 due to **DD pull factors**, GRAMA can help mitigate the inflationary pressure by reducing the rate of dd for Singapore exports (Px will be less competitive). However, if the recovery of export demand is weak and the currencies of major trading partners have depreciated, the move to strengthen S\$ will make Singapore's exports to be much more expensive vis a vis substitutes from countries whose currencies have depreciated. This would dampen the recovery process in the export sectors.

**Synthesis & Conclusion**

Appreciation of S\$ would be supported if the source of inflation in 2017 is due to higher cost of imported input. However, if the inflation is mild and dd pull in nature, appreciation by a **large extent** would derail the recovery of the export sectors by making the price of its exports less competitive. The move to appreciate S\$ would be **supported only if** it does not cause its exports to lose too much of its price competitiveness. Generally **modest and gradual appreciation** would be supported if it can achieve the macro goals of low inflation, growth, employment & healthy BOP when supplemented by SS side policies.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>Analyses the reasons for supporting <b>appreciation AND unintended consequences</b></li> <li>Provides a balance response that analyses the <b>timing AND extent</b> of appreciation which would be beneficial or detrimental to the Singapore economy</li> <li>Analyses the approaches using economic concepts or theory</li> <li>Explains with detail and rigour</li> <li>Illustrates with relevant diagrams and examples</li> </ul>	8-10
L2	<ul style="list-style-type: none"> <li>Lacking in any one of the L3 criteria</li> </ul>	5-7
L1	<ul style="list-style-type: none"> <li>Largely irrelevant response</li> <li>Descriptive response which lack application of economic concepts or theory</li> <li>Serious and pervasive conceptual errors</li> </ul>	1-4

E3	<ul style="list-style-type: none"> <li>• Takes a stand on whether appreciation would be supported based on its impact on the economy</li> <li>• Substantiates stand with relevant and convincing arguments in relation to its timing, extent &amp; unintended consequences</li> </ul>	4-5
E2	<ul style="list-style-type: none"> <li>• Takes a stand on appreciation AND unintended consequences</li> <li>• Substantiates stand by evaluating one or two points without relating to context of timing and extent.</li> </ul>	2-3
E1	<ul style="list-style-type: none"> <li>• Evaluative comments that are not substantiated, poorly substantiated or are not directly relevant to the requirements of the question</li> </ul>	1

### **HCI Prelim 2019 Question 6**

**US and UK have had almost a decade of low interest rates which was between 0.25% and 1.5%. At the same time, economists are advocating for a greater role of fiscal policy to achieve economic growth even as economies adapt to global trends caused by shifting demographics towards an ageing population, rapid technological progress and high levels of government debt.**

**Discuss whether fiscal policy could play a greater role than monetary policy in achieving economic growth given the change in global trends. [25]**

#### **Introduction**

Aim of government: Achieve economic growth (i.e. actual and potential growth)

Context: Low interest rates, economies face global trends of aging population, rapid technological progress, high levels of government debt

Approach: To discuss which policy plays a greater role in achieving economic growth.

#### **Analyse why monetary policy has a limited role to achieve economic growth.**

Theoretically, monetary policy via cuts in interest rate can stimulate AD via C and I to generate actual growth

*Explain how policy works:*

- Lower interest rates reduce cost of borrowing falls, resulting in a rise consumption spending. At the same time, expected rate of returns will be higher than cost of borrowing, increasing the incentive to invest.
- Together, a rise in consumption and investment increases AD which through the multiplier effect will result in a rise in RNI creating actual growth. (*succinct multiplier explanation*)

Policy Limitations:

However given the current low values in UK and US, cuts in interest rates may be limited (i.e. close to zero) and ineffective (due to possible interest-inelastic Consumption and Investment). This creates a problem of the Central Bank.

The Central Bank might resort to Quantitative easing to increase liquidity in the financial system. However this may create inflationary pressures in the economy in the future if the effects are uncontrolled.

#### **Analyse why fiscal policy can achieve economic growth.**

##### Expansionary Fiscal Policy

- By boosting government spending to increase AD, via the multiplier effect RNI increases to attain actual growth.
- At the same time, the government can reduce personal income tax which increases disposable income and encourages consumption spending
- Reducing corporate tax increases after-tax profits and encourages investment spending. The combined

effect of increase in C and I will increase AD and hence increase RNI via the multiplier effect.

*Provide diagram analysis*

As a result of AD increasing from  $AD_0$  to  $AD_1$ , real output increases more than proportionately from  $Y_0$  to  $Y_1$ , resulting in actual growth

### Discussion of the role of fiscal policy to achieve economic growth

#### Constraints on Fiscal Policy as specified in the stem

1. Aging population
  - Competing spending needs due to aging population – increased healthcare spending in welfare states, funds may be channeled to re-skills older workers
  - More limited sources of revenue due to shrinking labor force (assuming no change in retirement age)
2. Rapid technological progress
  - With greater dependence on automation, labor-saving technology to increase productivity and productive capacity, it may be a challenge for AD to keep up with the increase in AS (depends on the increase in AD relative to AS). If increase in AS outpace increase in AD, government may require huge increase in G and/or C and I to achieve actual growth.
3. High levels of government debt: Expansionary fiscal policy measures may go against any attempt to conduct austerity measures reducing or eliminating the effects of growth.

### Synthesis

- For large and less open economies, fiscal policy via an increase in government spending may be a more direct approach to stimulate the economy, given its large multiplier size. However, given the long term challenge of an aging population, government spending is likely to prioritize on improving healthcare and reskilling, hence the effect of government spending on actual growth is likely to be a secondary effect.
- For small very open economies like Singapore which are interest rate takers, exchange rate centered monetary policy is used in its place. The low interest rate may help support government's attempt at zero appreciation or a more gradual in currency appreciation
- Governments of debt –ridden economies may not have the luxury to choose between fiscal and monetary policy given the low interest rates as well as their budget will be further stretched from spending to address the aging population. If the government prioritizes the need to address the ageing population and high level debt, growth may end up as a by-product of rapid technological change.

### Mark Scheme

Level	Descriptor	Marks
L3	Analyse how <ul style="list-style-type: none"> <li>• Lower interest rates generate economic growth</li> <li>• Fiscal policy generates economic growth</li> </ul> Provides discussion based on : <ul style="list-style-type: none"> <li>• Impact of all 3 global trends on choice of policy</li> <li>• Other possible policy limitations</li> </ul>	15 - 20
L2	Analyse in detail how at least one policy generates economic growth Attempted links to policy choice based on at least one global trend	9 - 14

L1	Misinterpretation of question, serious concept errors, descriptive response lacking economic analysis	1 - 8
Evaluation		
E3	On top of E2, provides insight into dilemma's faced by governments	4 - 5
E2	Clear stand + justification of policy choice based on characteristic(s) of economy	2 - 3
E1	Clear stand on policy choice	1

**Question 1: The Story of Coffee Beans and Coffee**

- (a) With reference to Table 1, account for the change in price difference between Arabica and Robusta coffee beans over the period 2015 to 2017 as shown in Figure 1. [3]

Suggested answer:

The price difference between Arabica and Robusta coffee beans have been falling from 2015 to 2017. This could be due to falling prices of Arabica beans, rising prices of Robusta beans or both.

As seen in Table 1, the production of Arabica beans in Brazil were on a rising trend while production of Robusta beans were on a falling trend. As Brazil is the world's largest coffee beans producer, higher production of Arabica beans (an increase in SS) will bring about lower world Arabica prices, and falling production of Robusta bean will bring about higher world Robusta prices.

- (b) Extract 2 mentions that some Robusta coffee bean farmers who have been struggling with the effect of drought, have turned to another commodity – black pepper. [4]

Explain whether more Robusta coffee bean farmers would switch to black pepper production in view of the drought.

Suggested answers:

The drought has resulted in the production of Robusta coffee beans to fall, causing their farmers to experience a loss of income. As stated in Extract 2, the dry spells are more suitable for black pepper farming and on top of that, prices of black pepper have risen significantly in the past years possibly due to rising demand. Due to the inelastic demand for black pepper given that it lacks of close available substitutes, an increase in price will lead to a less than proportionate decrease in quantity demanded. This will increase Robusta farmers' total revenue. Assuming that cost remains constant, these farmers will be incentivised to switch to black pepper production.

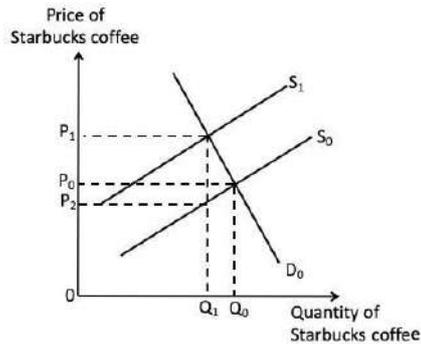
However as mentioned in extract, the rapid expansion of black pepper production will lead to an increase in supply for black pepper. An increase in supply of black pepper in the market will cause the prices to stop rising rapidly, and eventually fall. Given its inelastic demand in nature, a fall in prices will lead to a less than proportionate increase in the quantity demanded for black pepper, reducing total revenue. Hence, this may prevent some Robusta coffee bean farmers from switching to growing black pepper.

In view of the drought, Robusta farmers' decision to switch to black pepper is also dependent on the duration of the drought and whether their existing coffee bean trees have been damaged or not.

- (c) "The sticky nature of demand of Starbucks' products will help the company retain customers even as the prices of its products rise." [5]

Explain whether consumers or producers (of coffee shops) are more likely to bear the consequences of higher cost of production.

Suggested answer:



Due to higher prices of coffee beans and an increase in wage rates, coffee shops such as Starbucks will be less willing and able to produce their goods and services at every price level due to higher cost of production. This is illustrated by a leftwards shift of supply curve from  $S_0$  to  $S_1$ . A shortage at  $P_0$  will cause an upward pressure on price and the new equilibrium price will be at  $P_1$ .

The consequences of higher cost of production on producers and consumers are dependent on the PED value of the products sold. For instance, due to brand loyalty, there is a lack of substitutes for the customers who patronize Starbucks. This means that the demand for their goods and services is price inelastic, as illustrated by a steep demand curve such as  $D_0$  in the above diagram. The fall in supply due to higher cost of production has caused equilibrium price to rise from  $P_0$  to  $P_1$  and this is borne by the consumers. Total rise in cost is  $P_2P_1$ , therefore, producers only bear  $P_2P_0$ , which is a smaller portion as compared to  $P_0P_1$ .

However, if demand is price elastic (eg: for products sold in independent coffee shops), producers are going to bear a larger proportion of the rise in cost of production as they are unable to pass on a larger portion of higher costs to consumers.

- (d) **Extract 4 mentions that the UK government is suggesting an implementation of a coffee cup tax.**

[8]

**Discuss the factors that the UK government would consider before the implementation of a coffee cup tax.**

Suggested answer:

Following the successful implementation of the plastic bag charge in UK, the relevant authorities in UK had also suggested for a coffee cup tax to curb the usage of disposable coffee cups.

Production of these coffee cups generate significant negative externalities such as carbon emissions and other harmful effects to the environment caused by deforestation. This results in a rise in healthcare cost for residents living near these areas. A coffee cup tax can reduce the widespread usage and production of these disposable cups and subsequently correct the market failure brought about by the production of these cups.

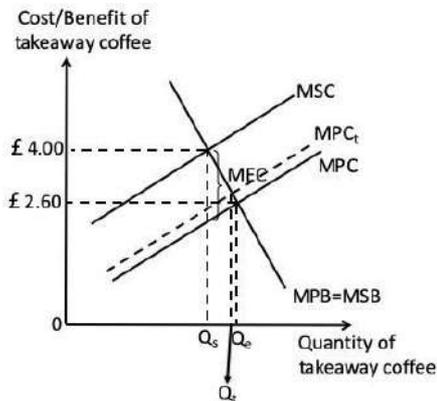
Some factors that the UK government would consider are:

The implementation of a coffee cup tax will increase the cost of production for the producers, resulting in a fall in supply and subsequently a rise in price. Coffee shops will then pass on the higher prices of disposable cups to consumers in the form of an increase in price of a cup of takeaway coffee. This should incentivise consumers to bring their own cups when getting a cup of coffee to-go. A successful implementation of this coffee cup tax should cut usage by 2 billion each year, which will significantly reduce carbon emission and the number of trees that will be cut down.

A coffee cup tax can be easily adjusted to achieve greater effectiveness. For instance, it can be adjusted higher if the impact is underwhelming or adjusted downwards if it has reduced the usage and production of these cups and worsens the inefficient allocation of

resources.

On top of that, the tax revenue collected can be channelled towards developing a new technology that makes it easier to recycle these disposable coffee cups. This is a long term solution in solving the economic inefficiencies in the production and consumption of disposable coffee cups.



However, due to the nature of demand for these coffee drinks (which directly affects the usage of disposable coffee cups), the demand is price inelastic. On top of that, a coffee cup tax will only be charged at 5 to 10 pence. As a result, the effect of such a tax is likely to be minimal.

With reference to the diagram on the left, assuming that the socially optimal output of disposable cups will only be achieved if each cup of takeaway coffee is £4 instead of £2.60. With the implementation of a coffee cup tax of 5 pence, the cost of each cup of takeaway coffee increases from MPC to MPC<sub>t</sub>, this will only reduce the quantity consumed to Q<sub>t</sub>, bringing about an insignificant impact in achieving the objective of curbing usage of disposable cups by 2 billion a year.

With the rise of coffee drinking culture, a coffee cup tax is unlikely to work as well as a plastic bag charge. In the short term, the UK government can complement the implementation of the coffee cup tax with public education so as to lower the MPB in the above diagram.

The rapid expansion of the coffee drinking culture will continue to drive the consumption and production of disposable coffee cups, therefore the government should look into other methods such as changing the composition of the cups and developing better recycling technology as more sustainable solutions.

- (e) In the light of rising competition, discuss how the market structure of the branded coffee market will affect the ability of firms such as Starbucks to maintain excess profits in the long run. [10]

Suggested answer:

In the light of rising competition, the market structure of the branded coffees shops market will affect the ability of firms to maintain excess profits in the long run.

The market structure operating in the branded coffee market is likely to be monopolistically competitive which is characterized by many small firms (independent coffee brands) selling slightly differentiated products and low barriers to entry. New entrants to the market are likely to be attracted by the growth of the market, taking advantage of the relatively low barriers to entry, they can easily enter the market to compete away any existing supernormal profit available in the market.

From Extract 5, even a relatively bigger branded coffee brand such as Starbucks is facing more competition coming from both big brands and independent neighbourhood coffee shops. This increase in competition will increase the substitutability of Starbucks' goods and services, making the demand for their products less price inelastic. The entrance of new firms will result in a fall in demand for the products sold by Starbucks as consumers may switch to alternatives from new competitors, reducing their total revenue

and eroding supernormal profit in the process. New firms will stop entering the market when all supernormal profit is eroded and hence, all firms in this market structure earn normal profit in the long run.

However, while rising competition means that there are more firms in the market, this may not affect existing firms negatively. For example, having more independent cafes simply means that consumers have more choices, but both these cafes and Starbucks can continue to enjoy a steady stream of revenue from the market. This could be due to higher demand in the market due to an increase in taste and preference as the coffee culture is now enjoyed as a lifestyle.

Profits of firms are determined by sales revenue (TR) and costs of production (TC).

Apart from the market structure that is affecting Starbucks' profit, rising costs due to higher prices of coffee beans and higher wage rates dampened profits too. [Evaluation] However, as mention in Extract 3, labour costs are the smallest portion of Starbucks' total costs. Given the profits that Starbucks have been earning all this while, they should not continuously increase the prices of their goods and services if they can use the profits to absorb some of the increase in costs. In times of rising competition, Starbucks should maintain more competitive pricing so that their patrons will not start to switch to the new cafes.

Next, Starbucks should also focus on efforts to differentiate the brand, and to continue to maintain the significance of the brand's name despite the rise of trendy independent cafes. For instance, instead of expanding the size of the business by opening more outlets to maximise revenues, Starbucks has been working on investing more in providing customers with more upscale cafe experience. They are also pumping in funds to invest in the creation of a premium brand that serves coffee beans that are less common. Such strategies can make demand for Starbucks products more price inelastic and revenue advantages could be reaped as preferences to patronise Starbucks maintain and even increase among consumers.

As mentioned in Extract 5, Starbucks is also working on opening mega stores at specific global tourist spots and these mega stores will serve alcoholic drinks and in-house baked pastries besides the usual beverages available in other Starbucks outlets. Having a wider range of products and more space will allow them to reap revenue advantages as more consumers choose to wine and dine in these mega stores.

In conclusion, the low barriers to entry in the market structure that branded coffee shops are operating in, coupled with an increase in cost of production had dampened their profits definitely. However, if a firm operating in this market is able deal with the rising costs and also successfully differentiate their products sold (to maintain patrons' loyalty), profits can still be maintained to a small extent in the long run. In the case of Starbucks, due to the market share that it has in this industry, it has more cost and revenue advantages that other smaller rival brands or new comer do not have. This allows Starbucks to implement various strategies to differentiate the brand and to expand their market share, allowing them to maintain excess profits in the long run.

## Question 2: Issues of falling productivity and rising income inequality

- (a) Compare the change in Singapore's real GDP between 2015 and 2017 with that of the UK over the same period. [2]

Suggested answer:

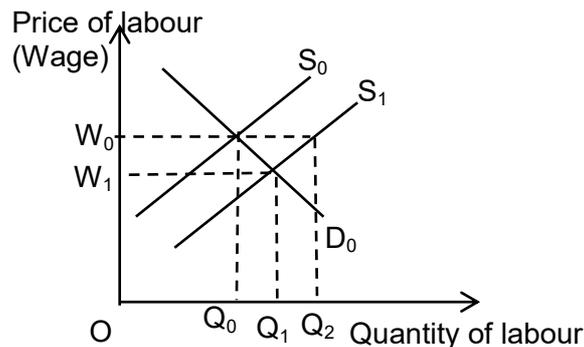
Both the UK and Singapore experienced an increase in real GDP between 2015 and 2017. The UK's real GDP is increasing at a decreasing rate, while Singapore's real GDP is increasing at an increasing rate.

- (b) The price mechanism uses price signals to help firms decide whether to use labour-intensive or capital-intensive method of production. [4]

Using the concept of price mechanism, explain how labour hoarding as described in Extract 6 leads to falling productivity in the UK.

Suggested answers:

The rise in number of people looking for work after the 2008 financial crisis (Extract 6) results in the increase in supply of labour in the labour market, as shown by the rightward shift of supply curve from  $S_0$  to  $S_1$ .



At the original wage of  $w_0$ , quantity supplied  $Q_2$  exceeds quantity demanded  $Q_0$ , resulting in a surplus of workers ( $Q_0Q_2$ ) in the labour market. This exerts a downward pressure on equilibrium wage from  $W_0$  to  $W_1$ , leading to an increase in quantity demanded (movement along  $D_0$ ) and a decrease in quantity supplied (movement along  $S_1$ ) until  $Q_d$  equals to  $Q_s$  at higher equilibrium quantity  $Q_1$ . The decrease in equilibrium wage signals to profit-maximising firms with low business confidence to hoard manual workers (labour), instead of investing in machines (capital), since labour is a cheaper method of production compared to capital. The lack of capital investment leads to falling efficiency as output per unit of labour/man hour falls, resulting in falling productivity in the UK.

- (c) With reference to Table 2 and Extract 6, explain whether low productivity growth would lead to a fall in the standard of living in the UK. [6]

Suggested answer:

Low productivity growth results in slower potential economic growth which may lead to inflation when actual economic growth exceeds potential economic growth. This implies that the rise in aggregate supply (AS) in the long run is slower than the rise in aggregate demand (AD), giving rise to demand-pull inflation. In addition, with rising wages exceeding the low productivity growth, unit cost of production rises, causing AS to fall in the short run and hence cost-push inflation (Extract 6) is resulted. Given that the nominal wage of consumers are being dampened due to the surplus of labour in the economy, the real wage of consumers will fall if the inflation rate exceeds the nominal wage growth. As a result, this causes a fall in purchasing power, leading to a fall in the amount

of goods and services consumed, hence a fall in material SOL in the UK.

In addition, low productivity growth will lead to a slowdown in economic growth as real GDP increases at a slower rate. The slower rise in income and profits results in a slower rate of increase in personal income tax and corporate tax collected respectively by the UK government (Extract 6). The fall in real wage of consumers also causes a fall in real value of tax revenue collected by the government. On top of the ineffective austerity measure to reduce budget deficit (Extract 6), such a slow rate of increase in taxes further constrains the UK government's ability to spend on merit and public goods, as well as on redistributive policies for lower-income households (Extract 6). This results in a fall in both material and non-material SOL in the UK.

Nevertheless, the UK's economy is still experiencing positive economic growth (Table 2) over the years, implying that real GDP is still increasing. Assuming real GDP growth exceeds population growth, there will be an increase in real GDP per capita in the UK. This will lead to an increase in purchasing power and amount of goods and services available for consumption, hence an increase in material SOL.

In conclusion, low productivity growth may lead to a fall in SOL in the UK, given the poor fiscal position of the government to further stimulate the slowing economy. Unless given time such that austerity can effectively restore confidence level, SOL in the UK would fall especially in the short term.

- (d) **Extract 7 highlights the call to build up skills and push up the minimum wage to boost the UK's weak productivity growth.**

[8]

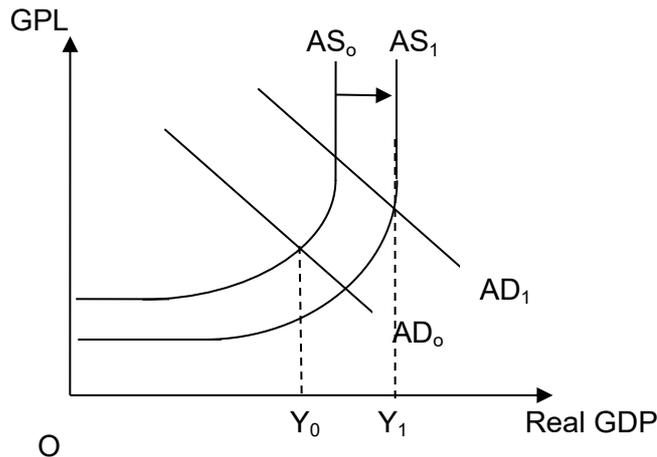
**Discuss the effectiveness of the proposed policies to achieve inclusive economic growth in the UK.**

Suggested answer:

Inclusive economic growth indicates a rate of growth that is sustained over a period of time, is broad-based across economic sectors, and creates productive employment opportunities for the majority of the country's population. In order for inclusive economic growth to be achieved, there must also be sustained economic growth that comprises of both actual and potential growth, as well as a fall in income inequality.

Building up skills via providing school leavers and workers with relevant technical training (Extract 7) to work in the expanding industries will ensure that they remain employable. This will also increase the quality of the labour force, resulting in a rise in productive capacity. With high productivity exceeding wage growth, unit cost will also fall. Hence, there is an increase in aggregate supply (rightward shift from AS<sub>0</sub> to AS<sub>1</sub>). With a more skillful workforce, it will also encourage the firms to invest more, thus raising investment expenditure and increasing aggregate demand (rightward shift from AD<sub>0</sub> to AD<sub>1</sub>) in the economy. As such sustained economic growth is achieved when real GDP increased from Y<sub>0</sub> to Y<sub>1</sub>.

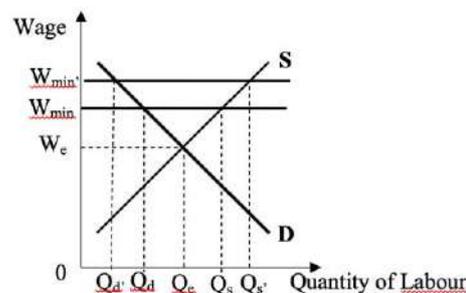
Concurrently, if building up skills are targeted at sectors with lower wage workers or workers who are structurally unemployed. This will allow these workers to upgrade their skills or obtain relevant skills, so as to earn higher wages. As such this will narrow the income gap between the rich and the poor and also creates productive employment opportunities for them. As such, inclusive economic growth is achieved.



However, the effectiveness of such a policy depends heavily on the receptiveness/mindset of the workers (Extract 7). Some may be resistant to receive technical training, while others such as the older or less educated workers may not have the ability to unlearn old skills and relearn new skills, rendering the policy ineffective in achieving inclusive economic growth. At the same time, UK has a welfare payment system, the unemployed workers may not be motivated to pick up new skills and return to the workforce if the prospective wages are below the amount of unemployed benefits received.

As such, there is a need for the government to raise the current level of wages significantly so as to encourage these discouraged workers to join back the labour force.

The UK government imposes a price floor in the case of a minimum wage legislation by fixing the wage ( $W_{min}$ ) above the equilibrium level of  $W_e$ . With the increase in minimum wage to £8.75 an hour outside London and £10.20 in the capital (Extract 2) to  $W_{min}'$ , there will be a higher quantity of labour supplied from  $Q_s$  to  $Q_{s'}$ .



With low income workers enjoying higher wages, this will increase their purchasing power to consume goods and hence reduce income inequality. In addition, a higher wage will lead to firms facing higher costs of production, this will encourage firms to invest in labour-saving technology/capital to raise productivity, instead of relying on the now more expensive labour as the method of production. Such a rise in  $I$ , with the fall in income inequality will again allow inclusive economic growth as explained previously.

However, the increase in minimum wage will result in a rise in unemployment when the excess of workers increases from  $Q_d - Q_s$  to  $Q_{d'} - Q_{s'}$ . With firms switching to more capital-intensive production, the economy will be faced with higher structural unemployment. Furthermore, some of the inefficient firms may not be able to successfully restructure, which may lead to them exiting the market if they continuously make subnormal profits. This further leads to a rise in unemployment, limiting the effectiveness of the policy in

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achieving inclusive economic growth.

With the implementation of the building of skills, it will be able to mitigate the level of structural unemployment caused by raising minimum wage. Also, the government will need to ensure that the amount of min wage which they raise is gradual and temporary so as to prevent shock in the economy.

Two of the root causes of UK's weak productivity growth are labour hoarding and a lack of technical and vocational training as evident in Extract 6. Hence both policies of pushing up the minimum wage and building up skills, when used in combination, will be effective in achieving inclusive economic growth in the UK via raising productivity as they tackle the respective root causes of the problem and also mitigate unintended consequences of each policy. However, the skills upgrading needs to be more targeted at the low skilled, low income earners, for example, incentives can be given to workers to encourage them to undergo technical training. Government also needs to ensure that help is provided to help firms to restructure effectively towards a capital-based production.

- (e) **The UK's decision to leave the EU is a unique example of deglobalisation, while Singapore has decided to continue to embrace globalisation.**

[10]

**Assess whether the Singapore government's decision to embrace globalisation is justifiable.**

Suggested answer:

Globalisation refers to the increasing integration of economies around the world through greater flows of trade, capital flows and movement of labour across international borders.

There are various benefits to embrace globalisation. Globalisation allows Singapore to embrace free trade based on the theory of comparative advantage. Singapore is able to tap on overseas markets and increase export of goods and services that she has a lower opportunity cost in producing, hence increasing export revenue, especially from the rising middle class in Asia (Extract 9), and improving the balance of trade. Producers can therefore capitalise on a large size market and increase ability to exploit economies of scale. Given her small domestic demand, globalisation will boost Singapore's AD significantly via strong exports growth. This in turn raises her real GDP via the multiplier effect and thus reduces cyclical unemployment due to rising output and derived demand for labour. Furthermore, Singapore is able to source for cheaper consumption goods and raw materials (Extract 9), hence reducing imported inflation. The cheaper imported consumption goods will increase the standard of living in Singapore, while the cheaper imported raw materials will boost export competitiveness in the world market and further improve the balance of trade. These are in contrast to UK's decision to deglobalise as evident in Extract 8. The decision to leave the EU will cause the UK to lose trade with Europe and investor's confidence to fall, resulting in falling AD, real GDP and employment. The consequent fall in value of pound sterling will invite imported inflation. Therefore, the Singapore government's decision to embrace globalisation is justifiable as such negative effects are avoided.

Globalisation allows the inflow of foreign direct investments (Extract 9) with their technological transfer, directly improving the capital account of Singapore. In addition, the rise in I will result in increase in AD, and the rise in quantity and quality of capital will raise the productivity and productive capacity, hence increases AS. This allows Singapore to achieve non-inflationary sustained economic growth. Globalisation also allows domestic firms to relocate to production locations with lower labour and rental costs (Extract 9), increasing repatriation of profits and investment income into Singapore,

hence further improving the current account. Furthermore, globalisation allows the inflow of foreign talent that helps increase the productivity of labour and the exchange of skills, expertise and ideas that help Singapore transit to a knowledge-based economy with higher value-added industries. This helps Singapore to promote long-run economic growth and raise her standard of living in the long run. These again are in contrast to UK's decision to deglobalise as evident in Extract 8. The decision to leave the EU will cause the UK be deprived of foreign investment and productivity-enhancing foreign innovation, that furthering worsening productivity and income inequality in the UK economy. Therefore, the Singapore government's decision to embrace globalisation is justifiable as such negative effects are avoided.

However, there are costs to embrace globalisation as well. Globalisation increases Singapore's vulnerability to external shocks. With the slowdown in global economy (Extract 9), Singapore's demand for exports will fall when there is worldwide pessimism. The fall in  $(X-M)$  will worsen BOT and result in a fall in AD and multiple fall in real GDP via the reverse multiplier process. Hence resulting in negative actual growth and rising cyclical unemployment.

In addition, globalisation results in skill-biased technological change (Extract 9), in which Singapore loses comparative advantage in labour-intensive production to low-cost emerging economies such as China and Vietnam. The relocation of firms results in higher structural unemployment as the retrenched workers from sunset industries do not have the relevant skills to work in sunrise industries. This also further widened the income gap (Extract 9) when the demand for higher-skilled labour rises while the demand for lower-skilled workers falls. Therefore, the Singapore government's decision to embrace globalisation may not be justifiable.

In contrast, the UK's decision to deglobalise may bring in some benefits as evident in Extract 8. With the restrictive immigration policy that reduces the number of foreign workers entering the UK economy, wages will rise. Firms will then be incentivised to invest in labour-saving technology in order to cut cost, thereby increasing productivity in the economy. Furthermore, the decision to leave the EU may also cause some firms to relocate to the UK so as to avoid being subjected to British tariffs, allowing an increase in  $I$ , improving the macroeconomic performance in terms of growth, employment and balance of payments. Therefore, the Singapore government's decision to embrace globalisation may not be justifiable as it can be seen that there are some benefits to gain through deglobalisation.

In conclusion, the Singapore government's decision to embrace globalisation is justifiable to a large extent due to her nature of being a small and open economy (Extract 9). The lack of natural resources makes Singapore vulnerable to imported inflation, and globalisation allows Singapore to source for cheaper imports. Globalisation also allows Singapore, a highly trade dependent economy, to overcome her small domestic market to achieve higher economic growth and favourable balance of payments. Nevertheless, globalisation is a double-edged sword. The Singapore government must take a more proactive intervention (Extract 9) to reduce the unintended consequences of the loss in comparative advantage, structural unemployment and rising income inequality to ride the wave of globalisation. These can include more education and training as well as development of new niche areas of comparative advantage.

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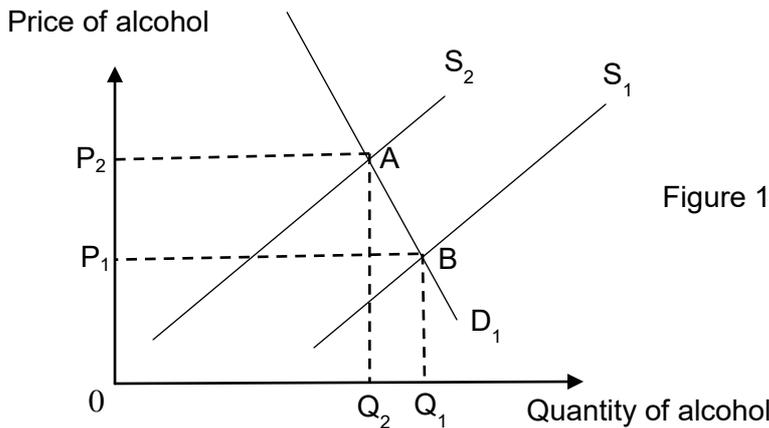
**Question 1:**

With higher income and the influence of media, there is a rising consumption of alcohol. To reduce the rising consumption, Singapore imposes indirect tax on alcohol while Scotland introduces minimum price for alcohol.

- (a) Explain the likely effect of indirect tax and minimum price on expenditure by consumers on alcohol. [10]
- (b) Using demand and supply analysis, discuss whether indirect tax or minimum price is more effective in reducing quantity of alcohol sold with the rising income and influence of media. [15]

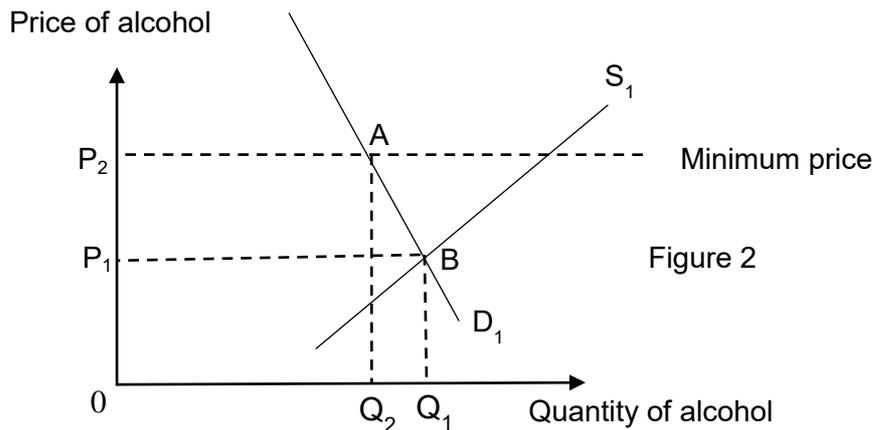
**Part (a)**

To reduce the negative effects due to consumption of alcohol, government can either raise tax or set a minimum price. This will result in a rise in price and hence discourage and reduce consumption of alcohol. An indirect tax can be imposed on the alcohol to discourage consumption of alcohol. With a rise in tax, this will increase the unit cost of production on the producers. Less profit will be made with the same selling price. Hence, firms will be less able and willing to supply a good at any given price. This shifts the supply curve for alcohol leftwards from  $S_1$  to  $S_2$  as shown in Figure 1.



As alcohol is quite addictive in nature, the demand for alcohol tends to be price inelastic. With a fall in supply, price rises and quantity demanded falls by more than proportionate. Hence total expenditure for consumers rises. Before tax, consumer expenditure is shown in the area  $AQ_1D$ . After tax, consumer expenditure rises from  $OP_1BQ_1$  to  $OP_2AQ_2$ . Hence, an indirect tax on alcohol will result in consumers paying a higher price and given that the demand is price inelastic, consumer expenditure will rise.

To discourage the consumption of alcohol, government can also set a minimum price. A minimum price is a price set above the equilibrium price, making the price of alcohol to rise. Before government impose a minimum price, consumer expenditure is shown in the area  $OP_1BQ_1$  in Figure 2. After imposing a minimum price at  $P_2$ , the consumers' expenditure rises to  $OP_2AQ_2$ . This has the same effect of an indirect tax.



Hence, with a minimum price set on alcohol will result in consumers paying a higher price and given that the demand is price inelastic, consumer expenditure will rise.

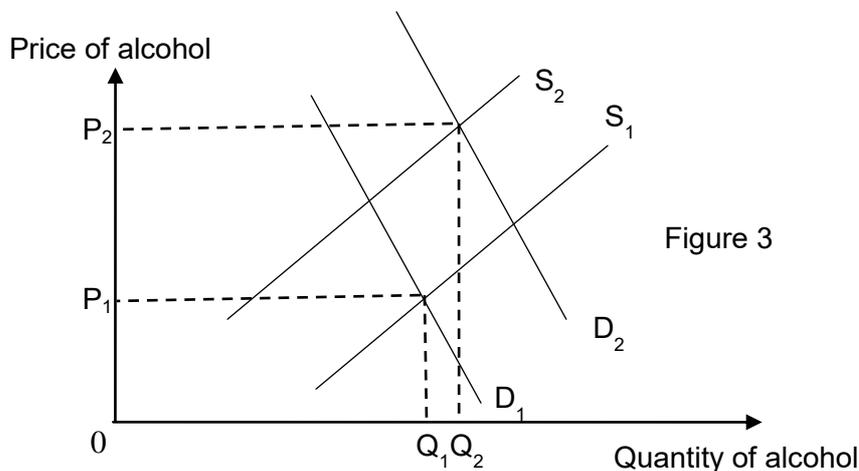
In conclusion, both indirect tax and minimum price will result in higher prices and lower quantity. Whether the consumer expenditure will rise or fall will depend on the elasticity of demand for alcohol. Given the demand tend to be price inelastic, the consumer expenditure is expected to rise.

**Part (b)**

Given a rising income and influence of media, whether indirect tax or minimum price is more appropriate in reducing the quantity of alcohol sold will depend on how effective these policies are considering the benefits, costs and any unintended consequences of these policies. With rising income, the demand for alcohol will rise assuming that the alcohol is a normal good. Given the influence of media, advertising encourage consumption of alcohol and changes the taste and preference of consumers and hence increase the demand for alcohol and make the demand more price inelastic.

**Rise in indirect tax + Rising income + Influence of media**

With a rise in indirect tax, it raise the unit cost of production of firms causing the supply to fall and shift to the left. With a rise in demand and a fall in supply for alcohol, price rises while quantity is uncertain. Assuming the demand rises more than the fall in supply, both price and quantity will rise  $P_1$  to  $P_2$  and  $Q_1$  to  $Q_2$  respectively, making indirect tax ineffective in reducing the quantity of alcohol sold as shown in Figure 3.



However, if the rise in demand is less than the fall in supply, price will rise from  $P_1$  to  $P_2$  while quantity will fall from  $Q_1$  to  $Q_2$ . Hence, indirect tax will be effective in reducing the quantity of alcohol sold as shown in Figure 4.

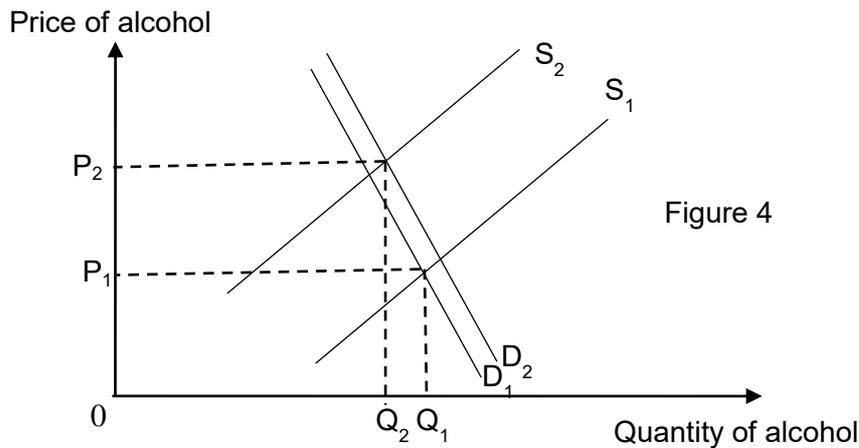


Figure 4

Hence, the effectiveness of an indirect tax in reducing alcohol consumption will depend on the extent of the shifts in the demand and supply curve. Whether a minimum price is effective in reducing consumption of alcohol will depend on the amount of minimum price set and the extent of the shift in demand due to rise in income and influence of media.

Minimum price + Rising income + Influence of media

With a minimum price  $P_2$  set above the equilibrium price  $P_1$ , it forces the firms to sell alcohol at  $P_2$ . Quantity sold will fall from  $Q_1$  to  $Q_2$ . Assuming the demand rises to a large extent from  $D_1$  to  $D_2$ , quantity will rise from  $Q_2$  to  $Q_3$ , making minimum price ineffective in reducing the quantity of alcohol sold as shown in Figure 5.

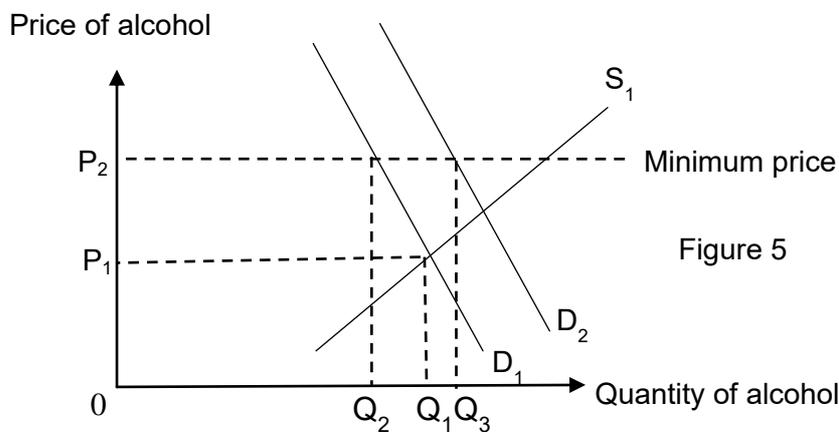


Figure 5

However, if the demand rises to a small extent from  $D_1$  to  $D_2$ , quantity will fall from  $Q_2$  to  $Q_3$ , making minimum price effective in reducing the quantity of alcohol sold as shown in Figure 6.

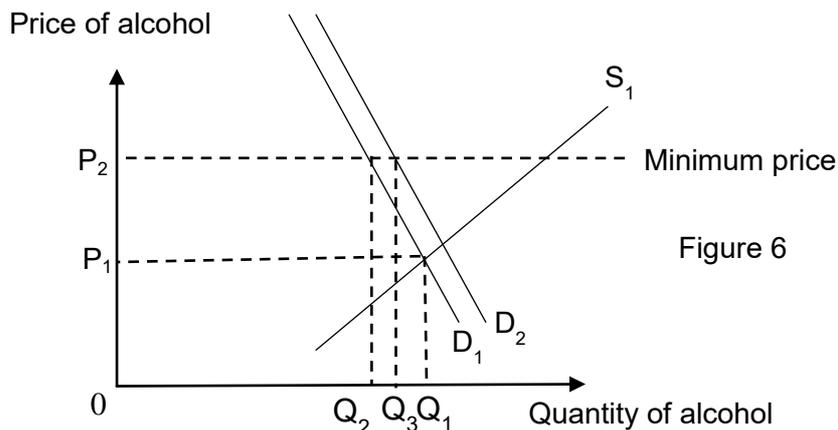


Figure 6

Hence, the effectiveness of setting a minimum price in reducing alcohol consumption will depend on the extent of the shifts in the demand and the extent of the minimum price set above the equilibrium price.

In conclusion, both policies like indirect tax and minimum price are ineffective in reducing the quantity of alcohol sold as they do not target at the root cause of the problem. However, with a rise in income and influence of media, indirect tax on alcohol seems to be more appropriate than a minimum price in reducing the quantity of alcohol sold considering the benefits and costs of both policies.

Hence, both policies can only be a short term measure. In the long run, government needs to target at the root cause of the problem which is educating the consumers to reduce consumption of alcohol due to the negative effects of alcoholism.

**Question 2:**

**Large firms will be efficient as long as they operate in a contestable market with threats from potential rivals.**

- (a) **Explain why some large firms operate in a contestable market while others do not. [10]**  
(b) **Discuss whether a government always need to intervene when firms are large. [15]**

A contestable market arises when there is no or low cost to entry and exit for firms into an industry. This results in greater threat from potential rivals which are more willing to 'test out' the market and take over the existing monopolistic or oligopolistic firms so that they can enjoy the large supernormal profits. Even if they fail to do so, they will not incur a large loss due to the low cost of exit thus making the market more contestable and vulnerable to potential rivals. Some large firms operate in contestable markets while others do not due to the amount of sunk costs, access to technology and government policies.

Some large firms operate in contestable markets due to low sunk costs while others do not due to high sunk costs.

Sunk costs refer to costs that have already been incurred by the firms and cannot be recovered even if the firms choose to leave the industry. Examples of sunk costs are costs expended on capital goods which have no resale value. The amount of sunk costs affects a firm's decision to enter the industry.

In the distribution of water, electricity and rail transport industry where sunk costs are high due to the highly specialized infrastructures that are needed to be set up before the production process can take place, such industries usually exhibit lower levels of contestability since they act as substantially high barrier. For example, in the water and electricity industry, high sunk cost is incurred to lay power grids and water pipelines through households thus making these industries are less contestable. Potential entrants need sufficient resources to cover the high start-up capital and also risk making huge losses if they decide to leave a market prematurely.

On the other hand, large web browsing firms operate in a contestable market due to the lower sunk costs of entry and exit faced by potential rivals in this market. The potential rivals do not need to incur high sunk cost to set up specialized infrastructures to set up a web browser and hence are more likely to enter the market to challenge the existing dominant firms. Hence, there are many smaller web browser in the market.

Thus, large firms that operate in markets with lower sunk costs are likely to be contestable and face greater threat from potential rivals.

Access to technology is another factor that determines the contestability of a market.

Easier access to technology makes some markets more contestable than others. In the case of the sharing economy, disruptive technologies arising from advancement in functions of smart devices such as smartphone applications have made it easier for firms to enter markets such as the taxi and hotel markets. These markets were previously less contestable as new entrants need to have the financial resources to obtain the physical resources required to set up the business. However, access to technology has enabled new entrants to tap on others' assets without having to incur high cost of obtaining these assets.

Hence, access to technology helps to promote the growth of the sharing economy and makes it easier for firms to enter a market without incurring high costs of acquiring assets leading to a more contestable market.

Lastly, government policies also explain why some large firms operate in contestable market while others do not.

Generally, government may set up artificial barriers to entry e.g. patents and licenses to make it difficult for other firms to enter. This makes the markets such as the banking and transportation markets less contestable. However, with deregulation, governments may lower the barriers to entry making it easier for potential rivals to enter the market, hence making it more contestable.

Thus, change in government policies to lower the barriers to entry make some larger firms operate in more contestable market than others.

In conclusion, some large firms operate in a contestable market while others do not due to the differences in the amount of sunk cost, access to technology and government policies. Hence, the extent of government intervention may also vary for large firms in different markets.

**(b) Discuss whether a government always need to intervene when firms are large. [15]**

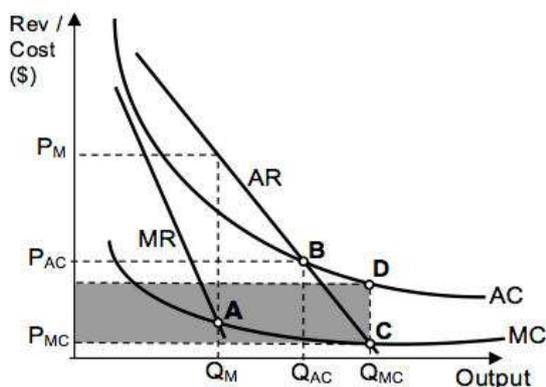
Government intervenes in a market to seek greater efficiency and equity. When firms are large and take up a large market share, there is a great possibility that the firms will exploit their market dominance leading to inefficiency and inequity. Hence, there is a need for the government to intervene so as to maximize society's welfare. However, this may not always be true depending on whether the large firms operate in a contestable market which makes them more likely to innovate and pass on their cost benefits to the consumers. Furthermore, government should always weigh the costs and benefits of their intervention before deciding whether to intervene or not.

Government intervention is needed when a large firm dominates a market and monopolises a market resulting in allocative inefficiency. In the extreme case, a large firm such as the water supplier could act as a natural monopoly leading to significant welfare loss without government intervention.

As illustrated in Figure 1 below, a natural monopoly has substantial amount of economies of scale and hence its average cost (AC) curve is constantly falling for the entire market demand and the marginal cost (MC) curve lies below the average cost curve. Without government intervention, the natural monopoly has the market power to restrict output by creating an artificial scarcity and set price of  $P_M$  at the profit maximizing level of  $Q_M$  where  $MC = \text{Marginal Revenue (MR)}$ . In addition, with high barriers to entry that prevent the entry of competitors, a monopoly firm can sustain the high prices set in the market. This results in price to be set at a level that is higher than MC and a welfare loss to the society due to the underproduction of  $Q_M Q_{MC}$  where  $Q_{MC}$  is the allocative efficient output where  $P = MC$ . Hence, the presence of large firms in the case of a monopoly or natural monopoly leads to inefficient allocation of resources in the free market. To achieve allocative efficiency, government can intervene through MC pricing where firms must set price that equals MC where they

produce at  $MC = \text{Average Revenue (AR)}$ . MC pricing allows consumers to have access to higher output,  $Q_{MC}$  and lower price,  $P_{MC}$ , than the profit maximizing output and price.

**Figure 1: Natural monopoly**



However, when MC pricing is applied to a natural monopoly, its AC will be higher than  $P_{MC}$  and the natural monopoly will have subnormal profits. Therefore, government will have to subsidise the natural monopoly in order for it to continue its production. While implementing MC pricing ensures allocative efficiency, it is not without its limitations. Subsidies provided for natural monopoly eats into government's funds and incur opportunity costs as this should be thoroughly considered by weighing the importance of different government spending as the funds could be used on other areas such as healthcare or public goods. Alternatively, the government can intervene via AC pricing where the natural monopoly is forced to lower their price to  $P_{AC}$  and produce at  $Q_{AC}$ . Although there is still allocative inefficiency, the welfare loss is reduced and the firm is able to continue to make normal profit and does not require any form of subsidy from the government.

Government intervention is needed when large firms with their high barriers to entry can continue to enjoy supernormal profits in the long run resulting in inequitable distribution of income.

Large firms with high barriers to entry can continue to enjoy supernormal profits even in the long run. The high barriers to entry ensures that they maintain their market share in the long run and hence they can continue to charge a price that is higher than the average cost, thus resulting in supernormal profits. Income is being redistributed from the (majority) consumers to the (minority) group of producers. This is seen as an inequitable distribution of income and government intervention is hence needed.

Government can impose a lump-sum tax on the supernormal profits earned by the large firms. This causes the AC curve of the large firms to rise which reduces the supernormal profits. This tax revenue raised by the government can be used to subsidise the consumers thus reducing the inequitable distribution of income.

However, with the reduction of supernormal profits, large firms will have less incentive and ability to innovate. This may in turn affects consumer welfare as innovation is necessary to improve the quality and variety of goods available.

Government intervention is needed when a large firm that dominates a market has little incentive to keep their costs low due to the lack of competition. This results in X-inefficiency and wastage of

scarce resources.

Large firms may face little competition and become complacent. There is thus little incentive for a large dominating firm to monitor its costs. Thus, large firms may not use the least cost method of production resulting in X-inefficiency. Hence, government intervention in the form of regulation such as an antitrust policy can be used to encourage competition and discourage monopoly practices. An antitrust policy usually prevents firms from exploiting their market power by limiting mergers in an industry or put in place patent periods to break up monopolies.

However, the execution of such regulations can be very costly as it involves participations from many professionals such as lawyers and economists. Similarly, the successful implementation of such regulations depends on the ability of the government to ensure minimal loopholes in their monitoring. Information and evidence of firms' behavior is difficult to put together, especially in large countries. For example, firms might argue that the rising prices are results of rising costs rather than the exploitation of market power.

In addition, such intervention is not necessary if the large firm operates in a contestable market. Hence, despite the lack of actual competitors, large firms that operate in a contestable market face threat from potential rivals. This will ensure that the large firms remain efficient and do not exploit consumers for fear of being taken over by the potential rivals.

In conclusion, government intervention is often needed when large firms dominate the market causing allocative inefficiency, X-inefficiency and inequitable distribution of income. This is particularly true for large firms that operate in a natural monopoly and non-contestable markets.

However, the government needs to recognize the limitations and unintended consequences of its intervention. Furthermore, if the market is contestable, large firms can behave efficiently and equitably without the need for costly intervention. With advancement of technology, this has lower the sunk cost of entry and exit to many markets and hence government intervention may not always be required. At most, governments should regularly review its policies to ensure that the markets remain or become more contestable.

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### Question 3:

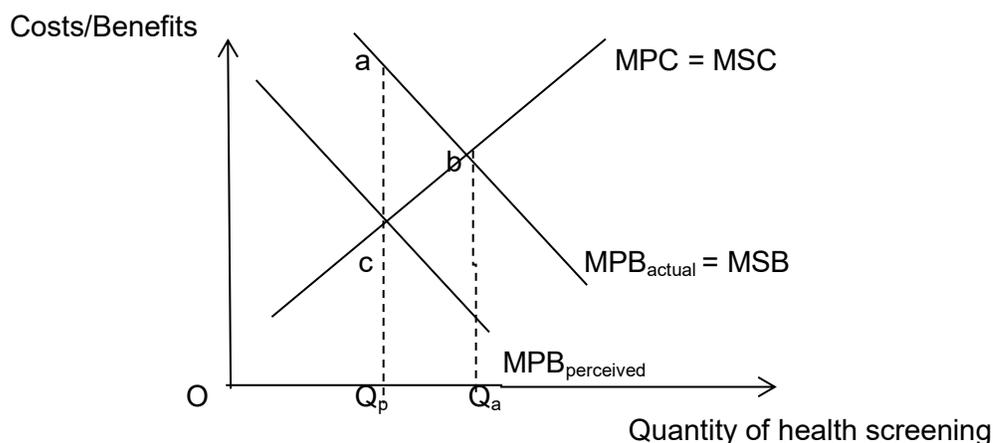
The healthcare and insurance markets tend to fail due to information failure.

Discuss whether the Singapore government currently adopts appropriate policies to correct the above market failure. [25]

Market failure may arise in markets for different goods and services due to information failure. Information failure refers to economic agents not having perfect or equal information and it can occur in two instances. Firstly, it exists when some agents in an economic transaction have imperfect knowledge regarding their true private benefits. Secondly, it exists when an agent in an economic exchange has more information than the other, resulting in asymmetric information. Asymmetric information in turn leads to market failure due to adverse selection and moral hazard. This can be seen in the markets when buyers have more information than sellers e.g. in a health insurance market.

Imperfect knowledge arises when individuals are unable to value their private benefits or private costs of consuming certain goods and services correctly due to incorrect or incomplete information about the actual private benefits or costs.

In the case of health screening, consumers may put off health screening as they are unaware or misinformed of the full extent of the private benefits associated with consuming healthcare services, such as the higher chances of recovery should diseases be detected and treated early. Thus, the  $MPB_{\text{perceived}}$  is lower than the  $MPB_{\text{actual}}$ . If left to the free market, consumers will consume healthcare up to the point  $Q_p$ , where  $MPB_{\text{perceived}}$  is equal to  $MPC$ . However, the consumer's optimal level of consumption is at  $Q_a$ , where  $MPB_{\text{actual}}$  is equal to  $MPC$ . Since  $Q_p$  is less than  $Q_a$ , there is under-consumption of health screening. Between  $Q_p$  and  $Q_a$ ,  $MPB_{\text{actual}}$  is higher than  $MPC$ , resulting in a welfare loss of area  $abc$  to consumers, who would be better off by increasing consumption. Since there is inefficient allocation of resources, market failure arises.



In a market where buyers have more information than sellers – e.g. a health insurance market, market can be inefficient due to adverse selection and moral hazard problems.

Consumers of health insurance have complete knowledge on their individual health conditions

but they are unwilling to declare this full information to the health insurance companies. This resulted in the asymmetric information problem between buyers and sellers of health insurance. When buyers with higher health risks (eg. smokers) buy more and higher coverage insurance, the insurance companies will face more frequent and higher payouts to these buyers who have a higher possibility of suffering from severe health ailments. These payouts reduce the insurance profits. Thus, health insurance companies will raise the price of the health insurance (ie higher insurance premiums) in an attempt at maximising their profit in the absence of full accurate information from the buyers. However, higher insurance premiums deter buyers with lower health risks from buying health insurance, resulting in lower output consumed.

In addition to adverse selection, a health insurance market can fail due to the problem of moral hazard. Moral hazard is a situation where an economic agent, having more information about its actions or intentions, has a tendency to take more risks because the costs that could result are not borne completely by the party taking the risk. The party with more information thus has a tendency or incentive to behave inappropriately from the perspective of the party with less information.

For individuals without health insurance, they are more likely to care for their health by exercising, eating healthily and going for annual health checks as they are liable for the full cost of their own medical bills. However, when these individuals buy health insurance with full coverage (by adding on full riders), they may indulge in unhealthy lifestyles. If they were to fall ill and be admitted to hospitals, these individuals may seek expensive medical treatments with more frills knowing that their hospital bills will be fully borne by the insurance companies. This is the problem of moral hazard - when economic agents take greater risks than they normally would because the costs that would result would not be borne by the economic agents themselves. As a result of the insurance bought, the consumers overconsume healthcare services leading to wastage of resources.

Hence, information failure in the healthcare and insurance markets leads to market failure. Firstly, imperfect information in the healthcare market leads to under-consumption due to undervaluation of true benefits. Secondly, asymmetric information in health insurance market where buyers have more information can lead to adverse selection and moral hazard, causing market failure. Thus, government has been seen intervening in these markets with information failure.

When the market fails due to imperfect information on actual benefits of health screening, the government can make information available for consumers in order for them to be aware of the true private benefit and cost.

This can be done through public education and campaigns to raise awareness of the actual benefit and cost. When market failure arises in the healthcare sector due to under-consumption as consumers are unaware of the preventive healthcare benefits. As consumers are now more aware of the true benefits, consumption of healthcare will increase when  $MPB_{perceived}$  shifts rightwards to  $MPB_{actual}$ .

However, such public education and campaigns may be costly for the government to implement such policies nationwide as they must be adopted consistently over a long period of time for the effects to be seen. Furthermore, effectiveness depends on the receptiveness of the consumers' to these messages

In the case of adverse selection in medical insurance, an enhanced health screening is implemented. This is to get potential buyers of medical insurance to undergo thorough medical check-up before they buy the insurance. Such screening allows the sellers of the insurance to gain more information on the buyer before the transaction. Health insurance premiums are also pegged to a person's age, as younger people may be viewed as being lower risk.

However, such standardised health checks increase cost. The insurance companies can also pass on the higher costs to buyers in the form of higher insurance premiums, reducing consumer surplus.

To ensure individuals with health insurances do not engage in reckless behavior and make unhealthy lifestyle choices, the Singapore government has implemented the features of deductibles (amount of S\$1500 to S\$3000) and co-insurance (at the rate of 3% to 10%) for all inpatient healthcare bills of insured individuals. Deductibles are the fixed amount of healthcare bill consumers have to first pay before they can get insurance company to pay. The remaining amount of healthcare bills (after subtracting deductibles) is payable by both insurance companies and consumers. Co-insurance is the consumer's portion of healthcare bills (after subtracting deductibles). The deductibles and co-insurances are generally effective at deterring consumers from taking risky behaviour and choosing excessive healthcare treatments as consumers have to pay for their healthcare costs. By ensuring consumers take responsibility of their own behaviour and choices, the problem of moral hazard can be reduced.

However, overtime, private health insurance with additional coverage (integrated Shield Plans) with full riders became more popular in Singapore. This type of private insurance increases the moral hazard problem. These insurance (with full riders) will result in zero co-insurances and deductibles for insured individuals; causing moral hazard problem to persist. In

In conclusion, to address the market failure due to information failure in the healthcare and insurance markets, a combination of policies should be implemented to tackle the various root causes and enhance the effectiveness of policies. In addition, the Singapore government should also ensure that its policies do not bring about unintended consequences. For example, while standardised healthcare checks will reduce the problem of adverse selection, it might also make healthcare insurance unaffordable to consumers with poor health. Thus some form of subsidies to consumers with poor health or having nation-wide healthcare insurance for all regardless of health conditions will reduce such unintended consequences.

## Jurong Pioneer Junior College 2019 JC 2 H2 Economics P2 Preliminary Examination

### Question 4:

Economic performance of a country is measured by the ability to achieve sustained economic growth, price stability, full employment and favourable position of balance of payments.

- (a) Explain the possible conflicts between government objectives. [10]  
(b) Discuss the appropriate policies that the Singapore government could adopt to maintain strong economic performance into the future. [15]

#### 4(a)

The four main key macroeconomic objectives of the government are sustained economic growth, full unemployment, price stability and a favourable balance of payment (BOP) position. To achieve these objectives, the government can adopt demand side policies such as fiscal, monetary policies to boost the aggregate demand or supply side policies to boost the productive capacity of the economy and increase the aggregate supply and hence expanding the economy. However, in adopting any of these policies, the government may encounter conflicts in achieving its objectives.

One conflict that a government may encounter is between inflation and growth / unemployment.

The government may adopt expansionary monetary policy to raise economic growth (actual growth) and reduce unemployment rate. However, this may result in a possible conflict of maintaining price stability. To raise economic growth, the Central Bank may reduce interest rates to boost the level of consumer spending and investment expenditure. A fall in interest rates reduces the cost of borrowing, and consumers are more willing to borrow money to buy big-ticket items such as cars and yachts. A fall in cost of borrowing also result in a rise in firms' borrowing to buy new capital goods. With the same expected returns from investment, a fall in cost of borrowing leads to a rise in profitability from investments. Firms are more willing to borrow to invest on new capital goods resulting in a rise in investment expenditure. As consumption and investment increases, AD increases and as AD shifts rightward from  $AD_1$  to  $AD_2$ , there will be an increase in real output (refer to Figure 1 above) and economic growth. The rise in consumer spending and investment expenditure result in an increase in demand for labour resources as firms produce more goods and services, hence unemployment will be reduced. Assume that there is spare capacity in the economy, actual growth is achieved with a reduction in unemployment.

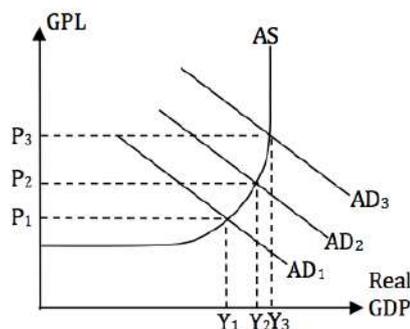


Figure 1

However, an expansionary monetary policy to raise economic growth and reduce unemployment may result in demand-pull inflation if the economy is already operating near the full employment level. This is shown in Figure 1 where the AD curve shifts from  $AD_2$  to  $AD_3$ . In such a situation, there would be a significant increase in the general price level of goods and services but marginal or negligible increase in real output and hence economic growth.

In this case, the expansionary monetary policy has result in an inflationary situation in the economy.

In pursuit of higher economic growth, a government may face with another conflict, which is between economic growth and BOP position.

As mentioned in the above, economic growth can be raised through the use demand-side policies like expansionary monetary policy. As firms produce more goods and services, there is a greater need to import more capital goods to produce more goods and services. In addition, as the level of income rises, consumers may demand for more imported consumer goods and services. Hence, the level of import expenditure in the economy may rise and this result in a current account deficit in the BOP account which may give rise to a BOP deficit. In addition, when implementing expansionary monetary policy to raise actual growth. A lower interest rate could cause an outflow of short term capital as foreign investors withdrew their money from the country and transfer to other countries with relatively higher interest rate of returns. This will have a negative impact on the Capital Accounts of the Balance of Payment.

Thus, a government may encounter another conflict, which is between economic growth and favourable BOP position.

Another conflict faced is between economic growth and structural unemployment.

Being open to trade and capital flows implies that economies are likely to undergo structural changes. Sunset industries, facing competition from imports, will suffer losses and shut down, shifting production to other countries. For example, labour intensive production had shifted from Singapore to China and Vietnam. In addition, more FDI in the biomedical and aerospace industries have come into Singapore, creating jobs that require high skilled labour. While it has helped Singapore achieve sustained growth in a challenging global economy, it has also led to an increase in structural unemployment in Singapore, as the older low skilled and less educated workers from manufacturing do not possess the skills necessary to take up jobs in the biomedical and aerospace industries. Also, not everyone has the ability to learn new skills and take up new jobs in growing industries.

Hence, structural unemployment is likely to rise as economy undergoes structural changes and government policies are targeted at developing new sources of growth to achieve sustained growth.

The possible conflicts between government objectives imply that it is impossible to achieve all four macroeconomic aims together in the short-run.

#### 4(b)

To maintain strong economic performance into the future, the Singapore would need to adopt appropriate policies that would increase AD and AS over time to achieve the 4 macroeconomic aims in the long run. These include: sustained economic growth, price stability, full employment and favourable BOP. The policy options that would help Singapore maintain strong economic performance into the future depends on (i) the nature of the Singapore economy and (ii) the challenges that the Singapore would face in the future. The suggested key policies would include monetary policy centered on exchange rate, supply-side measures to increase labour productivity and free trade policy.

As Singapore lacks natural resources, she is heavily dependent on imports and a price taker in the global market. Hence, this makes her susceptible to imported inflation that would result in cost-push inflation due to the high volume of imported resources, semi-finished goods and basic necessities. In addition, being an open economy to trade, Singapore is dependent on exports to raise economic growth. Singapore's value of her exports makes up almost 240% of her GDP, indicating her high degree of openness to foreign trade. Her manufacturing exports have very high import content.

A gradual appreciation of the Singapore dollar (SGD) via Singapore's monetary policy will help to reduce the extent of imported inflation. By keeping the prices of these imported raw materials low, this will enable the firms to keep cost of production low, hence leading to low cost-push inflation in Singapore. In addition, Singapore may experience short-term external shocks like global economic downturn that would reduce Singapore export growth. The Monetary Authority of Singapore may set the rate of the Singapore dollar's appreciation to zero per cent, in a move to support economic growth against a dimmer global economic outlook. This policy choice would help to reduce the extent of dampened export growth but may not help Singapore to recover from an external shock. Recovery is still dependent on the economic condition of her major trading partners. Hence, such a policy option is necessary but not sufficient during a period of global downturn (or economic slowdown).

In addition, it is important to note that an appreciation of the Singapore dollar may lead to higher price of exports which will lead to a more than proportionate fall in quantity of exports, assuming PED for exports is more than 1. This will cause our export earnings to fall and thus may adversely affect Singapore's current account and balance of payments performance.

In view of Singapore's dependences of trade (export and imports), a monetary centered on exchange rate is an appropriate policy to manage short-run external shocks.

To ensure that Singapore continue to enjoy a favourable BOP, the Singapore government complements the policy of gradual appreciation with supply-side policy. Through supply-side policies such as providing subsidies for retraining and R&D to promote process and product innovation, this will help to raise our labour productivity which leads to a fall in unit labour cost. This makes our exports more price competitive and offset the increase in price of exports caused by the policy of gradual appreciation.

With a higher export revenue, Singapore's aggregate demand (AD) and hence national income can rise by a larger extent via the multiplier effect, thus leading to higher economic growth and employment. Supply-side policy of retraining (e.g. Skillsfuture and Adapt and Grow) also ensures that our workers will be equipped with the necessary skills to adapt to the structural changes of the economy. This helps to close the mismatch of skills between the workers and the new job requirement, thus reducing structural unemployment. With the increase in both aggregate demand ( $AD_1$  to  $AD_2$ ) and aggregate supply ( $AS_1$  to  $AS_2$ ) brought about by supply-side policies, Singapore will be able to continue to enjoy sustained or non-inflationary economic growth into the future as shown in Figure 1 where real GDP rises from  $Y_1$  to  $Y_2$  and subsequently to  $Y_3$  while GPL remains at  $P_1$ . Hence, the combination of a gradual appreciation stance and supply-side policies help to ensure that Singapore continues to enjoy strong economic performance into the future.

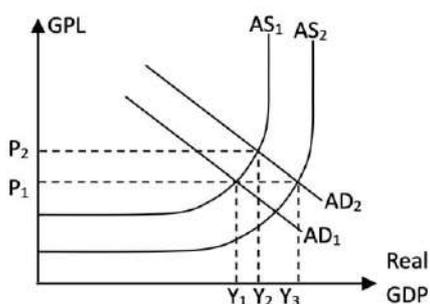


Figure 1

However, the extent to which raising productivity can maintain strong economic performance into the future depends on the effectiveness of the measures to raise labour productivity and its unintended consequences. Firstly, the measure to raise labour productivity through promoting innovation is long-term, costly and has uncertain effects. The success of measures to invest in people depends on the willingness of the workers to undergo retraining and pick up new skills.

Moreover, Singapore government has used a policy of restricting foreign labour which leads to higher wage cost so as to encourage firms to use less labour and innovate with more capital. However, in the short run, it may not be easy to substitute machines for labour and hence wages may rise faster than labour productivity resulting in higher cost of production leading to higher cost push inflation in Singapore. Higher inflation may not bode well for Singapore's export competitiveness and may affect Singapore's growth and employment.

In view of Singapore's dependence on exports and the rising threat of protectionism, there is a need to diversify her export markets to reduce the extent of external shocks so as to continue to maintain strong economic performance into the future.

The Singapore government should continue to expand her Free Trade Agreement (FTA) network such as the Comprehensive and Progressive Agreement for Trans-Pacific Partnership which was concluded in 2018 after USA pulled out from the original TPP in 2016. A Free Trade Agreement (FTA) is a legally binding agreement to reduce or remove barriers to trade and investment to facilitate closer economic integration between member countries. Under an FTA, member countries provide each other favorable treatment for goods, services and investment. Such favorable treatments include reduced tariffs (which are tax on imported goods), easier access to markets and opening up various sectors for investment opportunities.

FTA has enabled Singapore to gain higher exports than imports. For example, with the signing of the EU-Singapore FTA, European exports to Singapore are expected to grow 3.6% while Singapore's exports are expected to grow 10.4% over a 10-year period. With higher net X, Singapore's AD will rise.

At the same time, the influx of FDI from the member countries will bring about greater knowledge and technology transfer leading to higher productivity and aggregate supply. Hence, the expansion of FTA ensures that Singapore continued to enjoy healthy BOP, sustained economic growth and low unemployment, leading to a strong economic performance in the future.

Given the significant benefits of FTA to Singapore, it is important that she maintains a strong economy so that member countries will benefit by exporting to and investing in Singapore and hence will be more willing to sign FTA with Singapore. This is particularly important in time of a global economic slowdown which makes countries resort to more protectionist measures to promote domestic growth and become less willing to sign FTA. In addition, signing of more FTA will increase the competition for Singapore's domestic firms and speed up structural changes in the economy which will affect her workers. Thus, it is important to complement FTA with supply-side policies to ensure that her domestic firms remain competitive against the greater influx of foreign firms and her workers are adaptable so that they will not be structurally unemployed.

To sum up, the Singapore government has to adopt both short-run and long-run policies to maintain strong economic performance into the future. A combination of policies would bring about the rise in AD and AS over time, resulting in maintaining strong economic performance into the future.

## Jurong Pioneer Junior College 2019 JC 2 H2 Economics P2 Preliminary Examination

Question 5:

Twin deficits refer to a situation where an economy is running both a fiscal deficit and also a deficit on the current account of the balance of payments.

(a) Explain the links between fiscal deficit and current account deficit. [10]

(b) Assess the policies an economy can adopt when correcting its twin deficits. [15]

(a) A fiscal deficit is when the government's income from tax revenue is less than its spending. If the government runs persistent deficits over several years, these debts will accumulate. A current account deficit is when total earnings from visible and invisible trade are less than the total expenditure on visible and invisible trade.

An expansionary fiscal policy will involve increasing government spending and/or reducing tax rates, and this will have the effect of increasing the fiscal deficit.

An increasing fiscal deficit through expansionary fiscal policy can increase the level of aggregate demand (AD) when consumption, investment and government expenditure increases. When AD rises, it stimulates many rounds of increase in induced consumption, bringing about a multiple rise in real income (multiplier effect) thus achieving higher economic growth. Higher economic growth of national income will lead to higher demand for imported goods and services, thus worsening the current account position, assuming exports unchanged. For example during the early stages of development of a developing country, she has to spend heavily on imports of vital capital inputs. Assuming that the import expenditure exceeds export revenue, this would lead to a current account deficit.

An increasing fiscal deficit through expansionary fiscal policy can increase the level of aggregate demand (AD). When AD rises, it stimulates many rounds of increase in induced consumption, bringing about a multiple rise in real income (multiplier effect) thus achieving higher economic growth. An excessive or continuous increase in the AD may result in demand pull inflation, assuming that the economy is nearing full employment or at full employment as producers will pay more to obtain the desired production and will increase the price of their output to maintain profits.

An increase in the price levels will increase the price of exports. Assuming that the demand of exports is price elastic, an increase in the price of exports will lead to a more than proportionate decrease in the quantity demanded for exports. This will lead to a fall in exports revenue, worsening the current account deficit, *ceteris paribus*.

An increase in the current account deficit means that there is an increase in import expenditure and a fall in export revenue. This will indicate that the economy's AD is falling. When AD falls, it implies that the output is falling and hence firms will cut back on their production and labour demand. This may result in higher unemployment. With more firms cutting back on production and more people being unemployed, the government collects less tax revenue from corporate and personal income tax respectively, assuming tax rate unchanged.

Assuming that the contraction of economy via a fall in AD persist, the government may need to stimulate the economy further by increasing government expenditure such as on constructions of infrastructure and healthcare services and spending on unemployment benefits. With a fall in tax revenue and increase in government expenditure, an increasing current account deficit may worsen the economy's fiscal deficit.

Thus, economists believe a large budget deficit is highly correlated to a large current account deficit.

(b) An economy has a current account deficit if the total earnings from visible and invisible trade are less than the total expenditure on visible and invisible trade. A deficit in the current account may be detrimental in the long run because it may either mean that the country may have to borrow from other countries or it may have to reduce its stock of foreign reserves which is limited. A fiscal deficit may be a concern to the government if the deficit accumulates to a large government debt.

An economy can implement a restrictive fiscal policy such as a rise of taxes and/or a cut in government expenditure to reduce the large fiscal deficit. High levels of fiscal deficit can lead to high government debts, and this can worsen investor's confidence and economic growth. When taxes such as income tax or corporate taxes increase, government would be able to collect greater tax revenue. With a cut of government expenditure at the same time, the government fiscal deficit would reduce. This would at the same time restore the confidence that firms would have on the government. A restrictive fiscal policy can also solve a current account deficit. With a fall in AD, there will be a fall in real national income. When income falls, consumers have less purchasing power to buy imports. This will reduce the current account deficit, assuming exports unchanged.

However, there are limitations to the use of a restrictive fiscal policy to reduce the fiscal debt. It can be difficult for a government to cut its budget as government spending would have been planned in advanced and are often essential spending such as healthcare and education. This slows down the economy and may trigger an increase in unemployment in the economy.

A current account deficit can have a contractionary effect on the economy. Therefore, expenditure switching policies are used essentially to raise prices of imports. It attempts to encourage consumers to switch their expenditure from imports towards domestically-produced goods to expand the economy. This can be achieved through implementing tariffs. Tariffs are taxes on import commodities which raises the price of imports in the domestic economy. As the prices of imports sold in domestic economy increases, this will reduce the quantity demanded and import expenditure, resulting in an improvement in the current account deficit. At the same time, with tax revenue from tariffs increase, it can also improve the fiscal position of the economy.

However, tariffs can be ineffective if the demand for imports is price inelastic because the reduction in the quantity demanded is less than proportionately. At the same time, tariffs can also increase imported inflation, causing inflationary pressures in the economy due to cost push inflation. It may also invite retaliation from trading countries whose exports are adversely affected. This would in turn adversely affect the demand for the (deficit) country's exports.

Market-oriented supply side policies to increase the economy's export competitiveness, reducing the current account deficit.

A country can improve the international price competitiveness of the exports by implementing market-oriented supply side policies. In view of a twin deficit, the government may not be able to spend on research and development grants and subsidies to encourage firms to reduce their cost of production. Therefore, the government can implement competition policy as this may force firms to adopt more cost efficient method of lower prices. This can translate to cheaper export prices. Assuming the demand of exports is price elastic, a fall in export prices can lead to a more than proportionate increase in the quantity demanded, causing export revenue to increase, solving the current account deficit.

However, in view of greater competition among firms, some firms may consider streamlining the production process which results in making some workers redundant. Hence, the unemployment rate may rise.

Ultimately, the success of these policies on solving the twin deficit also depends on whether the policies address the root cause and extent of the unintended consequence.

## Jurong Pioneer Junior College 2019 JC 2 H2 Economics P2 Preliminary Examination

### Question 6:

The slowdown of the global economy has caused many governments to consider the use of interest rates to stimulate their economies.

Explain what would reduce the effectiveness of using interest rates to stimulate an economy and assess alternative policies that will be more appropriate in managing the economy when faced with a slowdown of the global economy. [25]

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A slowdown of the global economy will result in a fall in the external demand for an economy's exports and this will lead to a fall in the national output. The immediate impact is that the domestic firms will experience a fall in the demand for their goods and services and if the slowdown is severe, firms will resort to retrench and cut down on the overheads to reduce cost. This will eventually lead to a fall in employment level in the exporting sectors and may even spillover to other industries of the economy.

In view of the fall in aggregate demand (AD) and rising unemployment brought about by the global slowdown, governments may consider lowering interest rates to boost their economies though its effectiveness might be limited by the size of the multiplier ( $k$ ), confidence levels and whether a lowering of interest rates target the root cause of the economic problem. With these limitations associated with monetary policy, there is a need for the governments to implement alternative measures in managing their economies but the policies' appropriateness must also be considered thoroughly.

With a slowdown of the global economy, AD of many economies will fall and some governments may turn to an expansionary monetary policy by lowering interest rates to boost economic growth and employment. The fall in interest rates was meant to raise consumption and investment, leading to a rise in AD and national income via the multiplier process.

Hence, one of the factors that may reduce the effectiveness of monetary policy is the size of the multiplier. The multiplier ( $k$ ) measures the extent to which  $NY$  will increase when the level of autonomous aggregate expenditure increases. It is inversely related to Marginal Propensity to Withdraw (MPW) where its value is equal to the summation of Marginal Propensity to Save (MPS), Marginal Propensity to Tax (MPT) and Marginal Propensity to Import (MPM) and directly related to Marginal Propensity to Consume (MPC).

For instance, a country such as Singapore has a small multiplier due to her relatively high values of MPS and MPM. Being an import-dependent economy, Singapore depends heavily on import for raw materials and finished goods. Thus Singapore has a high MPM. Furthermore, due to her compulsory savings scheme, such as the Central Provident Fund (CPF), there is a relatively high MPS as 20% of workers gross income goes to CPF savings. As a result, high MPM and MPS lead to a large amount of withdrawals from the circular flow of income with any increase in components of AD.

The effectiveness of using interest rates in stimulating an economy also depends on the root cause of the economic problem. For a trade driven economy, a global economic slowdown will affect her export earnings significantly and subsequently lower economic growth and employment. However, lowering of interest rates target mainly consumption and investment, and may be ineffective in boosting the AD of an economy that is heavily dependent on export earnings. For a trade driven economy whose exports take up a large proportion of her national income, the use of interest rates reduces the effectiveness of boosting the economy.

Apart from the use of interest rates and in view of its limitations, an economy such as Singapore could allow the Sing dollar to depreciate to deal with a fall in external demand from the global economic slowdown. This policy is most appropriate in view of the nature of her economy, which is very dependent on foreign trade as exchange rate changes impact prices of import and exports directly.

A weaker Singapore dollar lowers the price of Singapore exports in foreign currency. Assuming that the price elasticity of demand for exports is more than one, a fall in the price of exports will lead to a more than proportionate increase in the quantity demanded and overall, export revenue will rise. This will increase AD and via the multiplier process, national income will rise by multiple times and this allows a country such as Singapore to manage her economy when faced with a global economic slowdown.

However, for Singapore, she is heavily dependent on imported final goods and raw materials as she lacks natural resources of her own. This meant that a weaker Singapore dollar may raise fears of possible imported cost-push inflation and this will also threaten export competitiveness as Singapore's exports contain high import content. Nevertheless given the context of a global economic slowdown, the increase in import prices may not set in due to falling world prices of commodities brought about by falling global demand for goods and service.

Hence, weakening the exchange rate could still serve as an appropriate short run measure to manage a trade driven economy such as Singapore's during a global economic slowdown.

Should the global slowdown persists, depreciation is not an appropriate long term measure due to possible unintended consequences such as imported cost-push inflation. Economies may need to resort to other complementary policies such as Singapore's Jobs Credit Scheme to manage the economy and prevent the negative effects of the slowdown from worsening. For large countries such as UK and USA with huge domestic markets, demand led fiscal policy can be appropriate in managing an economy during a global slowdown. This is because the weakened confidence from the global slowdown would affect consumption and investment which makes up the largest proportion of such countries' AD and GDP.

Expansionary fiscal policy is the Keynesian approach to deal with an economic slowdown as it was believed that governments need to be the one to boost spending in the economy (G – government spending). They can also reduce corporate taxes, which boost after tax profits and make firms more willing and able to invest, increasing the level of investment. Governments can reduce income taxes as well, raising the level of disposable income and purchasing power, hence increasing consumption. While tax reduction may be ineffective given pessimism during a worldwide recession, raising G will have positive multiplier effects in boosting AD and NY more than proportionately. If expansionary fiscal policy was implemented in a globally coordinated manner – rising NY in other countries increase purchasing power and purchase of imports, boosting exports of other countries and helps them to revive their economy further.

However, if firms and households are pessimistic during a global slowdown, even if tax rates fall, firms may not increase investment, and consumers will rather save than spend in anticipation of weaker economic conditions ahead. AD may not rise and the economy will still suffer from the effects of the global slowdown. The ability to carry out an expansionary fiscal policy also depends greatly on the fiscal position of the country. If the country is in debt and has to borrow to finance the increase in G, then crowding effect will occur and this limits the effectiveness of fiscal policy in managing the economy.

Expansionary fiscal policy is an appropriate policy to manage an economy if the budget balances of the economy is in a healthy position and consumption and investment are the two components most severely affected by the global downturn.

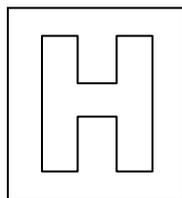
The ability to pursue an expansionary fiscal policy in managing an economy during a global downturn depends on the duration of the downturn. Even for countries who has the means to pursue an aggressive fiscal policy with their healthy budget positions, they may not be able to do so if they need to keep increasing  $G$  over a sustained period of time to boost the economy. Other alternatives have to be sought once the increase in  $G$  starts to put a constraint on the government's budget.

Governments make policy decisions based on cost-benefit analysis, considering their constraints like government debt and the nature of their economy – reliance on  $X$  and  $M$  vs  $C$  and  $I$ , and the effectiveness of each policy based on domestic and international factors like expectations, changing level of national income of trading partners, and other countries policy choices. The most appropriate policy package for each country will thus vary depending on the constraints and conditions facing their economy.

Candidate Name: \_\_\_\_\_

Class Adm No

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## 2019 Preliminary Exams Pre-university 3

**ECONOMICS**

**9757/01**

Paper 1

**17 September 2019**

**2 hours 15 minutes**

Additional Materials: Answer Paper

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### **READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.  
Write in dark blue or black pen on both sides of the paper.  
You may use a soft pencil for any diagrams, graphs or rough working.  
Do not use staples, highlighters, glue or correction fluid.

Answer **all** questions.

You are reminded of the need for clear presentation in your answers.

At the end of the examination, fasten your answers to Question 1 **separately** from Question 2.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This question paper consists of 7 printed pages and 1 blank page.

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**Turn over**

Answer **all** questions.

### Question 1: Facets of the Entertainment Industries

#### Extract 1: Film Industry – Statistics & Facts

##### Box Office Revenue



Film entertainment is big business in the United States. It is expected that the film entertainment business will generate 35.3 billion U.S. dollars in revenue by 2019.

In 2017, 724 movies were released in North America, with the Marvel Cinematic Universe being the most successful movie franchise in the region, generating over 6.8 billion U.S. dollars of box office revenue in North America alone. Movies like “Iron Man”, “Marvel’s The Avengers”, “Spider-Man” and “The Incredible Hulk” are a few examples of franchise films.

Source: *Motion Picture Association of America (MPAA)*, 2019 and *Statista.com*, 2018

#### Extract 2: How Hasbro Is Winning the Toy Game

Hasbro, the largest toymaker in the US surprised the market on Tuesday with its second-quarter earnings in just the way that shareholders like to be surprised: Its net revenue (i.e., profits) rose 9%, well outpacing analysts' original 6% estimate.

The more obvious drivers of that growth include the release of the Avengers: Endgame movie which drove sales of the Avengers: Endgame merchandise.

There are also less obvious tailwinds, such as Hasbro’s moves to diversify sourcing away from China in the wake of the US-China trade disputes where both sides had adopted tit-for-tat retaliatory measures. Using non-Chinese sources of raw materials has helped to improve the profit margins.

Source: *The Motley Fool*, 2019

#### Extract 3: Netflix’s Movie Blitz Takes Aim at Hollywood’s Heart

Moviegoers may not know Scott Stuber, but he is fast becoming one of the most important – and disruptive – people in the film business. A former Universal Pictures vice chairman, Mr

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Stuber, 50, is Netflix's movie chief. His mandate is to make the streaming service's original film lineup as formidable as its television operation, which received 112 Emmy nominations this year, the most of any network.

Mr. Stuber's cinematic onslaught is forcing old-line studios that produce movies and multiplex chains that show them to audiences to confront a panic-inducing question: Will the streaming company that prompted many people to cut their cable TV services now cause people to stop going to movie theatres? Having disrupted the television and music businesses, the internet is finally threatening the heart of Hollywood – the movie industry.

Until now, moviedom has been relatively protected from the digital forces that have reshaped the rest of media. Most films still arrive in the same way they have for decades: first in theatres, for an exclusive run of about 90 days, and then in homes. Multiplex chains (e.g., Golden Village in Singapore), have fought off efforts to shorten that period. They worry that people will be reluctant to buy tickets if they can see the same film in their living rooms just a few weeks (or days) later. Netflix mostly bypasses theatres.

Source: *The New York Times*, 2018

#### **Extract 4: How binge-watching is hazardous to your health**

Binge-watching, otherwise known as the act of streaming many television episodes in one sitting, is more common and doable than ever. New and buzzy series are constantly added to Netflix, Hulu, etc. You can stream the entire multi-season backlog of shows such as "Game of Thrones," "Billions" and "Big Little Lies" on HBO or Showtime anytime you like.

Though that might sound glorious to TV fans, it's a bit worrisome to health experts across the country. With so much content available, and so much screen time becoming the norm – replacing hours devoted to fitness, socializing and sleeping – the potential health implications of binge-watching are becoming more obvious.

The research on the health effects of binge-watching is still in its infancy, but a few studies have raised concerns. According to a 2017 study published in the *Journal of Clinical Sleep Medicine*, avid binge-watchers reported poor sleep quality, increased fatigue and more insomnia symptoms. Another study by Michigan State University researchers presented a link between binge-watching and poor lifestyle choices such as opting for unhealthy meals, unhealthy snacks and sedentary behaviours.

Source: *The Washington Post*, 2019

#### **Extract 5: French kids head back to school without their phones**

Last month, the government passed a law banning the use of mobile phones, tablets and smartphones in French primary, middle and junior high schools, which teach students up to the age of 15. The law is meant to reduce students' screen time. It's now up to each school to decide how to enforce the ban. School principals can decide to store students' phones in lockers or allow them to keep them in their backpacks as long as they are switched off. Additionally, high schools can decide whether they want to implement the ban as well.

Jacqueline Kay-Cessou, an American mom who has been living in Paris for 25 years, said she was delighted when she learned of the ban. Her son David, 14, is entering 8th grade at the Camille Sée International School. "It's fantastic news. It's something I've wanted for years," Kay-Cessou told ABC News. "I think phones are harmful socially. Kids can't think and sit still anymore and it's highly addictive."

But critics, including Frédérique Rolet, the Secretary General of the SNES, a national union for secondary school instructors, predict the law will be difficult to enforce.

"There are not enough supervisors and staff in French schools to make sure the law will be respected," Rolet told ABC News. David agreed that students could find ways around the ban. "Supervisors in the courtyard during breaks are not that present," David said. "Students know the corners where school staff don't go."

Source: *ABC News*, 2018

### Questions

- (a) (i) Compare the trend in US/Canada and International box office revenue from 2013 to 2018. Hence, infer which region was the main driver for overall growth in box office revenue. [3]
- (ii) With reference to Extract 1, account for the overall growth in box office revenue. [2]
- (b) Using a diagram, explain how "diversifying sourcing away from China" (Extract 2) affected Hasbro's profits. [3]
- (c) Based on Extracts 2 and 3, compare the likely cross elasticity of demand values between movies and toys, and between movies and Netflix subscriptions. Justify your answer. [4]
- (d) Making appropriate references to the case material, assess the net impact of the growth of Netflix's movie offerings on society. [8]
- (e) In light of the information provided in the case study, discuss the factors that governments should consider in deciding which mitigating policies to adopt to manage screen time. [10]

[Total: 30]

## Question 2: The Irish economy in the midst of Brexit and US trade wars

Figure 1: Consumer price index, December 2016=100



Figure 2: Unemployment rate (SA), %



Source: <https://www.cso.ie/indicators>, assessed 7 Aug 2019

### Extract 6: Previewing Ireland's economy in 2019: The stats don't lie - Ireland is doing well right now

Ireland isn't quite partying like it's 2006, but the stats don't lie – 2018 has been a bumper year by most measures. Income has risen and the economy generated nearly 1,300 extra jobs per week in the 12 months to end of September, up from less than 950 per week the previous year. The unemployment rate fell to 5.3% in November, down from 6.4% the previous year.

Only part of the increase in people's pay packets is being eaten up by higher prices. Consumer prices are basically flat, edging up only slightly from 0.5% in November 2017, to 0.6% in the same month this year. With more people at work earning higher wages, it is hardly surprising that private consumption grew by 2.9% in the third quarter of the year compared to a year earlier.

If things are going so well, then why are so many people worried there may be a recession around the corner, a re-run of the horror-show we lived through a decade ago? If it wasn't for external factors, the Irish economy has room to keep growing strongly for years to come. But, as we well know, Ireland is – for better or worse – more exposed to global economic developments than most other countries. This is where the rising risk of recession comes from.

There is an old saying in economics that when the US sneezes, the rest of the world catches a cold. This is less so than in the past, partly because emerging Asia (and specifically China) has come to rival the US as the main driver of global growth. For Ireland, however, the phenomenon is as strong as ever because of the strength of its trade and investment links with the US. As long as US grows, their multinational companies will continue to operate in Ireland. But US growth will dissipate in 2019 and later years. US interest rates are expected to continue rising through the first half of 2019. The trade war with China is getting more heated, with a ratcheting up of tariffs feeding through to higher inflation, and potentially even higher interest rates. All have negative implications for growth. There is also the possibility that US will extend its tariffs to EU market.

Then there is Brexit. Ireland, which is still a member of EU, will be badly affected. Already, a weak sterling (British pound) has hit Ireland's indigenous exporters hard. Continued uncertainty is likely constraining investment in some sectors, and it could be one of the reasons why consumer confidence has fallen off a cliff in the past six months despite the otherwise rosy economic picture. With no end in sight to the chaos across the water, fears are growing that the UK could crash out of EU without a deal. No matter what type of Brexit – hard, soft or something in between – the island of Ireland can be expected to be hardest hit economically – more so even than Great Britain.

Source: *The Journal.ie*, 28 December 2018

#### **Extract 7: How the US-China trade war hits Ireland**

The new 25% tariff levels imposed by the US will hit exports of the finished electronic gear from China but crucially will also affect the imports of the semi-conductors that drive these devices. Chinese companies import €240bn of semiconductors each year from a range of countries around the globe. Ireland has a reputation for exporting such high-end chips, mainly from Intel.

Last year, over a third of the €5.4bn on semiconductors produced in Ireland, was exported to China. The value of exports was down from the previous year, as the Chinese economy slowed under the trade tit-for-tat trade dispute.

China's growth is projected to slow from an estimated 6.6% in 2018 to 6.2% in 2019 and it is widely expected the latest 25% tariffs will have a significant impact on the overall sales of semiconductors, hitting sales of data devices, as well as devices for personal computers. For most companies, enduring a 25% rise in cost is very tough. The tariff increases will be particularly disturbing for Intel which last month cut its 2019 revenue outlook.

Source: *Irish Examiner*, 13 May 2019

#### **Extract 8: What is a no-deal Brexit and how will it affect Ireland?**

A no-deal Brexit means the UK would leave the EU immediately on 31 October 2019, and there would be no special agreements about how UK and EU companies could work and do trade with each other. Essentially trade with the EU would be on the basis of rules set down by the World Trade Organisation (WTO). This would end the free movement of goods between the UK and the EU, including between the UK and Ireland, and mean that tariffs, or special import taxes, would apply. Customs checks would also be immediately needed between countries.

Some 12 per cent of Irish goods exports go to the UK and they would be subjected to tariffs. Around two thirds of Irish exports to the Europe Continent go through UK and they would have to go through four new checks – leaving Ireland, entering and leaving the UK and entering Continental ports. There is growing concerns of chaos and long delays at UK ports

in particular which could delay delivery and be a particular problem for fresh and time sensitive products.

Goods imported into Ireland would also be affected. Around 23 per cent of Irish imports come from the UK and many businesses, notably in pharmaceuticals and chemicals, would see their supply chains disrupted.

There are also issues for consumers, with two thirds of the products on Irish supermarket shelves either coming from the UK, or moving via the UK landbridge to Ireland. In the short-term, a no-deal Brexit could threaten disruption to some supplies on Irish shelves. In the longer term it could shake up the sector, leading to changes in the mix of products and higher prices. An Environmental Systems Research Institute (ESRI) study estimated that a hard Brexit could push up prices by 2 to 3 per cent, increasing the average annual shopping bills for consumers by between €892 and €1,360.

The Department of Finance calculated that a hard version of Brexit could lead to Irish GDP being 4.5 per cent lower in ten years' time with a loss of 40,000 jobs. A no-deal Brexit, by bringing all the changes into a short timeframe, risks also ensuring that more of the costs come in the early years. In particular, if the UK crashes out, it would hit growth and threaten a significant hit to existing economic and tax forecasts for Ireland.

Source: *The Irish Times*, 30 April 2019

### **Extract 9: Ireland 'worst hit' if US widens trade war front to EU**

Ireland will be the worst hit economy in the eurozone if the US-China trade spat broadens to envelop Europe, according to a leading economics group because the Republic exports huge amounts of pharmaceuticals and chemicals to the US.

The assessment by Capital Economics in London finds that Ireland will be in the frontline of any US-EU trade war. This is because Mr Trump may be mulling whether the threat of tariffs on pharmaceuticals made in the EU would encourage a large number of drugs plants based in Ireland, which are predominantly American-owned, to relocate manufacturing jobs back to the US. The EU and US appear to have made little progress after they decided last year to work together towards striking a new trade deal.

Source: *Irish Examiner*, 14 May 2019

### **Questions**

- (a) (i) Compare the trend of Ireland's CPI with its unemployment rate. [2]
- (ii) Referring to Extract 6, using an AD AS diagram, explain the relationship between the 2 variables above. [4]
- (b) Referring to Extract 7, analyse the impact of the US-China trade war on Irish firms. [3]
- (c) Discuss the extent to which a tariff on imports from UK resulting from Brexit would affect Ireland's consumers, producers and society in general. [8]
- (d) Despite the rosy economic outlook in Ireland, state and explain two reasons why Ireland is worried about its economic outlook in 2019 and beyond. [3]
- (e) Assess alternative policy options that Ireland can take to mitigate the external threats facing its economy. [10]

[Total: 30]

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**(a)(i) Compare the trend in US/Canada and International box office revenue from 2013 to 2018. Hence, infer which region was the main driver for overall growth in box office revenue. [3]**

*Both increased from 2013 to 2018 [1]*

*The increase was larger for international box office revenue than for US/Canada box office revenue from 2013 to 2018. [1] OR International box office revenue is always higher than US/Canada box office revenue from 2013 to 2018. [1]*

*Hence, the main driver for overall growth in box office revenue was the international region. [1]*

*1m for comparison of general trend*

*1m for comparison of extent of change OR level*

*1m for inference that the international region was the main driver*

**(a)(ii) With reference to Extract 1, account for the overall growth in box office revenue. [2]**

*The release of movies under the Marvel Cinematic universe [1] caused an increase in demand for movie tickets. [1] The increase in demand caused an increase in both price and quantity traded of movie tickets, resulting in an increase in the box office revenue.*

*1m for identifying the factor in Extract 1*

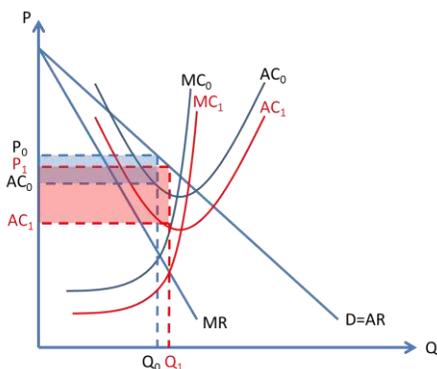
*1m for linking the factor to an increase in demand*

**(b) Using a diagram, explain how “diversifying sourcing away from China” (Extract 2) affected Hasbro’s profits. [2]**

*Profits = Total revenue – Total cost*

*Hasbro’s diversifying sourcing away from China would help to reduce Hasbro’s cost of production [1] as Hasbro would be able to avoid the tariffs on imported raw materials from China [1].*

*The reduction in cost would help Hasbro increase its profits from area  $(P_0-AC_0) \times Q_0$  to area  $(P_1-AC_1) \times Q_1$  in the diagram below. [1]*



*2m for explaining how diversifying sourcing away from China would affect Hasbro’s cost*

1m for the diagram to illustrate how a reduction in cost would increase profits for Hasbro (with reference to the diagram)

(c) Based on Extracts 2 and 3, compare the likely cross elasticity of demand values between movies and toys, and between movies and Netflix subscriptions. Justify your answer. [4]

*In terms of sign, the XED between movies and toys is likely to be negative while that between Movies and Netflix subscriptions is likely to be positive. This is because from Extract 2, movies and toys appear to be complements since they may be purchased together. As such, a reduction in the price of movies that causes its quantity demanded to increase would cause the demand for toys to increase, causing the XED to be negative. On the other hand, from Extract 3, movies and Netflix subscriptions appear to be substitutes since they are alternative forms of entertainment. As such, a reduction in the price of movies that causes its quantity demanded to increase would cause the demand for Netflix subscriptions to decrease, causing the XED to be positive. [2m, 1m for comparison for sign and 1m for justification]*

*In terms of magnitude, the |XED| between movies and toys is likely to be less than 1 while that between Movies and Netflix subscriptions is likely to be more than 1. This is because movies and toys are likely to be weak complements as people can easily watch a movie without buying its toys. On the other hand, movies and Netflix subscriptions may be close substitutes since Netflix's offering of movies is inducing panic in conventional movie studios, which implies that it must be a close substitute. [2m, 1m for comparison for sign and 1m for justification]*

Notes:

- *No explicit comparison of XED (i.e., just explaining the XED value of each pair of goods) – 3m*
- *The justification of close/weak complements or substitutes could go either way (e.g., Netflix subscriptions being a weak substitute of movies because the theatre experience is significantly different would also be an acceptable argument)*

(d) Making appropriate references to the case material, assess the net impact of the growth of Netflix's movie offerings on society. [8]

*Question analysis*

*Command word = "assess" → Need two sides and an evaluative conclusion*

*Content = "the net impact of the growth of Netflix's movie offerings on society" → the two sides are:*

- *Thesis – Growth of Netflix's movie offerings is beneficial to society*
- *Anti-thesis – Growth of Netflix's movie offerings is not beneficial to society*

*Context = Netflix*

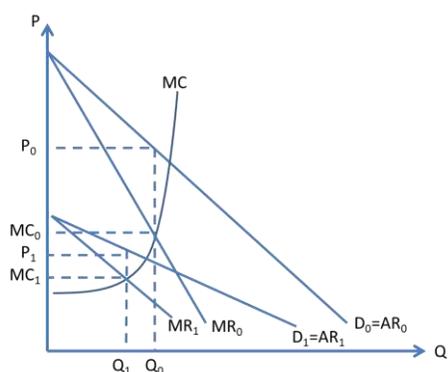
*Introduction*

*The net impact of the growth of Netflix's movie offerings on society can be analysed in terms of its impact on social welfare.*

*Thesis – Growth of Netflix's movie offerings is beneficial to society*

From Extract 3, the growth of Netflix's movie offerings is threatening the movie industry. This is because Netflix subscriptions are a substitute to movies. This could be beneficial to society because the increased competition faced by the movie industry could reduce the allocative inefficiency in the movie market.

With increased competition from the Netflix's growth of movie offerings, the movie industries would face a reduction in demand as well as an increase in PED. This would cause a reduction in the profit-maximising price of movie producers from  $P_0$  to  $P_1$  in the diagram below. The reduction in price also reduces the gap between  $P$  and  $MC$  from  $P_0-MC_0$  to  $P_1-MC_1$  in the diagram below, reducing the extent of the allocative inefficiency.



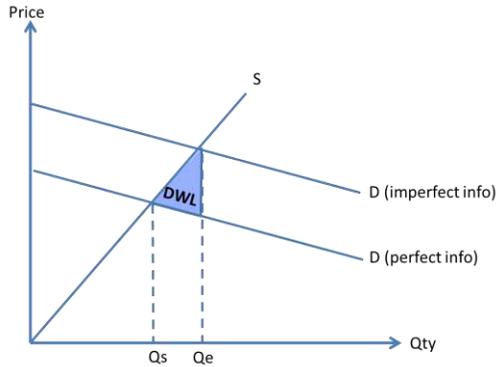
Additionally, in response to the competition, movie producers would produce movies of better quality to not lose consumers. This is also beneficial to society.

Finally, consumers in the society would also benefit from enjoying a greater variety of entertainment options.

#### Anti-thesis – Growth of Netflix's movie offerings is not beneficial to society

However, the growth of Netflix's movie offerings may not be beneficial to society as it could give rise to another source of market failure – market failure due to consumers underestimating the cost of binge-watching. Netflix's increased movie offerings would cause binge-watching to become more common. This worsens the failure in the TV subscription market where consumers underestimate the cost to themselves from binge-watching in form of poorer sleep quality and poorer lifestyle choices (Extract 4). The market fails because the underestimation of cost causes demand under imperfect information to exceed demand under perfect information as seen in the diagram below.

The market equilibrium output would be at  $Q_e$  where  $D_{imperfect} = S$  whereas the socially optimal output would be at  $Q_s$  where  $D_{perfect} = S$ . Since  $Q_e$  exceeds  $Q_s$ , there is overconsumption of TV subscriptions. This gives rise to a deadweight loss of the shaded area.



**Conclusion**

*In conclusion, the growth of Netflix’s movie offerings benefits society in reducing the extent of market failure due to market dominance in the movie market, but worsens the market failure in the TV subscription market. Whether the net effect is positive would depend on the extent of both effects, which is impossible to judge without more data. The data required for the judgement would include the price and MC in the movie market as well as the extent of overconsumption in the TV subscription market. Only with such information can we compute whether the gains in social welfare outweigh the losses.*

Level	Description	Marks
L2	<i>Answer explains both the thesis and anti-thesis (balance). Explanations make use of appropriate economic frameworks (depth) and relevant case material (context).</i>	4-6
L1	<i>Missing balance, depth, or context.</i>	1-3
E	<i>Makes a judgement (not enough information to take a stand is a judgement too) and provides a justification for the judgement.</i>	1-2

**(e) In light of the information provided in the case study, discuss the factors that governments should consider in deciding which mitigating policies to adopt to manage screen time. [10]**

*Question analysis*  
 Command word = “discuss” → Normally, need two sides and an evaluative conclusion  
 Content = “the factors that governments should consider in deciding which mitigating policies to adopt to manage screen time” → Clearly there cannot be two sides to this question so the structure would be:

- Explain first factor that the government should consider
- Explain the second factor that the government should consider
- Etc
- Conclude by evaluating which factor is most important

*Context = policies to manage screen time*

**Introduction**

*The mitigating policies to manage screen time include legislation such as the partial ban (i.e., bans in selected places such as schools) adopted in France and education to inform the public of the harms of screen time. The former forces the consumption of screen time to fall (ideally to*

Qs) while the latter would correct the imperfect information in terms of underestimating the cost of screen time and hence correct the overconsumption.

Explain the first factor to consider – the constraints

The first factor governments must consider are the constraints that it faces. Both education and legislation incur costs. The former through the employment of factors of production to produce the education service / campaign materials and the latter through the monitoring and enforcement costs. Governments would need to consider their budget positions to determine which policy to adopt. If the cost of one of the policies is so high that the government's budget does not allow for it, then clearly the government should choose the other.

Explain the second factor – opportunity cost

Related to the constraint is the concept of opportunity cost. Since there is a constraint in the form of a limited government budget, allocating funds to the implementation of either policy would result in opportunity costs being incurred in terms of other benefits that are foregone (e.g., foregone benefits from subsidising healthcare). The government would need to consider and weigh the opportunity costs to determine which, if any, of the policies should be adopted. Assuming the opportunity costs are not too high, the government should choose the policy with the lower opportunity cost.

Explain the third factor – effectiveness in terms of targeting the root of the problem

The government should also consider whether the policies target the root of the problem. Legislation such as partial bans may affect the behaviour in terms of reducing consumption in specific zones but it does not target the root problem of people underestimating the cost of too much screen time to personal health. As such, all that may happen is that screen time is shifted from being on school premises to being at home or other places. There could still be an overconsumption of screen time. In contrast, education about the damage to health from excessive screen time would target the root of the problem. Hence, if it is successful, it would reduce overall screen time instead of just directing it elsewhere. Hence, to target the root of the problem, the government would choose education as the mitigating policy.

Explain the fourth factor – effectiveness in the short and long run

Finally, the government should also consider the effectiveness of the policies in the short and long run, relative to the scale of the problem. If the scale of the problem is large and therefore pressing, then a policy with immediate short run effects should be chosen (i.e., use legislation). However, if the problem is still not too large presently but may become severe in the future, then a policy that takes some time to work (i.e., education) would be more appropriate.

Conclusion

In conclusion, there are many factors that a government should consider (as explained above). However, the most important consideration should be the constraints of the government. This is because the constraints determine the choice set of governments in terms of what policies are even feasible in the first place. Only then can the government use the other considerations to determine which out of these possible policies would be the most appropriate. Hence, constraints would be the most important consideration.

<i>Level</i>	<i>Description</i>	<i>Marks</i>
<i>L2</i>	<p><i>Answer explains at least two factors for consideration in deciding which mitigating policies to adopt. Explanations show how the factors would cause governments to choose one policy over another.</i></p> <p><i>Need three factors for max 7m</i>  <i>Max 5m if the possible policies were not introduced in the first place</i></p>	<i>5-7</i>
<i>L1</i>	<p><i>Answer explains only one factor for consideration in deciding which mitigating policies to adopt. Explanations show how the factors would cause governments to choose one policy over another.</i></p> <p><i>OR</i></p> <p><i>Answer explains at least two factors for consideration in deciding which mitigating policies to adopt. However, explanations are descriptive and do not show the details of how the factors would cause one policy to be chosen over another.</i></p>	<i>1-4</i>
<i>E</i>	<i>Makes a judgement of which factor is the most important and provides a justification for the judgement.</i>	<i>1-3</i>

## CSQ2

a (i) Compare the trend of Ireland's CPI with its unemployment rate. [2]

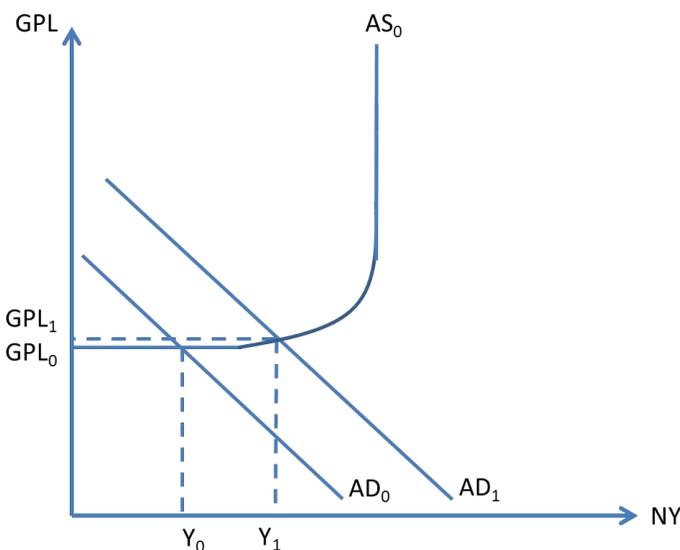
Ans: Comparing the general trend, Ireland's CPI increased while its unemployment rate fell (i.e., **inverse relationship**) [1]. Comparing the extent of the change, the **CPI's rise is very slight but the fall in unemployment was very steep** [1]

*1m for comparison of general trend*

*1m for comparison of extent of the changes*

a (ii) Referring to Extract 6, using an AD AS diagram, explain the relationship between the 2 variables above. [4]

Ans: Economy doing well, **C increased** by 2.9%, causing **AD increase from AD<sub>0</sub> to AD<sub>1</sub>** [1] → NY increase from Y<sub>0</sub> to Y<sub>1</sub> and thus employment increases as higher output production needs more resources including labour (thus **unN decreases**[1]) but not yet at Y<sub>f</sub>, thus **GPL slight increase**[1]



*1m for diagram*

*1m for explanation of increase in AD*

*1m for linking increase in AD to decrease in UnE*

*1m for linking increase in AD to the slight increase in CPI (no penalty for not being explicit about "slight" since the question phrasing's focus is more on the inverse relationship)*

(b) Referring to Extract 7, analyse the impact of the US-China trade war on Irish firms. [3]

Ans: **Derived demand impact** on Irish semi-conductors - US imposing 25% tariff on Chinese exports of electronic devices to US will reduce these exports.[1] One third of Irish semi-conductors is exported to China as parts for these devices. Since Chinese electronic devices will find its sales reduced due to the 25% tariff, less semi-conductors are needed, thus demand

for these Irish semi-conductors falls[1], leading to a fall in P and Q and hence TR of these firms.[1]

1m for linking US tariffs to fall in Chinese exports

1m for linking fall in Chinese exports to fall in derived demand for Ireland's goods (students need not use the term 'derived demand' so long as their phrasing makes the relationship between Ireland's and China's goods clear (e.g., "since Irish semi-conductors are a factor of production in producing Chinese devices, the fall is...")

1m for linking the fall in demand to a fall in TR of firms

(c) Discuss the extent to which a tariff on imports from UK resulting from Brexit would affect Ireland's consumers, producers and society in general. [8]

Ans:

**Question analysis**

**Command word** : "discuss the extent" → Normally, need two sides and an evaluative conclusion

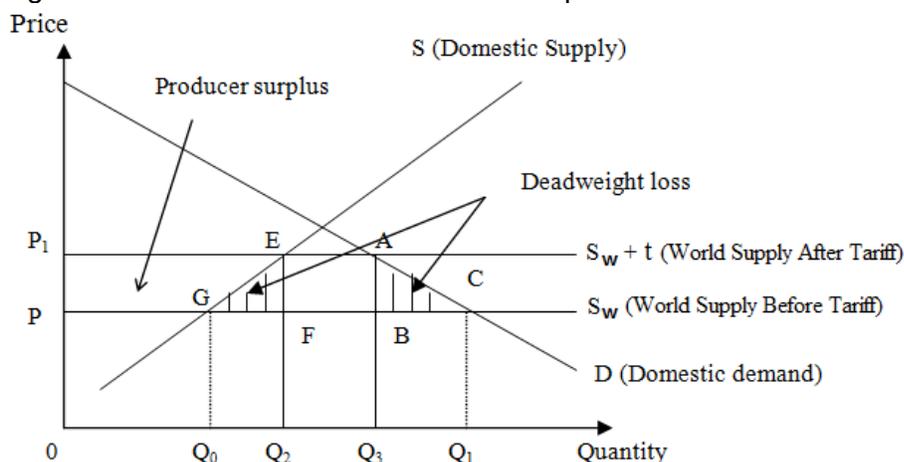
**Content** : "a tariff on imports from UK resulting from Brexit would affect Ireland's consumers, producers and society" → easier to discuss the positive and negative impact on each group with evaluation of the extent of impact

**Context** : Ireland's consumers, producers & society (society can refer to impact on government, allocation of resources (micro) or macroeconomic objects

**Introduction**

Tariff is a tax on imports. It's a protectionist measure to make it more costly to import which may benefit domestic producers of similar products.

Figure below illustrates the effects of the imposition of tariff for an overall domestic market.



Referring to the Figure above, before the imposition of tariff, the world price of the product was  $0P$ . With the tariff, the price rises to  $0P_1$ . **Consumers lose** in terms of higher prices and lower quantity consumed. Before the tariff, demand was satisfied at  $0Q_1$  ( $0Q_0$  from domestic producer &  $Q_0Q_1$  imported). With tariff, equilibrium quantity falls to  $0Q_3$  ( $0Q_2$  from domestic producer &  $Q_2Q_3$  imported). There is a loss of consumer surplus of  $PP_1AC$  as a result. From Extract 8, it is

stated that prices could go up by 2 to 3% and average annual shopping bills for consumers increase between €892 and €1,360.

Domestic **producers** of this good could **gain** as shown by the increase in output produced domestically (0Q<sub>0</sub> to 0Q<sub>2</sub>) and the higher price (0P to 0P<sub>1</sub>). Thus, revenue increase from 0PGQ<sub>0</sub> to 0P<sub>1</sub>EQ<sub>2</sub> and there is also an increase in producer surplus of PP<sub>1</sub>EG.

As the **government** is the one to collect the tariff, there is a **gain** in tariff revenue to the government of EABF. However, **society loses** in terms of a DWL of the 2 areas shaded in the Figure above of GEF & ABC.

Alternatively, if **producers** source their input materials from the UK, then COP can increase. Extract 8 shows that “around 23% of Irish imports comes from the UK” and this would “see their supply chains disrupted”. As these imported resources become more expensive due to the tariff, it would lead to cost-push inflation which can curtail NY & employment. If the higher costs are passed on to consumers in terms of higher prices, COL increases too. In general, the **Irish economy in general, loses** as a result.

**Evaluative conclusion:** However it must be noted that the imposition of a tariff goes against the theory of comparative advantage. Based on comparative advantage theory, tariff encourages inefficient producers to exist. Ireland and the UK will, thus, have its mix of industries changing as a result of the tariff due to Brexit. For Ireland, the prediction is that in the near future of ten years, the country would be worse off but beyond that, it would depend on how it manages its trade position. (Evidence: Extract 8 last paragraph)

<b>Level</b>	<b>Description</b>	<b>Marks</b>
<b>L2</b>	<i>Answer analyses the extent of impact of tariff on consumers, producers and society. Explanations make use of appropriate economic frameworks (depth) and relevant case material (context).</i>	<b>4-6</b>
<b>L1</b>	<i>General discussion on the parties without economic framework.</i>	<b>1-3</b>
<b>E</b>	<i>Makes a judgement (not enough information to take a stand is a judgement too) and provides a justification for the judgement.</i>	<b>1-2</b>

**(d) Despite the rosy economic outlook in Ireland, state and explain two reasons why Ireland is worried about its economic outlook in 2019 and beyond. [3]**

Ans: US economic growth declining and thus trade with US (exports) and US investment in Ireland would fall [1] and Brexit with its uncertainty will constrain investment and lower consumer confidence to spend [1], both events leading to a fall in AD & NY in Ireland.[1]

[Accept the effects of US China trade war as another possible reason.]

*1m for each reason linked to a fall in some component(s) of AD*

*1m for linking the fall in components of AD to a fall in AD and hence NY*

**(e) Assess alternative policy options that Ireland can take to mitigate the external threats facing its economy. [10]**

Ans:

**Question analysis**

**Command word** : Assess

**Content** : Alternative policy options – note that any policy option is acceptable; need not be new ones, can be the ones given in the case.

**Context** : Ireland

**Introduction**

As stated in part (d) above, external threats facing Ireland are reduction in exports, US FDI pulling out of Ireland, tariff on imports of final or intermediate products from Brexit/US-EU trade wars. Reduction in exports &/or US FDI pulling out of Ireland that will lead to reduced AD. Tariff effect on imports of final or intermediate products will increase COP, thus shifting SRAS curve upwards. NY / employment and GPL will be negatively affected as a result.

**Demand management policies**

Measures to mitigate these external threats would include demand management policies of expansionary FP or MP to expand domestic economy since it is doing well and there is room for expansion as stated in Extract 6, ie increase Consumption or incentive (fiscal or others) to entice American pharmaceutical/chemical firms to stay on in Ireland so that Investment will not be negatively affected.

Discretionary fiscal policy refers to the deliberate change in G and T to achieve macroeconomic aims. Expansionary fiscal policy involves increasing its government spending (G) and/or reduces its taxes (T). An increase in G raises aggregate demand (AD) directly since  $AD = C + I + G + (X-M)$ . On the other hand, reductions in income taxes, corporate taxes, and consumption taxes raise AD indirectly. A reduction in income taxes would increase the disposable income of households. Thus, with the greater purchasing power, households can consume more, leading to a rise in consumption expenditure (C). A reduction in corporate taxes would increase the after-tax profit of investments. Hence, with higher profitability of investments, investments (I) increases. This could induce American firms in Ireland to stay on instead of relocating back to the US. A reduction in consumption taxes would increase C. Together, the increase in C and I would raise AD.

Expansionary monetary policy using interest rates is used to increase national income (achieve growth) and reduce unemployment. Expansionary interest rate policy is the increase in money supply to lower interest rates. As interest rate is both the cost of borrowing and the return on savings, a fall in interest rates leads to consumers borrowing more money to spend instead of saving. This increases C. At the same time, with the lower cost of borrowing, firms would find it more profitable to invest (rightward movement along the MEI). The increase in C and I then leads to an increase in AD, causing a rise in national income via the multiplier process. This is illustrated below.

The rise in AD due to the expansionary fiscal policy or monetary policy would increase national income via the multiplier process, achieving economic growth. This is illustrated below.

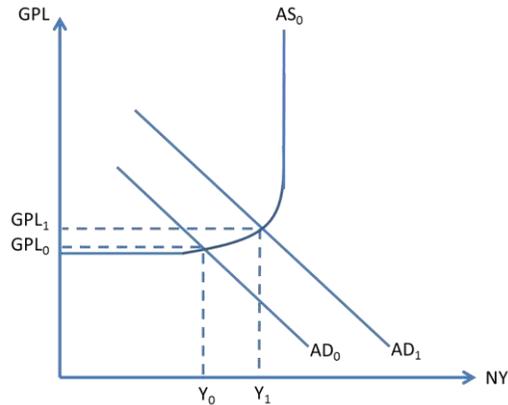


Figure: Expansionary fiscal policy causing increase in NY

With the increase in AD from  $AD_0$  to  $AD_1$  due to the increase in G, C, and I, national output increases from  $Y_0$  to  $Y_1$  through the multiplier process.

### **Evaluation of demand management policies**

Whether it is expansionary FP or MP, effectiveness to expand economy is limited by the value of the multiplier which is dependent on the MPW of MPM, MPS & MPT. Expansionary FP is also dependent on the government's budget and past savings. If the Irish government is poor, FP would be impossible as the government will run into a debt problem. If the government borrows to finance its spending, it may lead to crowding-out effect, i.e. the private sector may have to pay higher interest rate due to government's borrowing increasing interest rates in the economy.

As Ireland is still part of the EU, the possibility of using MP is dependent on the European Central Bank. It is not a unilateral decision by Ireland itself. Furthermore, if expansionary MP is used, effectiveness of policy to increase AD is questioned due to the uncertainty and poor business expectations due to the external threats which will dampen any business expansion in the economy. Businessmen will be pessimistic due to Brexit and US-China trade wars. A liquidity trap may also occur. This refers to the situation where interest rates cannot fall any further. This is the case when interest rates are zero (or so low that they are effectively zero). In such a scenario, expansionary monetary policy is limited as there is no more room for interest rates to decrease.

### **Supply-side policies**

Given the limitations of demand management policies, there is a need for the Irish economy to look into using supply-side policies to reduce costs in order to offset potential increase in costs due to tariffs. The government can provide R&D grants to firms or provide funding for research agencies and universities to carry out R&D activities. Successful R&D outcomes can improve production methods, thus improving labour productivity. The government can subsidise education and training to improve the quality of the labour force. This increases labour productivity. An improvement in labour productivity would lower COP which would increase both SRAS and/or LRAS.

SRAS increases (shifts downwards) when the unit cost of production in the economy decreases. As seen in Figure below, an increase in SRAS from  $SRAS_0$  to  $SRAS_1$  would cause an increase in NY from  $Y_0$  to  $Y_1$  as firms produce more output in response to a lower cost of production. The increase in NY illustrates actual economic growth.

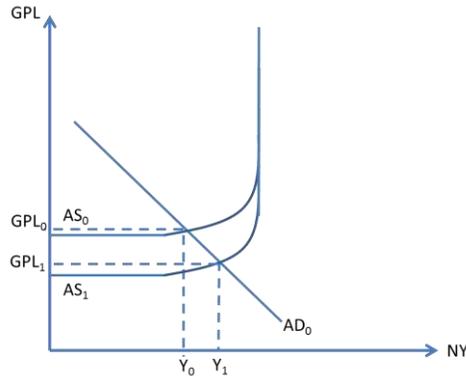


Figure: Actual Economic Growth due to an Increase in SRAS

### **Evaluation of supply-side policies**

However, subsidising education and training has its limitations. Heavy government expenditure is required in education and training. Hence, there is a huge opportunity cost incurred as the money could have been allocated to other critical national needs such as healthcare and national defence. Additionally, adults are often reluctant to attend training for various reasons such as disinterest and time constraints. This reduces the effectiveness of the policy.

Subsidising R&D has its limitations too. R&D requires large amounts of funding and thus places a strain on the government budget. Additionally, there is no guarantee that the R&D efforts will be successful. Finally, even successful R&D efforts often take a long time to bear fruit. This makes the policy ineffective in the short run.

### **[Alternative option to consider]**

Another option is using trade & immigration policies eg trade diversification to trade with other countries, immigration policy eg agree to less restrictive border movement with UK after Brexit to lower costs of transporting goods, travel over UK to the rest of Europe. Ireland could negotiate for easier border crossing through UK to Europe to lower cost of getting its exports to Europe.

This option would require great diplomacy of the Irish government to negotiate with other countries for mutual benefits. It would mean better cooperation with other countries particularly with UK.

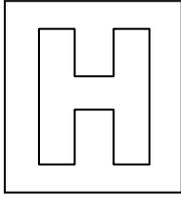
### **Evaluative Conclusion**

According to Extract 6, the Irish economy is doing well domestically, thus it has room to manoeuvre its domestic demand management policies to influence C & I and if need be G as well. However, it must be noted that consumer confidence is shakened by Brexit. Thus Ireland must take measures to preempt the impact of the impending Brexit problems which may be easier to solve as it is within the government to negotiate with UK on its border checks. However, tariffs whether under Brexit or US-EU disputes are beyond Ireland's control as it is part of EU. Thus, in the LR, Ireland may have to decide on its participation in EU and how that would impact its economy.

<i>Level</i>	<i>Description</i>	<i>Marks</i>
<i>L2</i>	<i>Answer with economic analysis that discusses at least 2 policies based on case context.</i>	<i>5-7</i>
<i>L1</i>	<i>Answer with gaps in economic analysis &amp;/or not addressing external threats.</i>	<i>1-4</i>
<i>E</i>	<i>Makes a judgement of the effectiveness of each policy and provides a justification for the judgement based on case context.</i>	<i>1-3</i>

Candidate Name: \_\_\_\_\_

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## 2019 Preliminary Exams Pre-university 3

**ECONOMICS****9757/02**

Paper 2

**20 September 2019****2 hours 15 minutes**

Additional Materials: Answer Paper

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.  
Write in dark blue or black pen on both sides of the paper.  
You may use a soft pencil for any diagrams or graphs.  
Do not use paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which one must be from Section A, one from Section B and one from either Section A or Section B.

You are reminded of the need for clear presentation in your answers.

At the end of the examination, arrange your answers in NUMERICAL ORDER and fasten your answers to Section A **separately** from Section B with a cover page on top of each section. Write the question numbers attempted on the cover page.

The number of marks is given in brackets [ ] at the end of each question or part question.

Answer **three** questions in total.

### Section A

**One or two** of your three questions must be from this section.

- 1 In Asia, the threat of water shortage is more present than ever due to rising population, income growth, worsening climate conditions such as droughts and wear and tear in pipes from high water pressure conditions. Though Singapore's water future looks secure thanks to NEWater and desalinated water, sustaining water supply could become an energy-intensive affair.

*Adapted from Source: CNA, accessed 26 August 2019*

Explain how the shortage of water arises and discuss whether the price mechanism is the best way to address this shortage in order to achieve the microeconomic aims. [25]

- 2 In 2018, the Competition and Consumer Commission of Singapore (CCCS) fined Grab and Uber over their merger. On the other hand, CCCS cleared the merger of two food court operators, Foodfare and Kopitiam as even with the merger, other strong competing operators remain in the market for the sale of cooked food.

(a) Explain the likely market structure that is consistent with the behaviour of firms in the ride-hailing industry and the market for the sale of cooked food before the merger. [10]

(b) Discuss the factors that CCCS considers when they decide on whether to allow firms to merge. [15]

- 3 Preventive healthcare consists of measures taken for disease prevention to ensure people do not fall ill in the first place while curative healthcare is geared towards treating patients after they have become ill. Studies show that much of ill health arises as medical conditions were undiagnosed at early stages. Increasing health screenings would alert those with problems to take early action.

(a) Explain how the market for preventive healthcare might fail to a greater extent as compared to the market for curative healthcare. [10]

(b) Instead of relying solely on influencing the demand for preventive healthcare, the Singapore government should adopt policies to target the supply of it. Discuss. [15]

## Section B

**One or two** of your three questions must be from this section.

- 4 Foreign direct investment from the USA to Singapore hit over US\$77 billion in 2018.

*Source: EDB, Singapore, March 2019*

- (a) Explain the factors that determine the level of foreign direct investment in a country. [10]
- (b) Assess the role of foreign direct investment in raising the standard of living of a country. [15]

- 5 “The Singapore dollar will fare around \$1.35 against the US dollar in 2018.”

*Source: Fitch Solutions, January 2018.*

- (a) Explain how changes in the external value of a currency can affect the domestic price level. [10]
- (b) Discuss whether an increase in the general price level will affect the domestic sector more than the external sector. [15]

- 6 Globalisation is under threat. Figures compiled by the Swiss Economic Institute show that globalisation peaked and began plateauing several years before the current trade wars began. The current headwinds to it – from lower cross-border capital spending to the relocating of firms back home to win votes, tariffs and the push to grow domestic firms – are not going away anytime soon. So governments and the biggest corporations have begun to prepare for a new age: the age of deglobalisation.

*Source: Financial Times, August 2019*

Discuss whether Singapore is among the economies that have the most to lose from deglobalisation. [25]

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### Question 1

In Asia, the threat of water shortage is more present than ever due to rising population, income growth, worsening climate conditions such as droughts and wear and tear in pipes from high water pressure conditions. Though Singapore's water future looks secure thanks to NEWater and desalinated water, sustaining water supply could become an energy-intensive affair.

*Adapted from Source: CNA, accessed 26 August 2019*

Explain how the shortage of water arises and discuss whether the price mechanism is the best way to address this shortage in order to achieve the microeconomic aims. [25]

#### Question Analysis

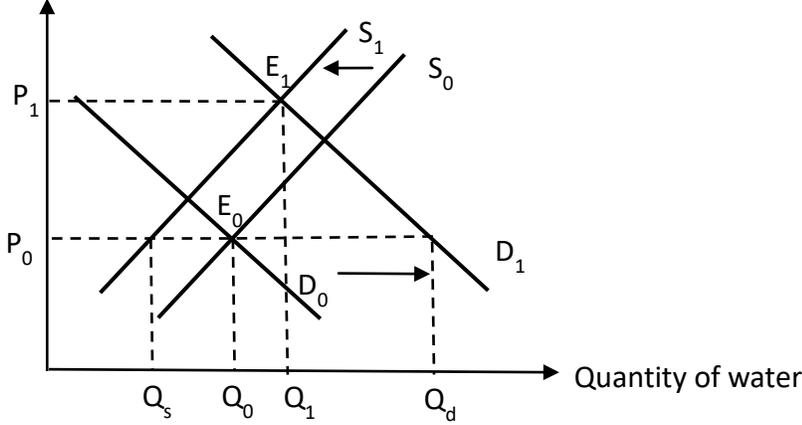
Part 1: Explain how the shortage of water arises

- Command word – explain
- Content word
  - Shortage of water → quantity demanded > quantity supplied of water
- Context – Asia

Part 2: Discuss whether the price mechanism is the best way to address this shortage in order to achieve the microeconomic aims.

- Command word – discuss
  - Thesis: Price mechanism is the best way to address the shortage in order to achieve microeconomic aims
  - Anti-Thesis: Price mechanism is **not** the best way to address the shortage in order to achieve microeconomic aims
    - Limitations of price mechanism
    - Government intervention is a better way to address the shortage in order to achieve the microeconomic aims
- Content word
  - Address this shortage → reduce quantity demanded and increase quantity supplied such that market reaches equilibrium where quantity demanded = quantity supplied
  - Achieve microeconomic aims → allocative efficiency and equity
- Context - Asia

Requirement	Suggested Answer
Part 1: Introduction	Shortage is a situation where quantity demanded exceeds quantity supplied. The shortage of water arises due to increase in demand for water and fall in supply for water.
Part 1: Explain demand factors	<p>The demand for water in Asia has increased due to the rising population. Water is essential for survival as humans need to consume water on a daily basis to function properly. Thus, the increasing population would lead to an increase in demand for water.</p> <p>In addition, Asia is experiencing income growth. This means that the purchasing power of Asians increases, resulting in an increase in demand for water as water is a normal good. Furthermore, an increase in income means that demand for goods and services increases. Since water is also used as a factor of production, the increase in production of goods and services would cause the demand for water (as a factor of production) to increase.</p> <p>The increase in demand for water causes the demand curve to shift rightwards from D0 to D1.</p>
Part 1: Explain	In addition, the supply for water in Asia has been falling. This is due to the worsening climate

<p>supply factors</p>	<p>conditions. The hotter and drier weather has caused the reservoirs to dry up, resulting in a fall in supply for water.</p> <p>On top of that, ageing infrastructure also results in a fall in supply of water. The high water pressure conditions causes wear and tear in the pipes. This increases the chances of water leakages from pipes which causes the supply of water to decrease.</p> <p>The decrease in supply for water causes the supply curve to shift leftwards from <math>S_0</math> to <math>S_1</math>.</p>
<p>Part 1: Show how shortage of water arises with the aid of a diagram</p>	<p>Price of water</p>  <p style="text-align: center;">Figure 1</p> <p>At original price level <math>P_0</math>, the quantity demanded is at <math>Q_d</math> while the quantity supplied is at <math>Q_s</math>. This results in a shortage of water <math>Q_d - Q_s</math>.</p>
<p>Part 2: Introduction</p>	<p>Since there is a shortage of water, the price mechanism would be the best way to address the shortage in order to achieve the microeconomic aims. Government has two microeconomic aims – allocative efficiency and equity. Allocative efficiency is the way resources are allocated among competing uses such that the right amount of right goods is produced to maximize social welfare. Equity is defined as fairness in distribution of welfare where everyone has access to the good society thinks everyone should have access to regardless of income.</p>
<p>Part 2: Thesis – price mechanism is the best way to address the shortage to achieve allocative efficiency</p>	<p>Since there is a shortage at <math>P_0</math>, there is allocative inefficiency as the right amount of right goods is not produced.</p> <p>The shortage would cause an upward pressure on price. The increase in price causes the quantity demanded for water to fall and the quantity supplied for water to increase. This is represented by the movements along the demand and supply curves. Market establishes itself at new equilibrium, <math>E_1</math> with a higher price of water <math>P_1</math> and a higher quantity of water <math>Q_1</math>. At <math>E_1</math>, quantity demanded for water equals to quantity supplied of water, achieving allocative efficiency which maximises society's welfare.</p> <p>Thus, the price mechanism is the best way to address the water shortage to achieve allocative efficiency.</p>
<p>Part 2: Anti-thesis – price</p>	<p>However, price mechanism may not be the best way to address the water shortage as it has its limitations.</p>

<p>mechanism is not the best way to address the shortage as it has limitations</p>	<p>The inelastic demand and supply of water means that it will take a longer time for the shortage to be corrected. The demand for water is price inelastic as there is a high degree of necessity. This means that when the price of water increases, in a given time period, quantity demanded for water falls to a smaller extent. The supply for water is also price inelastic as it takes time to treat the water so that it is safe for human consumption. This means that when the price of water increases, in a given time period, quantity supplied for water will increase to a smaller extent. Thus, it will take a long time for the price mechanism to work to eliminate the shortage.</p>
<p>Part 2: Anti-thesis – price mechanism is not the best way to address the shortage as it worsens inequity</p>	<p>In addition, the price mechanism may not be the best way to address the water shortage as it is unable to achieve the other microeconomic goal of equity.</p> <p>From the earlier analysis, the price mechanism removes the shortage by causing the price to increase from P0 to P1 in the earlier diagram. The higher price of water means that lower income households are less able to afford water. Some lower income households might not be able to purchase water as they may not have the ability to do so even though water is a necessity. This worsens inequity.</p>
<p>Part 2: Anti-thesis – government intervention is better. Policy (1)</p>	<p>Since the price mechanism may not be the best way to address the water shortage, government would need to intervene to address the water shortage.</p> <p>The government can undertake research and development in the water industry. Specifically, they should conduct process innovation to lower the cost of producing NEWater and desalinated water. For example, R&amp;D might yield better technology that can purify sewage water and sea water at a faster rate. The fall in cost of production of NEWater and desalinated water would cause the profitability of producing water to increase. Producers would then increase the supply of water. The higher supply of water helps to address the water shortage and eases the upward pressure on price so that inequity is not worsened.</p> <p>However, there are limitations to research and development. It requires huge funding which results in opportunity cost. The government could have spent on other areas such as healthcare or education. In addition, R&amp;D takes a long time with no guarantee of success.</p>
<p>Part 2: Anti-thesis – government intervention is better. Policy (2)</p>	<p>Another policy the government can implement is to replace the ageing infrastructure to reduce the cases of water leakages. New pipes are better able to withstand the high water pressure conditions and this results in lesser water leakages, reducing the extent of the fall in supply of water due to water leakages. This helps to reduce the water shortage and also eases the upward pressure on price so that inequity is not worsened.</p> <p>The government could also use technology to adjust the water pressure according to the demand of water. This is to reduce the strain on pipes and hence, reduce the probability of water leakages which helps to reduce the water shortage.</p> <p>Similar to the limitations of R&amp;D, this policy of replacing water infrastructure is costly which would result in high opportunity cost.</p>
<p>Part 2: Anti-thesis –</p>	<p>Another policy the government can adopt is education and campaigns. The shortage of water is due to the high demand for water. The government can carry out education and campaigns to</p>

<p>government intervention is better. Policy (3)</p>	<p>encourage its citizens to adopt water saving habits such as taking shorter showers, turning off the tap when brushing teeth, and using more water-efficient household appliances. This would reduce the demand for water, which helps the government to address the water shortage and ease the upward pressure on price so that inequity is not worsened.</p> <p>One limitation of this policy is that it is not enforceable by law. In addition, it is difficult to change consumers' mindsets and it takes time for them to change their habits.</p>
<p>Evaluation – is price mechanism the best way to correct the shortage to achieve microeconomic goals</p>	<p>The increase in demand and fall in supply lead to the water shortage in Asia. Whether price mechanism is the best way to correct the shortage depends on <b>which goal the government prioritises</b>. If the government prioritises allocative efficiency, then price mechanism would be the best way to correct the water shortage as government failure might occur which might worsen the water shortage.</p> <p>If the government prioritises equity, then price mechanism would not be the best way to correct the water shortage as it would worsen inequity.</p> <p>Since water is a necessity, Asian governments are <b>likely to prioritise equity</b> and would intervene so that sufficient water is produced for its citizens. Asian governments can also ensure that every household especially the lower income households have access to water, thus improving equity.</p>

Marking scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
3	<p>High L3 (18-20)</p> <p>Answer that gives a thorough analysis on how the shortage of water arises through changes in demand <b>and</b> supply factors.</p> <p>Answer has a well-developed and balanced explanation on whether the price mechanism is the best way (needs to include at least one other means of addressing the shortage) to address the water shortage in order to achieve the microeconomic aims of efficiency <b>and</b> equity.</p> <p>Explanations make rigorous use of appropriate economic models (i.e. demand and supply).</p> <p>Arguments are sufficiently illustrated by the use of examples.</p> <p>Low L3 (15-17)</p> <p>Answer that gives a sound analysis on how the shortage of water arises through changes in demand <b>and</b> supply of water.</p> <p>Answer has a <b>well-developed</b> and <b>balanced</b> explanation on whether the price mechanism is the best way to address the water shortage in order to achieve the microeconomic aim of efficiency <b>or</b> equity.</p> <p>Explanations make sufficient use of appropriate economic models (i.e. demand and supply).</p> <p>Arguments are sufficiently illustrated by the use of examples.</p>	15-20
2	<p>High L2 (12-14)</p> <p>Answer that gives a sufficiently sound analysis on how the shortage of water arises through changes in demand <b>and</b> supply of water.</p> <p>Answer has a <b>well-developed</b> but <b>one-sided</b> explanation on whether the price mechanism is the best way to address the water shortage in order to achieve the microeconomic aim of efficiency <b>or</b> equity.</p> <p>Low L2 (9-11)</p> <p>Answer that gives sufficient analysis on how the shortage of water arises through changes in demand <b>and</b> supply of water.</p> <p>Answer has an <b>under-developed</b> and <b>one-sided</b> explanation on whether the price mechanism is the best way to address the water shortage in order to achieve the microeconomic aim of efficiency <b>or</b> equity.</p>	9-14
1	<p>High L1 (5-8)</p> <p>Answer that only explains how the shortage of water arises through changes in demand <b>and</b> supply of water.</p> <p>Or</p> <p>An answer that gives sufficient scope but lacks sound economic analysis. Answer is descriptive.</p> <p>Low L1 (1-4)</p> <p>A descriptive answer with insufficient scope.</p>	1-8
	<b>Evaluation</b>	
E3	Well supported judgment based on reasonable argument or evidence. Evaluation should focus on whether the price mechanism is the best way to address the water shortage in order to achieve the microeconomic aims.	4-5
E2	Supported judgment based on reasonable argument or evidence. Evaluation should focus on whether the price mechanism is the best way to address the water shortage in order to achieve the microeconomic aims.	2-3
E1	Judgment that is unsupported.	1

## Question 2

In 2018, the Competition and Consumer Commission of Singapore (CCCS) fined Grab and Uber over their merger. On the other hand, CCCS cleared the merger of two food court operators, Foodfare and Kopitiam as even with the merger, other strong competing operators remain in the market for the sale of cooked food.

(a) Explain the likely market structure that is consistent with the behaviour of firms in the ride-hailing industry and the market for the sale of cooked food before the merger.

### Question Analysis

- Command – explain
- Content
  - Likely market structure → use 7 characteristics
  - Consistent with behaviour of firms → firms' pricing and output decision, level of profits earned in the long run, non-price strategies (e.g. whether they undertake R&D)
- Context – ride-hailing industry, market for sale of cooked food, before the merger

Requirement	Suggested Answer
Introduction	To determine the likely market structure, we have to look at the 7 characteristics of the ride-hailing industry and the market for the sale of cooked food. The 7 characteristics are: no. and size of firms, nature of product, barriers to entry, ability to set price, market power, mutual interdependence, and degree of information. Behaviour of firms refers to their pricing and output decision, level of profits earned in the long run, as well as the non-price strategies that the firms undertake.
Body (1) – market structure for ride-hailing industry	<p>The ride-hailing industry before the merger is likely to be an oligopoly. Firstly, the ride-hailing industry before the merge is dominated by a <b>few large firms</b> (i.e. Grab and Uber). Since there are a few large firms in the ride-hailing industry, Grab and Uber are <b>able to set prices</b> and they both have <b>high market power</b>.</p> <p>The <b>nature of the product</b> is <b>homogenous</b> as both firms offer transportation services which can be booked via a mobile application. There are <b>high barriers to entry</b> to the ride-hailing industry. Any new firm who wants to enter would need to incur the initial set up cost of developing an application as well as recruiting private drivers so to ensure that there are sufficient drivers on the roads. New firms also have to incur high marketing costs as they will need to undertake aggressive advertising to raise their brand awareness to consumers who are likely to be loyal to Grab or Uber.</p> <p>The ride-hailing industry also exhibits <b>mutual interdependence</b> as a few large firms dominate the industry. Mutual interdependence refers to a situation where the actions of one firm has a large effect on another firm. Lastly, there is <b>imperfect information</b>.</p>
Body (2) – how is market structure consistent with behaviour of firms in ride-hailing industry	<p>Since the characteristics of the ride-hailing industry matches that of an oligopoly, the ride-hailing industry before the merger is likely to be an oligopoly.</p> <p>This is also consistent with their behaviour. In terms of Grab's and Uber's pricing decisions, they are able to set their own prices. Their respective applications would calculate how much each trip costs taking into consideration the distance as well as the demand for rides at that point in time. They also have high market power. When the demand for rides increases, the prices charged by Grab and Uber also increases. Due to the high barriers to entry, firms in the ride-hailing industry</p>

	<p>are able to earn supernormal profits in the long run.</p> <p>Before the merger, Grab and Uber engaged in price wars. Both firms offered promotional codes where consumers are able to get a discount on their trips. Suppose Grab offers a discount first. Customers of Uber will switch over to Grab and book trips via Grab as Grab and Uber rides are close substitutes. Uber will then experience a fall in demand for its transportation services. The fall in price and quantity would cause Uber to experience a fall in total revenue to a large extent. As a result, Uber responded by providing their own promotional codes to retain their own customers and to win Grab's customers over so to increase their own market share. This showcases the characteristic of mutual interdependence.</p>
Body (3) – market structure for market for sale of cooked food	<p>On the other hand, the market for sale of cooked food before the merger is likely to be a monopolistic competition. Firstly, there are <b>many small firms</b> in the market such as food court operators, coffee shops, hawker centres, fast food chains and restaurants. Though firms in the market for sale of cooked food are <b>able to set their own prices</b>, each firm has <b>low market power</b> due to the availability of close substitutes.</p> <p>Firms in the market for the sale of cooked food produce <b>differentiated products</b>. For example, different restaurants sell different types of cuisine. Even restaurants who sells similar cuisine would differentiate themselves by offering different types of dishes. The market for sale of cooked food has <b>low barriers to entry</b>. The initial cost of setting up such as rental and buying of equipment is relatively low. Hence, any firm that wants to set enter the market for the sale of cooked food is able to do so.</p> <p>Since there are a large number of firms, there is <b>no mutual interdependence</b>. This is because each firm has an insignificant share of the market, which means that any firm's actions are unable to affect competitors to a great extent. Hence, when a firm makes decisions, it does not have to consider how its competitors will react. Lastly, there is <b>imperfect information</b>.</p>
Body (4) – how market structure is consistent with behaviour of firms in market for the sale of cooked food	<p>Since the characteristics of the market for sale of cooked food before the merger matches that of a monopolistic competition, the market for sale of cooked food is likely to be a monopolistic competition.</p> <p>This is also consistent with their behaviour. Though firms in the market are able to set their own prices, the prices of cooked food are priced competitively. Due to the high availability of substitutes, if one firm raises their price, their customers will switch to cheaper alternatives, causing the quantity demanded to fall to a large extent and hence, total revenue to fall. Thus, firms in the market for the sale of cooked food offer similar prices as compared to their rivals. Due to the low barriers to entry, firms in the market for the sale of cooked food will earn normal profits in the long run.</p> <p>In terms of their non-price strategies, firms in the market for the sale of cooked food often engage in advertising such as distributing flyers and placing advertisements in shopping malls. They also engage in small scale product differentiation such as offering a variety of dishes to their customers. This is because they do not have the profits required to engage in research and development.</p>
Conclusion	<p>Thus, the ride-hailing industry is an oligopoly while the market for sale of cooked food is a monopolistic competition.</p>

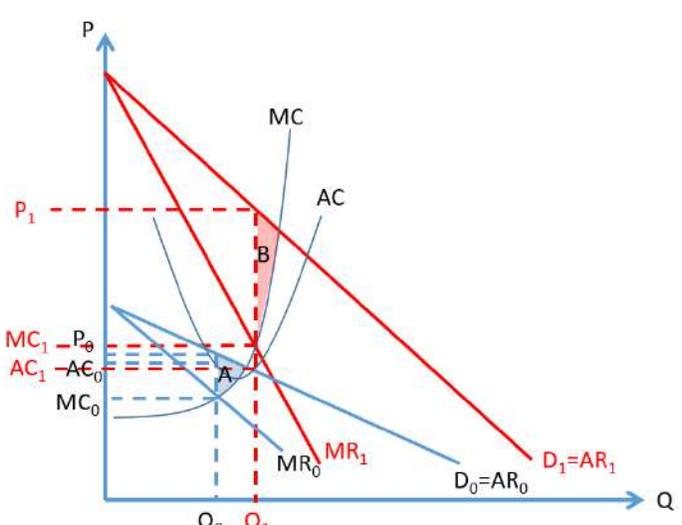
Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Well-developed explanation on the likely market structure <b>and</b> how it is consistent with the behaviour of firms for <b>both</b> markets. Explanations are sufficiently illustrated by the use of examples.	8 – 10
L2	Under-developed explanation on the likely market structure for both markets <b>and</b> how it is consistent with the behaviour of firms. <b>OR</b> Well-developed explanation on the likely market structure <b>and</b> how it is consistent with the behaviour of firms in <b>either</b> market. <b>OR</b> Well-developed explanation on the likely market structure <b>OR</b> how it is consistent with the behaviour of firms for <b>both</b> markets.	5 – 7
L1	Answer is descriptive and shows basic knowledge on characteristics and behavior of firms in an oligopolistic and monopolistic competitive market structure.	1 – 4

**(b) Discuss the factors that CCCS considers when they decide on whether to allow firms to merge. [15]**

**Question Analysis**

- Command – discuss
  - Benefits of merger – IEOS, DE
  - Costs of merger – AE, PE, equity
- Content
  - Factors that CCCS considers on whether to allow firms to merge → benefits and costs of merger depends on the performance of merged firms
- Context – not specified. Answer can make reference to ride hailing industry and market for sale of cooked food or any other examples

Requirement	Suggested Answer
Introduction	<p>The factors that CCCS considers when they decide on whether to allow firms to merge depends on the benefits and costs of the merger. This can be measured in terms of the performance of the merged firm. We can look at performance in terms of allocative efficiency, productive efficiency, internal economies of scale, dynamic efficiency, equity and variety.</p>
Body (1) – benefits of merger (IEOS)	<p>One factor that CCCS considers when they decide on whether to allow firms to merge is the benefits of merger. One benefit is the greater internal economies of scale (IEOS) that the merged firm is able to reap.</p> <p>IEOS is the fall in the average cost of production as scale of production increases. One IEOS large firms can enjoy is marketing economies of scale. Suppose Foodfare and Kopitiam merge, they are able to buy factors of production (e.g., utensils) in bulk. This reduces their unit cost of production. Another IEOS the merged Foodfare and Kopitiam can enjoy is risk-bearing economies of scale. Losses in one market can be easily overcome by gains in other markets. For example, the losses of a foodcourt operating in a particular location can be overcome with the profits earned by another foodcourt operating in a different location. Thus, risk for larger firms is better managed, resulting in lower cost of insurance for larger firms. This results in a lower average cost of production, leading to higher profits for a large scale organisation.</p> <p>Thus, merged firms are able to reap IEOS to a larger extent. The lower cost of production could translate into lower prices for consumers. This results in higher material standard of living (SOL).</p>
Body (2) – benefits of merger (DE)	<p>Another benefit of a merged firm is dynamic efficiency. Dynamic efficiency depends on whether firms engage in R&amp;D. Merger allows the firm to gain more market share. The demand for their product is larger and more price inelastic, resulting in higher price, output, and hence total revenue. This allows the firm to earn higher profits. This means that merged firms have a higher ability to engage in R&amp;D, which consists of product innovation and process innovation. Successful product innovation would result in better quality products and greater variety of products. This improves consumer’s material SOL. Successful process innovation would result in lower cost of production, which results in lower prices for consumers.</p> <p>EV: However, merged firms may not have the incentive to engage in R&amp;D. This is because merger reduces the level of competition in the industry. Thus, the merged firm may not be incentivised to undertake R&amp;D.</p>

<p>Body (3) - costs of merger (AE)</p>	<p>Another factor that CCCS considers when they decide on whether to allow firms to merge is the costs of merger. One cost is greater allocative inefficiency. Allocative efficiency is the way resources are allocated among competing uses such that the right amount of right goods is produced. It occurs when <math>P = MC</math>. This means that the value consumers place on an additional unit of good equals to the cost of producing it.</p> <p>When firms merge, the demand for the firm's product increases and becomes more price inelastic due to the lack of substitutes. Thus, demand curve shifts right from <math>D_0</math> to <math>D_1</math>. At the new profit-maximising price and output, the gap between <math>P</math> and <math>MC</math> increases from <math>P_0MC_0</math> to <math>P_1MC_1</math>. This means that society values the last unit of the good more than it costs to produce it. The deadweight loss increases from area A to area B.</p>  <p style="text-align: center;">Figure 2</p> <p>One example is after Grab and Uber merged, Grab stopped releasing promotional codes to consumers. This results in higher prices which leads to a smaller consumer surplus, making consumers worse off.</p>
<p>Body (4) - costs of merger (PE)</p>	<p>Another cost is productive inefficiency. Productive efficiency is achieved when the output of the industry is produced at the lowest cost. This occurs when firm produces on any point of the LRAC.</p> <p>The merged firm is able to earn higher profits. After merger, the profits increase from <math>(P_0 - AC_0) \times Q_0</math> to <math>(P_1 - AC_1) \times Q_1</math>. This causes the merged firm to be complacent and reduces their incentive to cut out wasteful spending such as spending on unnecessary equipment and expensive buildings. Thus, merged firms might not produce on the LRAC, causing it to be productive inefficient. This would result in higher prices, which makes consumers worse off.</p>
<p>Body (5) - costs of merger (equity)</p>	<p>Another cost of merger would be worsening inequity. Equity is achieved when everyone have access to goods that society agrees everyone should have access to regardless of income.</p> <p>The increase in supernormal profits are earned at the expense of consumers. These supernormal profits go to shareholders who are mainly upper income earners. This worsens the income distribution, which worsens inequity.</p> <p>In addition, after the merger, the price increases from <math>P_0</math> to <math>P_1</math>. If the market is a necessity such as cooked food, lower income households are less able to afford the necessity due to their low</p>

	purchasing power. This worsens inequity.
Evaluation – main factor that CCCS considers when deciding on whether to allow firms to merge	<p>The factors that CCCS considers when deciding on whether to allow firms to merge is the benefits and costs of merger. The most important factor depends on the extent of the benefits and costs of merger. This then in turn depends on <b>how much competition is reduced by</b>. For example, in the ride hailing industry, there is a significant fall in competition as the two largest firms merged. This means that the costs of merger between Grab and Uber is greater than the benefits of merger. On the other hand, in the market for the sale of cooked food, strong competitors remain even after the merger of Foodfare and Kopitiam. This means that their merger did not erode competition in the market for the sale of cooked food significantly. Thus, the benefits of merger between Foodfare and Kopitiam is greater than the costs of merger. Hence, CCCS fined Grab and Uber as they significantly eroded the level of competition in the ride-hailing industry. On the other hand, they allowed the merger of Foodfare and Kopitiam as it did not significantly erode the level of competition in the market for the sale of cooked food.</p> <p>Another factor that affects the extent of the benefits and costs of merger is the <b>contestability of the market</b>. Even though merger reduces the actual level of competition, firms may still behave competitively due to the threat of competition. Specifically, firms can use the profits to engage in R&amp;D instead of using it to compete with its rivals. For example, Grab engaged in extensive research and development and launched a new R&amp;D center in Malaysia in December 2018. After the merger, Grab have also successfully expanded into other services such as food, grocery and parcel deliveries. Thus, even if the merger reduces the actual level of competition, if the threat of competition remains high, the benefits of merger may outweigh the costs of merger.</p>

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Well-developed explanation on the factors that CCCS considers when deciding on whether to allow firms to merge. Answer considers the benefits <b>and</b> costs of merger. Explanations make rigorous use of appropriate economic models (i.e. market structure). Arguments are sufficiently illustrated by the use of examples (need not be in the case of Grab/Uber, Foodfare/Kopitiam).	8 – 10
L2	Under-developed explanation on the factors that CCCS considers when deciding on whether to allow firms to merge. Answer considers the benefits <b>and</b> costs of merger. OR Well-developed explanation on the factors that CCCS considers when deciding on whether to allow firms to merge. Answer considers the benefits <b>or</b> costs of merger.	5 – 7
L1	Answer is descriptive and shows basic knowledge of the benefits and costs of merger/performance of firms.	1– 4
E3	Well supported judgment based on reasonable argument or evidence. Evaluation considers the most important factor that CCCS considers when deciding on whether to allow firms to merge.	4-5
E2	Supported judgment based on reasonable argument or evidence. Evaluation considers the most important factor that CCCS considers when deciding on whether to allow firms to merge.	2-3
E1	Judgment that is unsupported.	1

**Question 3**

Preventive healthcare consists of measures taken for disease prevention to ensure people do not fall ill in the first place while curative healthcare is geared towards treating patients after they have become ill. Studies show that much of ill health arises as medical conditions were undiagnosed at early stages. Increasing health screenings would alert those with problems to take early action.

(a) Explain how the market for preventive healthcare might fail to a greater extent as compared to the market for curative healthcare. [10]

<p><b>Question Analysis</b></p> <ul style="list-style-type: none"> <li>• Command – explain</li> <li>• Content             <ul style="list-style-type: none"> <li>○ market might fail to a greater extent → greater underconsumption and hence greater deadweight loss</li> </ul> </li> <li>• Context – market for preventive healthcare, market for curative healthcare</li> </ul>	
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Requirements	Suggested Answer
Introduction	Market fails when the price mechanism fails to allocate resources efficiently and/or achieve social goals like equity. Allocative efficiency occurs when the right amount of right goods is produced at $MSB = MSC$ .
Body (1) – positive externalities in the market for preventive healthcare	<p>Preventive healthcare exhibits two sources of market failure - positive externalities in consumption and imperfect information.</p> <p>Market fails in the case of preventive healthcare due to positive externalities in consumption. When individuals consume more preventive healthcare such as flu vaccinations, they will have a lower likelihood of falling sick. As a result, they are less likely to spread diseases to their family members or co-workers. Thus, society benefits from the reduced spread of diseases.</p> <p style="text-align: center;">Figure 3</p> <p>The positive externalities causes MSB to diverge from MPB. Assuming no external cost, <math>MPC = MSC</math>.</p> <p>Since individual producers and consumers only consider their private cost and benefit and ignore external benefit, market equilibrium occurs at <math>Q_e</math> where <math>MPB = MPC</math>. However, socially optimal level</p>

	<p>occurs at <math>Q_s</math> where <math>MSB = MSC</math>.</p> <p>At <math>Q_e</math>, <math>MSB &gt; MSC</math>. This means that society values an additional unit of preventive healthcare more than the cost to produce it. There is an underconsumption of preventive healthcare of <math>Q_e Q_s</math>. This results in a deadweight loss <math>E_e E_s A</math>. Thus, market fails due to allocative inefficiency.</p>
<p>Body (2) – imperfect information in the market for preventive healthcare</p>	<p>In addition, preventive healthcare exhibits imperfect information. Specifically, consumers underestimate the private benefit of preventive healthcare such as health screenings. Health screenings help to detect any illnesses at an earlier stage. Thus, the private benefit of health screenings is the lower cost of treatment as the illness is detected earlier. However, consumers underestimate this private benefit due to two reasons. Firstly, they may not be aware of the benefits of preventive healthcare. Secondly, these benefits occur in the long run. As consumers tend to be short term utility maximisers, they underestimate the benefit of preventive healthcare now.</p> <div> <p style="text-align: center;">Figure 4</p> </div> <p>Since consumers underestimate the private benefit of preventive healthcare, <math>D_1</math> (with imperfect info) lies lower than <math>D_2</math> (with perfect info).</p> <p>Market equilibrium occurs at <math>Q_e</math> where <math>SS = D_1</math> (with imperfect info). However, socially optimal level occurs at <math>Q_s</math> where <math>SS = D_2</math> (with perfect info).</p> <p>Since <math>Q_e</math> is less than <math>Q_s</math>, there is an underconsumption of <math>Q_e Q_s</math> preventive healthcare. This results in a deadweight loss <math>E_e E_s A</math>, causing market to fail due to allocative inefficiency.</p>
<p>Body (3) – positive externalities in the market for curative healthcare</p>	<p>On the other hand, the market for curative healthcare is likely to only exhibit one source of market failure. Curative healthcare exhibits positive externalities in consumption. When an individual has flu, visiting the doctor and taking medication would help the individual recover faster. As flu is a contagious illness, people around the sick individual is less likely to catch the flu virus. Thus the external benefit is the reduced spread of diseases.</p> <p>Curative healthcare is unlikely to exhibit imperfect information. When an individual is sick, they would seek medical treatment so to recover faster. The private benefit of consuming curative healthcare is the benefits of feeling better. Thus, they will not underestimate the private benefit of consuming curative healthcare.</p> <p>As a result, the positive externalities in consumption causes an underconsumption of curative</p>

	healthcare. This causes the market to fail due to allocative inefficiency.
Conclusion	There are two sources of market failure in the case of preventive healthcare while there is only one source of market failure in the case of curative healthcare. Thus there is a greater underconsumption of preventive healthcare as compared to curative healthcare, causing the market to fail to a greater extent as compared to curative healthcare.

Alternative approach

Explain that curative healthcare has both sources of market failure - positive externalities and imperfect information. However, the extent of imperfect information in the case of curative healthcare is to a smaller extent as compared to preventive healthcare.

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Well-developed explanation on how market fails in the markets of preventive <b>and</b> curative healthcare. Answer explains <b>two sources</b> of market failure with the aid of diagrams. Answer makes an explicit comparison and shows that the market of preventive healthcare fails to a larger extent.	8 – 10
L2	Well-developed explanation on how market fails in the markets of preventive <b>OR</b> curative healthcare. Answer explains <b>two sources</b> of market failure with the aid of diagrams. <b>OR</b> Under-developed explanation on how market fails in the markets of preventive <b>and</b> curative healthcare. Answer explains <b>two sources</b> of market failure with the aid of diagrams. Answer did not make an explicit comparison to show that the market of preventive healthcare fails to a larger extent.  Max 5m for well-developed explanation of only one source of market failure	5 – 7
L1	Answer is descriptive and shows basic knowledge on positive externalities and imperfect information.	1 – 4

**(b) Instead of relying solely on influencing the demand for preventive healthcare, the Singapore government should adopt policies to target the supply of it. Discuss. [15]**

**Question Analysis**

- Command – discuss
  - Explain how policies that influence demand for preventive healthcare work
  - Explain the limitations of policies that influence the demand for preventive healthcare
  - Discuss how the Singapore government can adopt policies to target the supply of preventive healthcare (i.e. how the policy work and its limitations)
- Content
  - Influencing the demand for preventive healthcare → education and campaigns
  - Adopt policies to target the supply of it → subsidies, joint provision, legislation (that influences supply)
- Context – market for preventive healthcare in Singapore

Requirement	Suggested Answer
<b>Introduction</b>	Since the market for preventive healthcare fails, the government should intervene to correct the underconsumption of preventive healthcare so to maximise society's welfare.
Body (1) – explain how policies that influence demand for preventive healthcare works i.e. <b>explain how education and campaigns work</b>	<p>Currently, the Singapore government adopts education and campaigns to influence the demand for preventive healthcare. For example, HPB holds roadshows to inform the public on the benefits of cancer screenings such as mammograms.</p> <p>These education and campaigns aim to provide information to consumers so that consumers can estimate the true private benefit of preventive healthcare accurately. When consumers no longer underestimate the private benefit, the demand for preventive healthcare increases, causing the demand curve to shift right from <math>D_1</math> (with imperfect info) to <math>D_2</math> (with perfect info) as shown in Figure 4 in 3(a). Market equilibrium increases from <math>Q_e</math> to <math>Q_s</math>, which is the socially optimal level. Underconsumption of preventive healthcare is corrected, eliminating the deadweight loss. Thus, market failure is corrected.</p>
Body (2) - explain the limitations of policies that influence the demand for preventive healthcare i.e. <b>limitations of education and campaign</b>	<p>However, there are limitations to education and campaigns.</p> <p>Education and campaigns are not enforceable by law. They serve to encourage consumers to consume more preventive healthcare but do not force them to consume at the socially optimal level. Consumers may not heed advice due to stubbornness and ingrained habits that are hard to change. This means that demand may not increase until <math>D_2</math> (with perfect info) and underconsumption still occurs.</p> <p>In addition, education and campaigns takes time to work as it takes time to change mindsets and habits. Thus, this policy does not offer immediate solution to more pressing, urgent problems.</p> <p>Note: Accept discussions of other demand-side policies used in the preventive healthcare market (e.g., Medisave &amp; Medishield to increase consumers ability to pay for preventive healthcare)</p>
Body (3) - Discuss how the Singapore government can adopt policies to target the supply of	<p>Hence, since there are limitations to the policies that influence the demand for preventive healthcare, the Singapore government should adopt policies to target the supply of preventive healthcare instead. One such policy is subsidies.</p> <p>Singapore government can give subsidies to production of health screenings. The subsidy should</p>

<p>preventive healthcare i.e. explain how subsidies work and its limitations</p>	<p>equal to MEB.</p> <p>Figure 5</p> <p>The subsidy causes the cost of production to fall and profitability of preventive healthcare to increase. Since producers aim to maximise profits, the supply of preventive healthcare would increase. This causes the supply curve to shift right from <math>SS = MPC</math> to <math>SS1 = MPC + \text{subsidy}</math>. The new market equilibrium is at <math>Q_s</math> which is the socially optimal level. The underconsumption of preventive healthcare is corrected, deadweight loss is eliminated and market failure is corrected.</p> <p>An additional benefit of subsidising producers is that the price of preventive healthcare such as health screenings fall. This makes health screenings more affordable to lower income households, thus improving equity.</p> <p>However, the Singapore government may not want to implement subsidies as there are limitations to subsidies. Firstly, government failure might occur. If the subsidy is misestimated, the market might fail to a greater extent. For example, if the government overestimated the MEB and gives a subsidy that is too high, there would be an overconsumption of preventive healthcare which worsens the market failure.</p> <p>Furthermore, subsidies involve huge government expenditure. As a result, opportunity cost is incurred as the government could have spent on other areas such as education or defence.</p>
<p>Body (4) - Discuss how the Singapore government can adopt policies to target the supply of preventive healthcare i.e. explain how joint provision work and its limitations</p>	<p>Another policy the Singapore government can adopt is joint provision where the government produces the good to add on to the existing market supply. Since <math>Q_e</math> of preventive healthcare is underconsumed, the government provides <math>Q_e</math> of preventive healthcare. Equilibrium quantity of preventive healthcare increases from <math>Q_e</math> to <math>Q_s</math>. The underconsumption is corrected, eliminating the deadweight loss and achieving allocative efficiency</p> <p>However, the Singapore government may not want to adopt joint provision as there are limitations to joint provision. Similar to subsidies, joint provision also incurs an opportunity cost. In addition, there is an absence of profit motive by government-owned firms. There is a lack of incentive to keep cost low and to improve on quality. Government-owned firms might also be complacent as they know that losses will be paid off from taxpayer's money.</p>
<p>Evaluation – should</p>	<p>Whether the government should adopt policies to influence the supply of preventive healthcare</p>

<p>Singapore government adopt policies to influence the supply of preventive healthcare instead of relying solely on influencing demand</p>	<p>instead of relying solely on influencing the demand depend on the <b>main source of market failure</b>. If the market for preventive healthcare fails mainly due to imperfect information, then the current policy of education and campaigns to influence demand is appropriate as it targets the root cause of the main problem.</p> <p>However, since education and campaigns only work in the <b>long run</b>, the government should complement it with policies that work in the <b>short run</b> such as subsidies to producers.</p> <p>In addition, <b>Singapore is a facing an ageing population</b>. This means that preventive healthcare is increasingly more important as prevention of illnesses is better than cure. Consuming more preventive healthcare would also help Singaporeans live a better quality of life, improving their standard of living.</p> <p>Thus, even though current policy of education and campaigns is appropriate, the Singapore government should also adopt policies that target the supply of preventive healthcare in order to correct the underconsumption of preventive healthcare.</p>
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*Note: Supply side policies can be legislation aimed at influencing supply.*

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Well-developed and balanced explanation on how the current policy of influencing demand for preventive healthcare works <b>and</b> how policies to influence the supply of preventive healthcare works, including their limitations. Answer discusses <b>at least 2</b> policies.	8 – 10
L2	Under-developed but balanced explanation on how the current policy of influencing demand for preventive healthcare works <b>and</b> how policies to influence the supply of preventive healthcare works, including their limitations. Answer discusses <b>at least 2</b> policies. <b>OR</b> Well-developed and balanced explanation on how the current policy of influencing demand for preventive healthcare works <b>or</b> how policies to influence the supply of preventive healthcare works, including their limitations.	5 – 7
L1	Answer is descriptive and shows basic knowledge of the policies that can be used to correct positive externalities and imperfect information.	1– 4
E3	Well supported judgment based on reasonable argument or evidence. Evaluation should focus on whether the Singapore government should adopt policies to target the supply of preventive healthcare.	4-5
E2	Supported judgment based on reasonable argument or evidence. Evaluation should focus on whether the Singapore government should adopt policies to target the supply of preventive healthcare.	2-3
E1	Judgment that is unsupported.	1

4 Foreign direct investment from the USA to Singapore hit over US\$77 billion in 2018.

Source: EDB, Singapore, March 2019

(a) Explain the factors that determine the level of foreign direct investment in a country. [10]

Part (a)

<p><b>Question Analysis</b></p> <ul style="list-style-type: none"> <li>• Command word – explain</li> <li>• Content words             <ul style="list-style-type: none"> <li>○ Factors – consider 3 key reasons which influences the amount of FDI that flows into a country</li> <li>○ FDI – define term and steer clear of domestically funded investments</li> </ul> </li> <li>• Context – any country with examples</li> </ul>
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Requirement	Suggested Answer
<p><b>Introduction:</b> <b>Define FDI</b></p>	<p>These are long term investments arriving from abroad particularly through multinational corporations (MNCs). The objective, firstly, could be to establish a lasting interest in an existing domestic enterprise. This could be an injection of equity or even a complete buy over by the foreign interests. An example of this would be when a foreign entity like Katara Hospitality (a Qatar investor) acquires Raffles Hotel or Al-Futtaim (an UAE conglomerate) buys over Robinsons.</p> <p>Another objective of FDI could be where the MNCs from foreign countries inject investments in order to control assets and manage production activities in the host countries. These firms are developing portfolios of locational assets - human resources, infrastructure, and market access - to complement their own strengths in order to improve their overall competitiveness. Examples of such investments include Toyota relocating its production facilities away from Japan; Western software firms establishing operations in places like India or the Philippines; global pharmaceutical firms beginning new factories in Singapore; China acquiring mines in Australia or investing in farmland in Africa.</p> <p>Summarise at least 3 factors from below that determine the flow of FDI into a country.</p>
<p><b>Body 1</b> <b>Economic determinants</b> -Each point should show <u>economic analysis</u> (e.g., D&amp;S) in terms of how it will eventually increase the</p>	<p>The FDI could be seeking</p> <p>a) Markets: searching for bigger market-size and higher per capita incomes, access to regional and global markets or consumer-specific preferences in order to boost their revenues.</p> <p>b) Resources: searching for access to raw materials, low cost unskilled labour, skilled labour, technological, innovative and other created assets (e.g. brand names), physical infrastructure e.g. ports, roads, power, telecommunications.</p>

firm's profits	c) Efficiency: lower cost of resources listed above, other input costs such as transportation or membership to regional agreements that could offer advantages such as preferential tariffs.
<b>Body 2 Government policies</b> -Each point should show economic analysis (e.g., D&S) in terms of how it will eventually increase the firm's profits	Government policies that are conducive to foreign investments such as liberalisation of markets, relaxation of rules regarding market entry and investment incentives to encourage and attract FDI. Such policies include, a) Economic, exchange rate, political and social stability b) Policies pertaining to functioning and structure of markets e.g. competition policies, privatisation c) Rules regarding foreign operators d) Trade policy e.g. tariffs e) Tax policies e.g. tax incentives
<b>Body 3 Other factors</b> -Each point should show economic analysis (e.g., D&S) in terms of how it will eventually increase the firm's profits	FDI may also be incentivized to enter a country due to the following reasons: a) Good business facilitation and legal framework b) Lack of hassle costs due to administrative efficiency and the absence of corruption
<b>Conclusion</b>	During the past few decades large quantities of FDI has traversed the globe due the above reasons. Countries such as Singapore have been particularly successful in attracting a steady flow of FDI precisely due to the existence of many factors described above. Major MNCs have set up shop here because of Singapore's strong physical and regulatory infrastructure, global connectivity and skilled manpower base.

**Note:** If students are to approach this question by explaining the traditional factors that motivate domestic investments such as interest rates, efficiency of capital, government policies or business confidence they must do so **with clear reference to FDI**.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation (i.e., makes use of economic analysis) of at least 3 factors, at least 2 of which should come from the economic determinants and government policies. Students may apply these to any country including Singapore and must provide relevant examples.	8-10
L2	At least two factors are explained but neither with clarity nor thoroughness. Lacking context as well as relevant examples.  Max. 7: If candidates provide a well-developed answer that explained factors affecting domestic investment such as interest rate, efficiency of capital, government policies, business optimism, etc. thoroughly but with limited or no reference to FDI.	5-7
L1	Identified a few factors affecting FDI or domestic investment with cursory explanation without context or examples.	1-4

**(b) Assess the role of foreign direct investment in raising the standard of living of a country. [15]**

Part (b)

<p><b>Question Analysis</b></p> <ul style="list-style-type: none"> <li>• Command word – assess - present two sides             <ul style="list-style-type: none"> <li>○ Thesis: FDI can raise the SOL</li> <li>○ Anti-thesis: FDI does not raise the SOL</li> </ul> </li> <li>• Content words             <ul style="list-style-type: none"> <li>○ Role of – need to explain how FDI can impact the SOL through changes in real national income</li> <li>○ SOL – define term and tackle both material as well as non-material SOL</li> </ul> </li> <li>• Context – any country with examples</li> </ul>
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Requirement	Suggested Answer
<p><b>Introduction:</b> <b>Define SOL</b></p>	<p>SOL refers to both material and non-material well-being of the average citizen. MSOL is largely determined by average per capita real income – indicative of the purchasing power of the average person in terms of goods and services that one can buy.</p> <p>NMSOL refers to the quality of life enjoyed by the average citizen in terms of indicators such as health, education, environment, leisure and infrastructure.</p> <p>FDI plays an important role in raising SOL, particularly in developing countries because it usually helps to bridge the gap between savings and investment in a country, thereby contributing to economic growth. FDI in Singapore has increased rapidly, averaging 13% per annum in the last 20 years and playing a significant role in helping the country achieve “developed” status.</p> <p>Besides Singapore, many developing countries, especially in Asia, have also been experiencing the benefits of FDI. The results of being able to achieve a nation’s macroeconomic goals, particularly economic growth and employment, lifts the country toward higher SOL.</p> <p>However, FDI isn’t without its peril. FDI may be counter-productive and cause a country to not being able to achieve its macroeconomic goals thereby lowering the SOL. On the other hand, even where FDI raises the MSOL it may cause the NMSOL to suffer.</p>
<p><b>Body 1</b> <b>Thesis: Explain how FDI raises the per capita income, hence MSOL</b></p>	<p><u>Explain the importance of FDI in raising SOL by first explaining its effect on real national income.</u></p> <p>Increased FDI leads to increased investments on goods and services. This increases the injections into the circular income flow leading to higher aggregate expenditure which in turn incentivises the firms to</p>

	<p>increase their output. With higher output and income, further increases in national income becomes possible due to the multiplier process. The marginal propensity to consume, (mpc) will determine the degree of increase in the national income.</p> <p>The multiplier process continues until economy reaches a new equilibrium national income and a new and higher level of national income. The larger the multiplier (k), where the value of <math>k = 1/MPW</math>, the larger is the increase in national income.</p> <p>If population and inflation growth are curtailed and / or held constant the real per capita income will increase, increasing purchasing power and hence consumption, giving the MSOL a boost.</p>
	<p>(Alternatively, use the AD-AS analysis. Both are equally valid)</p> <p>For AD: FDI's impact can also be seen through the AD/AS analysis. The inflow of FDI is also a source of investment, increasing AD through increasing the investment component. The increase in AD causes an increase in national output through the multiplier process.</p> <p>Additionally, much of modern FDI is the setting up of factories to produce goods to export to the rest of the world (e.g., Samsung setting up production units in China to export Samsung smartphones to the rest of the world.) This increases exports and hence allowed net exports and therefore the AD to rise, further increasing national output.</p> <p>For AS: Meanwhile, FDI also contributes to increases in the AS. FDI will likely introduce newer and better technology which helps the host country move up the value-added chain, improving the competitiveness of their MNCs. This may also be accompanied by successful R&amp;D. The short run effect would help raise labour productivity and therefore the SRAS and help achieve actual growth. The long run effect would enable greater productive capacity and hence increase the AS allowing for potential economic growth.</p> <p>[Include AD-AS diagram]</p> <p>If population and inflation growth are curtailed and / or held constant the real per capita income will increase, increasing purchasing power and hence consumption, giving the MSOL a boost.</p> <p><u>Illustrate the above, in a country's context giving examples</u></p> <p>For instance, FDI flowed into Singapore particularly into high-end manufacturing, pharmaceuticals, petrochemicals, finance and insurance all of which contributes to higher value propositions and higher national incomes. The increased comparative advantage and high spill-over effects for the service sector will raise the productive capacity in the long</p>

	run.
<b>Body 2</b> <b>Explain how the NMSOL is also raised.</b>	The improved state of the economy allows the government to collect more taxes which supports a higher government expenditure. Such disbursements will allow the government to support infrastructure building, educational and medical facilities all of which will help to raise the NMSOL. The higher incomes received by the people may allow them to venture into leisure activities that enhance their well-being and quality of life.
<b>Body 3</b> <b>Anti-thesis: FDI may have negative impact on the SOL</b>	<p>Despite its advantages, there are also effects of FDI that can adversely affect SOL.</p> <p>FDI may increase the levels of pollution or environmental degradation in the country especially in the extractive industries. For instance, in the Niger Delta in Nigeria, oil spills, the flaring of excess gas and deforestation from oil exploration and production activities by foreign investors have had damaging effects on the environment. Such effects lowers the SOL, particularly the NMSOL due to the existence of negative externalities and the resultant deadweight losses. However, MNCs especially in recent years are now becoming more environmentally aware and responsible, and have tried to improve their environmental practices for instance by restoring mine sites following their closure.</p> <p>Another negative impact could be that unemployment may rise in the domestic sector. Domestic firms that cannot withstand the competition from foreign firms will close down and this negative impact depends on whether the goods or services produced are close substitutes. If this negative impact is greater than the positive impact on employment, then overall, national income and SOL may decline. Whether the problem will persist depends on the ability of the economy and its people to restructure and overcome the structural unemployment. Both MSOL and NMSOL can be impacted by unemployment arising from FDI.</p> <p>Output that is produced by MNCs may often be exported away. This could have a negative impact on SOL. While the data may show high per capita incomes, citizens may have little to purchase reducing their MSOL. The problem is compounded if FDI's focus is on non-consumer goods, particularly military goods. If the focus is on capital goods, the long run prospects are at least better.</p> <p>Finally in the long run, profits from inward FDI are always repatriated to the home country. This will result in a fall in the national income while negatively impacting the balance of payments. In addition, FDI in extractive industries can lead to depletion of the country's natural resources without which the country's economic growth may not be sustainable.</p>
<b>Conclusion</b>	FDI plays an important role in raising SOL through its positive impact on national income and employment. It is especially critical in countries with low levels of domestic savings. Yet, even in more advanced countries such as Singapore, FDI has contributed greatly to its economic growth

	<p>and hence SOL.</p> <p>While FDI is important in raising SOL there are also costs that may hinder sustained economic growth in the future.</p> <p>Hence, in conclusion, whether the role of FDI in raising SOL is a positive one would depend on whether there are existing government policies to mitigate the cost of FDI. If there are government policies to ensure that the country gets the best of the FDI in terms of creating employment, increasing the country's competitiveness and ensuring linkages with the other sectors of the economy while at the same reducing the adverse effects such as pollution and environmental degradation, then FDI would play a positive role in improving SOL.</p>
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<b>Level</b>	<b>Knowledge, Application/Understanding and Analysis</b>	<b>Marks</b>
L3	Thorough analysis of impact of FDI on economic growth and employment – both positive and negative impact. The answer makes clear links between the above and changes to SOL, both material and non-material.	8-10
L2	Limited explanation of the importance of FDI to economic growth with links to SOL. Largely coherent recognising both positive and negative impact of FDI on SOL but economic analysis is not sufficiently rigorous.	5-7
L1	Cursory explanation or states only the impact of FDI on an economy. Some understanding of SOL is evident.	1-4
E3	A well-reasoned conclusion that clearly addressed the question.	4-5
E2	Some attempt to make conclusive judgements about the overall impact but not well substantiated and rather generic.	2-3
E1	A judgement that is unsupported.	1

5 “The Singapore dollar will fare around \$1.35 against the US dollar in 2018.”

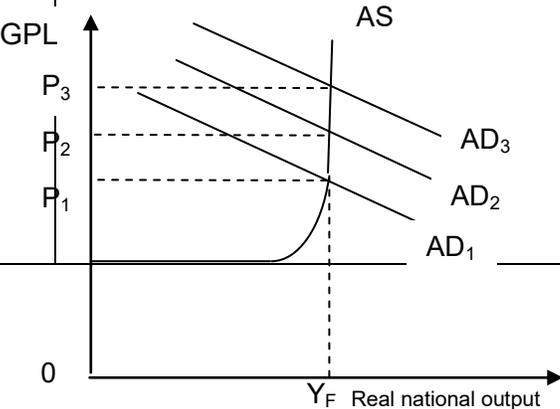
Source: *Fitch Solutions, January 2018.*

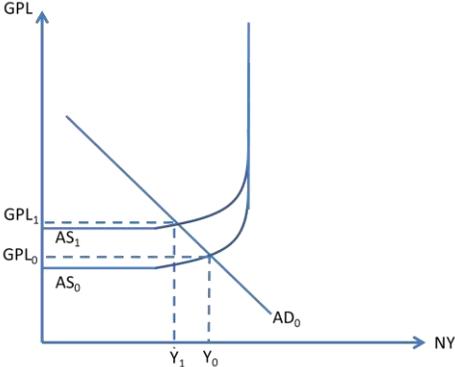
(a) Explain how changes in the external value of a currency can affect the domestic price level.  
[10]

Part (a)

**Question Analysis**

- Command word – explain
- Content words
  - External value of a currency – appreciation or depreciation
  - Domestic price level – inflation (demand-pull, cost-push)
- Context – any country with examples

Requirement	Suggested Answer
<p><b>Introduction:</b> <b>Define terms</b></p>	<p>The external value a currency refers to the price of one currency in terms of another currency. A change in this external value of currency can be either a depreciation or appreciation of the currency.</p> <p>Inflation refers to a period of sustained and inordinate increase in the general price level. This is typically indicated by an increase in the CPI, which measures the average price level of a basket of goods and services. A country may typically experience two main types of inflation: demand pull and cost-push inflation.</p> <p>In this answer, the context will be Singapore. The high import dependence will have an impact on the domestic price levels.</p>
<p><b>Body 1</b> <b>Explain the impact of a change in the external value on the economy leading to demand-pull inflation</b></p>	<p>Suppose there is a depreciation of the Singapore currency. This will lead to a fall in the price of exports in terms of a foreign currency and a rise in the price of imports in terms of the domestic currency. Foreigners will enjoy higher purchasing power resulting in higher exports for Singapore. Singaporeans on the other hand, will hold off purchasing imports as they are relatively more expensive.</p> <p>If the Marshall Lerner condition holds, the increase in net exports will represent an increase in AD, resulting in increases in real national income and employment, through the multiplier. This is based on the assumption that there is excess capacity in the economy.</p> <p>However, if the economy is near or already experiencing full employment levels the increase in the AD will inevitably result in demand-pull inflation.</p> <p><b>Fig 1: Demand-pull inflation</b></p> 

	<p>Diagrammatical representation: Figure 1 illustrates an increase in AD from <math>AD_1</math> to <math>AD_2</math>. The excess demand cannot be met as the economy is near or at full employment. This situation will bid up prices of real output leading to an increase in the GPL.</p> <p>A persistent increase in the AD (a sustained rightward shift in AD from <math>AD_2</math> to <math>AD_3</math>) will generate a sustained &amp; inordinate increase the GPL without any increase in the real output. This inflationary process can lead to an inflationary spiral.</p>
<p><b>Body 2</b> <b>Explain the impact of a change in the external value on the economy leading to cost-push inflation</b></p>	<p>The depreciation of the Singapore dollar will also lead to cost-push inflation. This is primary due to Singapore being resource poor and having to depend on imports to meet its resource requirements. In addition, most exports have high import content. These factors will lead to adding pressure on the overall cost of production. The result will be cost-push inflation.</p> <p><b>Fig 2: Cost – push inflation</b></p>  <p>Figure 2 shows the economy is initially at price <math>GPL_0</math> and output <math>Y_0</math>. An increase in the cost of production due to relative increase in crude oil prices for example will shift the SRAS curve upwards from <math>SRAS_0</math> to <math>SRAS_1</math>. Consequently the persistent increase in costs will result in a sustained increase in the GPL from <math>P_0</math> to <math>P_1</math> while output drops from <math>Y_0</math> to <math>Y_1</math>. The persistent increase can also lead to an inflationary spiral as producers will pass the higher costs down to the consumers.</p>
<p><b>Conclusion</b></p>	<p>Changes in the external value of a currency can affect the domestic price levels as shown above. Given Singapore's high import dependence a depreciation of the Singapore dollar is likely to adversely affect the domestic price levels and consequently the economy as it loses its competitiveness.</p>

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	An answer that explains the relationship between external value of a currency and the domestic price levels clearly with reference to both causes of inflation (demand-pull and cost-push). Answer also presents well explained diagrams with conclusion.	8-10
L2	For a well-developed answer that explains either demand-pull or cost-push inflation OR an underdeveloped explanation for both.	5-7
L1	For an answer that shows some knowledge of inflation but without the relationship	1-4

between external value of currency level and domestic price levels.
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**b) Discuss whether an increase in the general price level will affect the domestic sector more than the external sector. [15]**

Part b)

**Question Analysis**

- Command word – discuss – argue whether inflation affects the domestic economy more than the external economy. Present the desirable and undesirable effects of both and conclude which sector is more affected.
- Content words
  - Domestic vs external sectors
- Context – any country with examples

<b>Requirement</b>	<b>Suggested Answer</b>
<b>Introduction: Define domestic and external sectors</b>	As inflation was already defined earlier, students need only clarify the terms domestic and external sectors as domestic and external economy respectively. High inflation can pose a problem for both sectors of the economy. The context can be Singapore or any other country.
<b>Body 1 Internal effects: desirable</b>	<p>Mild inflation, for e.g. 2%, might stimulate investment and expansion of firms who benefit if prices rise by more than costs leading to increase in profits. If rise in general price level is caused by increasing AD, firms will feel optimistic about the future. This might stimulate investment and expansion of firms.</p> <p>Inflation may also stimulate consumption because real interest rates may be low or negative. Debt burdens fall and people may be encouraged to spend more. For e.g. those who borrowed money to buy houses may experience a fall in mortgage interest payments in real terms. At the same time, prices of their houses will be likely to rise more than inflation. Thus they feel better off and so may spend more.</p> <p>Increase in C &amp; I would lead to increase in AD and hence increase in NY via the multiplier process.</p> <p>(Note: Accept all reasonable explanations of how increase in GPL can be beneficial to C &amp; I and hence AD and NY)</p>
<b>Body 2 Internal effects: undesirable</b>	<p>Menu costs - Firms keep amending price lists, catalogues, price tags and advertisements raising costs of transactions. However, this is not expected to be significant unless inflation is very high.</p> <p>Inflation discourages people from holding money because inflation reduces the value of money. Opportunity costs of holding money becomes great at very high nominal interest rates. People try to keep their money in interest-bearing accounts for as long as possible, even if it means making frequent trips to the bank. But very high inflation will</p>

	<p>inevitably lead to lower savings and investment levels affecting economic growth adversely.</p> <p>People are reluctant to undertake investment that would expand the country's productive capacity. They are uncertain about future inflation and this lowers business confidence. This causes a fall in I and hence AD and NY.</p> <p>Redistribution of income will result in some to gain and others to lose. Borrowers tend to gain and lenders to lose because nominal interest rates usually rise more slowly than inflation rate. Real interest rates fall with inflation. Those with fixed incomes will also lose out. The income gap may widen potentially destabilizing the economy.</p> <p>The wage-price spiral. When workers experience higher prices of goods and services, they will demand higher wages to maintain their purchasing power.</p> <p>Misallocation of resources. Prices are very important in allocating resources in market economies. Inflation may inhibit the ability of prices to act as reliable signals in the process, leading to wastage of resources. For example, producers seeing the price of their goods rising may increase output when this higher price is a result inflation rather than increased demand.</p>
<p><b>Body 3</b> <b>External effects:</b> <b>desirable</b></p>	<p>If inflation rates are below those of its main competitors, the goods and services will become more competitive in terms of price. Exports will increase and imports will fall such that net exports increase. This improves the BoT and hence helps an economy achieve the external aim of a healthy BoP.</p>
<p><b>Body 4</b> <b>External effects:</b> <b>undesirable</b></p>	<p><u>Worsening of current account</u> However, it is possible that inflation exceeds foreign inflation. Inflation results in a loss of international competitiveness. Inflation poses a great threat to Singapore's export competitiveness. If Singapore has a higher inflation rate than other competing countries, its goods and services will be deemed less attractive to consumers around the world in terms of price competitiveness.</p> <p>Singapore's exports will become relatively more expensive and imports will become relatively cheaper. Assuming PED of exports and imports are both elastic, exports earnings will fall while import expenditure will increase. This will worsen the BOP through the current account.</p> <p><u>Worsening of capital account</u> Cost push inflation means higher production cost. Firms will not be willing to invest and existing foreign firms may choose to relocate their production to other lower cost countries. Hence there will be an outflow of FDI, resulting in a long – term capital outflow.</p> <p>High inflation rates will also lead to capital flight as people prefer to put their money in countries where the monetary situation is more stable, resulting in short – term capital outflow.</p>

	Capital outflows will worsen the BOP through the capital account.
<b>Conclusion</b>	<p>In conclusion, whether an increase in GPL is beneficial (to both internal and external sectors) is dependent on the extent of the inflation. If it is mild, the effects are generally positive whereas if it is high, the effects would be negative.</p> <p>As to whether the domestic or external sector would be more affected, it depends on the nature of the economy. Singapore with its little natural resources and its small domestic market, is very highly dependent on foreign markets for its exports of finished products and import of raw materials for its production processes as well as many final consumption goods. Also, Singapore is also very reliant on capital flows and FDI.</p> <p>Since Singapore is such an open economy with high dependency on trade and FDI, <b>inflation would cause more problems for her external sector.</b></p> <p>Further, problems from the external sector will have spillover effects on the domestic sector. For instance, uncompetitive exports due to high inflation will lead to a fall in demand for exports. Since Singapore is an exporter, a fall in demand for exports may lead to an increase in cyclical unemployment in Singapore. A fall in exports will lead to a fall in national income through the multiplier effect. This would trigger a fall in domestic production, employment and economic growth.</p>

<b>Level</b>	<b>Knowledge, Application/Understanding and Analysis</b>	<b>Marks</b>
L3	For a detailed analytical answer that explains how inflation would affect <b>BOTH</b> the domestic and external sectors of the Singapore economy.	8-10
L2	For an answer that tends to be balanced in coverage but undeveloped in nature. OR For an answer that only explains how inflation affects the domestic or external sector of Singapore but in great detail.	5-7
L1	For an answer that shows some knowledge of what inflation is but has serious errors or a serious lack of economic analysis.	1-4
E3	Good relevant evaluative judgement that is well supported by economic analysis.	4-5
E2	Some attempt to make conclusive judgements about the overall impact but not well substantiated and rather generic.	2-3
E1	A judgement that is unsupported.	1

6 Globalisation is under threat. Figures compiled by the Swiss Economic Institute show that globalisation peaked and began plateauing several years before the current trade wars began. The current headwinds to it – from lower cross-border capital spending to the relocating of firms back home to win votes, tariffs and the push to grow domestic firms – are not going away anytime soon. So governments and the biggest corporations have begun to prepare for a new age: the age of deglobalisation.

Source: *Financial Times*, August 2019

Discuss whether Singapore is among the economies that have the most to lose from deglobalisation. [25]

Question Analysis
<ul style="list-style-type: none"> <li>• Command word – discuss whether</li> <li>• Content words               <ul style="list-style-type: none"> <li>○ Deglobalisation, linked words –comparative advantage, free trade, tariffs, protectionism</li> <li>○ Most to lose</li> </ul> </li> <li>• Context – Singapore and its trade relationship with other countries</li> </ul>

Requirement	Suggested Answer
<p><b>Introduction:</b> <b>Define deglobalisation</b></p>	<p>Describe the nature of the Singapore economy – a small and open economy, with very limited resources, highly dependent on imports and inevitably highly reliant on international trade, capital, labour and technological flows to achieve its macroeconomic goals and raising the SOL for its citizens.</p> <p>Define deglobalisation which is the reverse of globalization. It will be characterized by a global regime of tariffs and protectionism and the decreasing flows of free trade, capital, technology and labour.</p> <p>As globalization was the lifeline of Singapore during the past few decades allowing Singapore to achieve its macroeconomic goals, particularly stable economic growth and low unemployment, the absence of globalization will be detrimental to its economic well-being. Singapore’s ability to achieve the above-mentioned macroeconomic goals will be heavily compromised while the remaining goals of price stability and a favourable balance of payments will be negatively affected.</p>
<p><b>Body 1 Strengths.</b> <b>Explain how globalization has helped the Singapore economy</b></p>	<p>Globalization implies free trade. It is the movement of goods and services, capital and the movement of resources between countries without any form of government interruption. This is the very lifeline of a country like Singapore. A small country, with no natural resources and no local market, has to trade in order to attain its economic objectives. Singapore must enter into free trade agreements; specialize in production in a few selected industries; acquire the competitiveness (or comparative advantage); and sell to the world. In fact, globalization has allowed tiny Singapore to play a major role in the global arena. The sum of its exports and imports exceeds 3 times the size of its GDP allowing it to be among the world’s largest trading nations.</p>

<p><b>Explain comparative advantage, free trade and the benefits bestowed on a small an open economy such as Singapore</b></p>	<p>If countries can specialize in the goods in which they have opportunity cost they will produce a global total that will be higher than if they did not specialize. When these countries come together to freely exchange their produce they will experience better outcomes, provided their exchange takes the opportunity costs into account. The outcomes may even be superior as they may be able to consume beyond their production possibilities boundaries.</p> <p>Singapore is one of the countries that has benefitted greatly from such specialization and trade that we are able to consume outside our boundaries. Globalization and free trade is crucial for Singapore because it would be a waste of Singapore's resources if other countries block Singapore's exports. A good example is SIA. Singapore has invested billions into SIA, and has acquired the comparative advantage in passenger air travel and cargo shipments. But this would come to nothing if other countries block SIA. Consumers from all countries stand to lose as they will no longer be able to enjoy the high quality services that are offered at competitive prices.</p> <p>Singapore has completely gained from free trade. The world markets have provided higher incomes and employment allowing key macroeconomic goals to be reached. The ability to specialize and produce greater quantities of goods and services that are viewed as being of superior quality enables Singapore to become a significant exporter of a wide variety of goods and services. The growth in exports allows the AD to increase as it is a significant component of the AD, enabling it to shift to the right. This allows Singapore to achieve actual growth, leading to higher incomes and employment.</p> <p>Besides trade, Singapore has greatly benefitted from the massive capital flows that is common in globalization. We have been able to access FDI and funds from the global capital markets to enable growth of investments which will not be possible if we had to rely on the domestic markets. These investments have fueled both actual and potential growth, creating employment and raising the SOL.</p> <p>(Include a diagram)</p> <p>Despite the absence of a significant domestic market due its small size, Singapore has also been able to exploit all possible economies of scale due to mass production as it is now producing for the global markets. This allows Singapore goods to be price competitive as we are able to achieve lower average costs and therefore lower costs of production compared to our competitors. The ability to export high quality goods at competitive prices also allows our BoT and in turn BoP to be favourable.</p> <p>High expenditures on R&amp;D and huge investments have been feasible because trade makes it possible for such costs to be recovered as we have access to volume. Trade with other countries increases competition in every industry in the home market. It keeps prices down, improves products and the sales service. There is greater consumer surplus and consumer sovereignty allowing for greater social efficiency. Quite significantly, Singaporeans also get to consume products that can never be produced domestically since we lack comparative advantage in</p>
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	<p>these areas. This is because we can use the consumer surplus earned from the high value added production of goods and services that we are capable of to exchange for products that we are unable to produce ourselves. A wide range of goods such as agricultural produce and luxury goods are an example of this.</p> <p>The globalised nature of the labour movement also contributes to Singapore's efforts, particularly in achieving sustainable growth. The increased labour flows from neighbouring countries allows us to alleviate the labour crunch and potentially higher costs of production arising from the shortage of manpower. This has a positive impact on our SRAS as our costs of production are kept under control. At the same time, access to cheaper foreign workers have allowed our local workers to focus on the capital intensive industries while allowing our labour intensive industries to avoid higher costs of production. As more manpower resources are amalgamated into the economy our productive capacity has also increased substantially both in quality and quantity allowing the LRAS to shift rightwards enabling the economy to achieve sustainable growth. (Diagram)</p> <p>Globalisation and the free trade regimes has allowed Singapore to have greater access to resources such as raw materials relatively easily. This is important since Singapore is significantly resource poor. The availability of such resources has enabled us to reach our macroeconomic goals particularly in growth and employment. When combined with the stated exchange rate policy of gradual and modest appreciation of the Singapore dollar, the country has been able to curtail inflationary pressures arising from imported cost-push inflation. With the rise of the AD described above accompanied by the increase in the LRAS also described above, inflationary pressures that might arise from demand-pull inflation is also well managed. (Diagram)</p> <p>Finally, the improvements achieved through the macroeconomic goals enables the Singapore government to address equity and income inequality issues that may arise. The higher incomes earned across the board allows the income gap to be narrowed while higher tax revenues raised enables the government to address issues concerning the low income groups. Government also has the financial ability to address issues of access of education, housing and medical care that creates a level playing field across society.</p>
<p><b>Body 2 Challenges Explain how the features of deglobalisation, for example, tariffs and protectionism thwarts the macroeconomic goals of Singapore</b></p>	<p>The regime of deglobalisation, is characterized by protectionist measures such as tariffs, the curtailing of the free flow of trade, capital, labour and technological flows. The outcomes of these events will have the opposite effect from those described above.</p> <p>The Trump administration's policy prescriptions with respect to USA's external economic relationship is characterized by the above features. The tariffs against a wide variety of goods and services imported into the USA has been reciprocated by other countries, especially China. Free trade is being stifled while the protectionist stance is growing. The administration has also become a stumbling block with respect to capital flows when they discourage overseas investments through tax disincentives. Barriers against technological flows have also become</p>

	<p>common as in the Huawei saga. The restriction of various categories of work visas are examples of barriers being enacted labour flows.</p> <p>Tariffs have the unfortunate effect of reducing the welfare of the average citizen while provoking retaliatory reactions that can escalate with catastrophic results. At the consumer level, tariffs will raise the price of goods and services, robbing them of their consumer surpluses and reducing the allocative efficiency in the economy. Tariffs also broadly encourage inefficient producers while creating deadweight losses to society. However, the biggest damage is the retaliatory responses it provokes from other countries. Protectionist measures accumulate, eventually stifling international trade. This environment directly impacts nations such as Singapore that thrives on trade. While large nations with a significant domestic market can survive on their domestic sector, small nations suffer as their external sector contributes significantly to their macroeconomic success.</p> <p>The inability of the Chinese to access the American markets has direct impact on Singapore as it exports large amounts of intermediate goods to the Chinese markets. With Chinese exports dwindling, Singapore's also follows suit causing a slowdown as its AD shifts to the left. The severe slowdown faced by Singapore the past few quarters are induced by these circumstances. This in turn will impact employment, creating cyclical unemployment in the short run and perhaps structural unemployment in the long run as the situation persists.</p> <p>The reduced ability to access raw materials may directly impact Singapore's price stability as scarce resources rise in price leading to imported inflation. This further complicates Singapore's case as costs of production rise leading to reduction in the SRAS and a drop in output. The resulting higher prices may make Singapore made goods uncompetitive in the global markets further affecting exports. Singapore cannot rely on exchange rate depreciation to counter this as it is import dependent for its raw material.</p> <p>The lack of capital can severely affect investments in Singapore as the pool of capital generated domestically is insufficient. The negative impact of this will be felt on the AD in the short run and on the AS in the long run as productive capacities are limited. If protectionist measures encourage the withdrawal of foreign firms back to their home country, a nation like Singapore will experience cyclical and structural unemployment. The slowdown of technological flows will likewise hamper the future prospects of Singapore as innovation and productivity may be affected. The lack of R&amp;D can be debilitating on the LRAS.</p> <p>Finally, income inequalities and equity issues will arise if massive unemployment takes hold and the problem is compounded as Singapore may find it difficult to manage fiscally.</p>
<b>Conclusion</b>	<p>Clearly a deglobalised world is going to affect many countries. However, the countries that have the most to lose from deglobalisation are the small and open economies like Singapore because they are so heavily reliant on trade. It is possible that all its macroeconomic goals may be hampered leading to severe impoverishment.</p>

	<p>However, as long as the 1930s scenario is not re-enacted, even a deglobalised world may still create some opportunities as long as Singapore is able to remain competitive, nimble and resilient. New alliances and trading regimes may arise along regional lines to replace existing ones and Singapore can still take advantage and adapt to the new realities.</p>
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<b>Level</b>	<b>Knowledge, Application/Understanding and Analysis</b>	<b>Marks</b>
L3	<p>High L3 (18-20) An answer that is able to explain thoroughly the advantages arising out of globalization and the disadvantages of deglobalisation in meeting a country's macroeconomic objectives. The answer pays particular attention to the size of a country's economy and its trade dependence. Able to illustrate with examples and appropriate diagrams.</p> <p>Low L3 (15-17) An answer that is well developed and balanced but lacking appropriate examples and diagrams.</p>	15-20
L2	<p>High L2 (12-14) An answer that is well-developed but is one-sided.</p> <p>Low L2 (9-11) An answer that is under-developed and one-sided.</p>	9-14
L1	<p>High L1 (5-8) An answer that is descriptive with sufficient scope but lacks economic analysis.</p> <p>Low L1 (1-4) A descriptive answer with limited scope</p>	1-8
E3	Good relevant evaluative judgement that is well supported by economic analysis.	4-5
E2	Some attempt to make conclusive judgements about whether Singapore has the most to lose but not well substantiated and rather generic.	2-3
E1	A judgement that is unsupported.	1



ST ANDREW'S JUNIOR COLLEGE

PRELIMINARY EXAMINATIONS 2019 (JC2)

General Certificate of Education Advanced Level

Higher 2

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**ECONOMICS**

**9757/02**

**Paper 2**

**2 September 2019**

**2 hours 15 minutes**

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A and **one** from Section B.

The number of marks is given in brackets [ ] at the end of each question or part question.

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**This document consists of 3 printed pages.**

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**[Turn Over]**

**Answer three questions in total.**

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**Section A**

**One or two** of your three chosen questions must be from this section.

- 1** The food and beverage (F&B) industry in Singapore offers a wide range of cuisine and dining options. Singaporeans can choose to eat local food in a hawker centre, Western food at a casual dining restaurant or Japanese food at a fine dining restaurant. A rise in rentals and a fall in incomes are likely to affect different F&B businesses differently.

**(a)** Using price and income elasticities of demand, explain how each of these changes might affect the sales volume of different F&B businesses in Singapore. **[10]**

**(b)** Discuss the likely combined impact of both of these changes on the sales revenue earned by these different types of F&B businesses. **[15]**

- 2** In a highly competitive apparels industry where size matters, boutiques which offer customised tailoring services for discerning consumers nonetheless coexist with large firms which produce huge quantities of clothing for the mass market.

Discuss the factors that firms should consider when deciding whether to grow and evaluate which is the most important factor. **[25]**

- 3** Ministry of Home Affairs cited two areas of concern in Singapore: the large proportion of young drug abusers and cigarette smokers, who harm themselves and others.

Singapore has a zero tolerance approach to drug consumption - drugs are banned. Various measures including tax have been adopted to tackle the problem of cigarette smoking.

**(a)** With reference to the examples above, explain why government intervention is advocated in markets for demerit goods. **[10]**

**(b)** Discuss whether a total ban is the most appropriate policy for different demerit goods. **[15]**

**Section B**

**One or two** of your three chosen questions must be from this section.

- 4** As of 2018, Singapore's current account surplus stood at \$87.8 billion. For the Financial Year 2018, Singapore had a \$2.1 billion budget surplus.

Explain the possible causes of a country's current account surplus and budget surplus and discuss whether such surpluses are beneficial to Singapore's economy. **[25]**

- 5** Stability in prices and low unemployment are two key macroeconomic aims of most governments.

**(a)** Explain the benefits of attaining the above aims. **[10]**

**(b)** In view of the possible conflict between the above aims, discuss the economic policies that a government might consider adopting to achieve them. **[15]**

- 6** In recent decades, globalisation has transformed the world, boosting economic growth and connecting developed and developing countries. However, there are signs of reverse globalisation as trade patterns are changing and capital flows and immigration are slowing down.

**(a)** Explain the determinants of an economy's pattern of trade. **[10]**

**(b)** Assess the effects of globalisation on the standard of living in a developing country like China. **[15]**

**~End of Paper~**



ST ANDREW'S JUNIOR COLLEGE

PRELIMINARY EXAMINATIONS 2019 (JC2)

General Certificate of Education Advanced Level

Higher 2

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**ECONOMICS**

**9757/01**

**Paper 1**

**26 August 2019**

**2 hours 15 minutes**

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

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**This document consists of 7 printed pages.**

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**[Turn Over]**

**Answer all questions.**

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## Question 1: The Telecommunications Industry in Singapore

### Extract 1: Singtel and StarHub sharpen tech to fend off new rival's freebies

Telecom companies in Singapore are scurrying to fortify their positions ahead of the arrival of a new competitor. Singtel and StarHub, the city-state's two largest telecommunications players, are pushing to enhance their technological capabilities. In July, Singtel announced a partnership with Ericsson that could take Singapore's first fifth-generation (5G) pilot network live by the fourth quarter of this year.

The move is in line with the Singaporean government's Smart Nation initiative, which aims to maximize the use of data and digital technology in pursuit of a knowledge-based economy. The pilot 5G network is one of the many projects between Singtel and Ericsson. Like Singtel, StarHub is focusing on digital strategies. Earlier this year, StarHub announced plans to roll out a network and provide "internet of things" services in partnership with Nokia.

Competition is heating up as a fourth mobile network operator (MNO), Australian wireless operator TPG Telecom, prepares to enter Singapore by the end of the year. Singtel holds the top market share with slightly more than 50%, followed by StarHub at about 30%. M1 is the third player, with a share of 17.5%. TPG's entry could put pressure on rates. The newcomer has announced plans to offer unlimited voice and 3 gigabytes of free data for 24 months to senior customers. DBS said in a report that TPG is "likely to adopt" free services early on, "possibly leading to price wars between operators."

To maintain and grow their market shares, both Singtel and StarHub are also working with mobile virtual network operators (MVNOs) to meet demand for SIM-only plans. Unlike the main telcos that have invested in mobile network infrastructure, MVNOs do not own a mobile network. What they do instead is to provide mobile services to its customers by purchasing bandwidth from one of the incumbent MNO at wholesale prices and reselling it to their consumers. StarHub is working with broadband internet provider MyRepublic, while Singtel has arrangements with two operators, Zero1 and Zero Mobile.

Source: Nikkei Asian Review, 14 August 2018

### Extract 2: Are MVNOs a positive disruption to Singapore's telecoms industry?

Back in 2015, shopping for a mobile data plan in Singapore was a very different proposition. The cheapest SIM-only plan with 3GB of data cost \$20 from Singtel, whilst power users on M1's network had to pay \$125 for 13GB. Fast forward to 2019, and those prices have fallen. However, operating a wireless network hasn't suddenly got cheaper; in fact, with the deployment of LTE-Advanced technology and new spectrum requiring more equipment and cell sites, capital expenditure has been up for Singtel and M1 since 2015.

Downwards price pressure has been led by the emergence of mobile virtual network operators (MVNOs). Through aggressive price points and novel rate plans, MVNOs have been able to target particular niches, and have carved out a small but significant market share – the biggest, Circles.Life, claims a three to five percent market share.

Whilst consumers are benefiting from lower prices and wider plan options, shopping for cellular service has also become more confusing. Whilst the MVNOs claim to offer the exact same network experience as their host networks – in some cases, quoting drive-test results for their host network without clarifying the difference – our data shows that the end-user experience varies. As part of their price and plan differentiation, some of the MVNOs offer plans that have throttled or deprioritised data. For example, our data shows that nearly half of speed tests on Zero 1 are throttled to speeds of less than 3 Mbps; less than 10% of total speed tests on the host network, Singtel, fell below the same threshold.

Although throttling and deprioritization are disclosed in the plans' terms of service, inconsistent technical language can make comparing plans difficult. Rather than comparing the dollar price of a gigabyte of data, consumers have to navigate "unlimited" plans with "managed data speeds," "deprioritisation," or data that's throttled to "3G" speeds -- all of which might mean different things on different network operators.

Source: Singapore Business Review, 4 April 2019

### Extract 3: Big boys muscle in on cheap mobile plans

Singtel's three-month-old Gomo mobile plan, the incumbent telco's answer to the spate of cheap mobile plans being offered by mobile virtual network operators (MVNOs) here, will get a data roaming option on Friday. The option fixes a glaring omission in the SIM-only postpaid mobile plan, allowing it to better compete with Giga, a similar low-cost mobile sub-brand from StarHub that was launched last Thursday.

Both Giga and Gomo are the latest attempts by the established telcos to muscle in on the SIM-only segment carved out by MVNOs such as Circles.Life and MyRepublic. Targeted at millennials and digital natives, these SIM-only plans are generally cheaper than the usual mobile plans as they come without a subsidised handset. They are often contract-free and offer relatively generous data bundles.

**Table 1: Subscription Plans of Incumbent Telco's SIM-only plans**

	<b>StarHub's Giga</b>	<b>Singtel's Gomo</b>	<b>M1 SIM-only plan</b>
<b>Monthly fee</b>	\$25	\$20	\$25
<b>Data</b>	25GB	20GB	30GB
<b>Talktime</b>	1,000 mins	200 mins	1,000 mins
<b>SMSes</b>	1,000	200	1,000
<b>Incoming Call</b>	Free	Free	Free
<b>Caller ID</b>	Free	Free	Free
<b>Additional fees</b>	None	None	Registration - \$10.70 SIM card - \$37.45
<b>Roaming</b>	14 countries at \$5 a GB for five days	10 countries at \$10 a GB for ten days	Use local data quota (capped at 10GB) in over 60 countries from \$10 a destination
<b>Other benefits</b>	Roll over unused data to the next month	1-for-1 dining offers	Free data on weekends  Unlimited free calls to three M1 numbers  Unlimited Spotify music streaming

Source: The Straits Times, 5 June 2019

### Extract 4: Telco big boys in trouble

In the three years since mobile virtual network operators (MVNOs) entered the market, the number of telcos in Singapore has ballooned from three to 11 today — and counting. The increased competition has seen profits of the three big telcos — Singtel, StarHub and M1 — erode away.

StarHub began its S\$25 million restructuring exercise in October last year, laying off 300 full-time workers in a one-off exercise to improve productivity and lower operating expenditure. Singtel is also seeking to lower its operational expenditure of S\$490 million in the last financial year.

The main telcos have tried to diversify into new growth areas in the digital economy while maintaining their core business as an infrastructure and network provider. Singtel's overseas units, such as its Optus division in Australia, have performed well and helped offset the weakness in Singapore. In fintech, Singtel has also ventured into mobile financial services, such as mobile payments solution Dash. The group has also expressed interest in applying for a new digital banking license, which will allow it to operate as a bank that can take deposits from customers.

StarHub has also made a push into cybersecurity and Pay TV, though the latter has seen shrinking revenues owing to disruption by Netflix in 2016. This shows that diversification is no silver bullet as they take time to pay off and have their own risks too, said analysts.

Source: Today Online, 6 July 2019

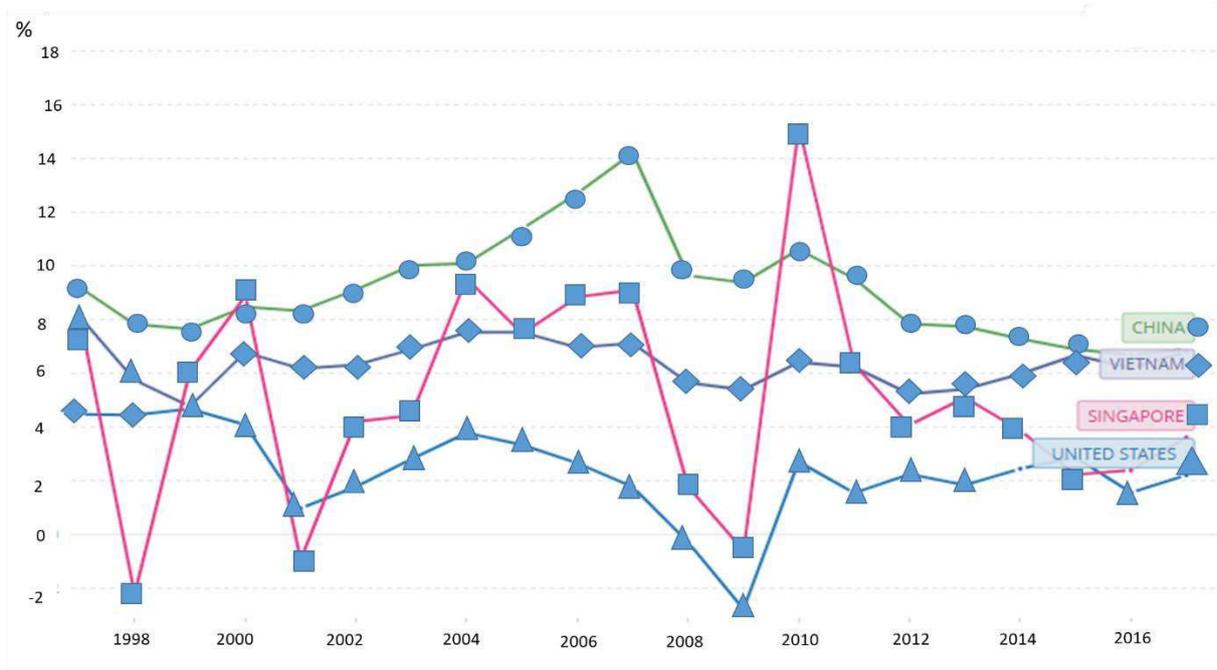
### Questions

- (a) Compare the likely barriers to entry facing potential entrants to the mobile network operators (MNO) industry with those to the mobile virtual network operators (MVNO) industry. [2]
- (b) (i) Identify and explain the type of market structure of the Singapore telecommunications industry. [2]
- (ii) Explain how the telecommunications companies might compete in such a market structure. [4]
- (c) Extract 2 states the use of “inconsistent technical language” by the mobile network virtual operator (MVNO) resulting in difficulties for consumers when comparing plans. [4]
- Explain how the use of “inconsistent technical language” could lead to market failure.
- (d) With reference to the data, assess the strategies that telecommunications companies like M1, Singtel and StarHub have adopted to address their falling profits. [8]
- (e) Evaluate the possible effects on efficiency and resource allocation of increasing competition in the telecommunications industry. [10]

[Total: 30 marks]

### Question 2: US-China Trade War: What's in it for Asian economies?

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**Figure 1: Growth in real gross domestic product: % change per annum**

Source: World Bank

**Table 2: Components of GDP in selected economies, 2017**

	Consumption Expenditure (% of GDP)	Government Consumption Expenditure (% of GDP)	Exports of goods and services (% of GDP)	Imports of goods and services (% of GDP)
China	52.6	14.3	19.8	18.0
Singapore	46.5	10.9	173.3	149.1
US	82.4	14.0	12.1	15.0
Vietnam	74.5	6.5	101.6	98.8

Source: World Bank

**Extract 5: Jobless claims fall to the lowest in nearly 49 years**

The number of Americans filing for unemployment benefits unexpectedly fell last week, hitting near a 49-year low in a sign the job market remains strong.

Initial claims for state unemployment benefits fell by 3,000 to a seasonally adjusted level of 201,000, the Labour Department said on Thursday.

Though there have been reports of some companies either planning job cuts or laying off workers because of trade tensions between the United States and its major trade partners, they have been partially offset by increased hiring in the steel industry, where tariffs on imported steel have been imposed.

Economists, however, have warned of job losses if the trade tensions escalate.

Source: CNBC News, 15 September 2018

**Extract 6: Understanding US Trade Imbalances**Need a home tutor? Visit [smiletutor.sg](http://smiletutor.sg)

Labour-intensive mass production technology used to be profitable in the US, but technological improvements and rising labour productivity (and hence real wages) induce firms to adopt capital-intensive production technologies to save on labour costs. However, instead of going out of business, firms with labour-intensive technologies can move abroad where labour is still cheap, such as China and India.

Although the total US goods trade imbalance with Asia (including China) has been increasing, the Asian share (including China) of the US goods trade imbalance as a whole has been steadily declining since 1991, now standing at around 65 percent, despite China's rise as the largest supplier of goods to the US.

In other words, the rise of China since the late 1980s—especially after joining the WTO in 2001—has not increased the total share of Asia's contribution to the US trade imbalance; China simply substituted out other Asian economies by taking their positions.

Given this perspective, a trade war with China may not necessarily solve the US trade imbalance problem.

Source: *Federal Reserve Bank of St. Louis NBC News*, 9 October 2018

### **Extract 7: US-China trade war - The countries caught in the crossfire**

China and the US are caught up in the continuing trade war, but they're not the only ones that will feel its effects. Other Asian economies are intricately linked to China's fortunes through their highly connected supply chains. And what hurts Beijing can also hurt countries further afield, like South Korea, Taiwan - or Singapore.

Singapore is a uniquely trade-dependent country - and is likely to be one of the hardest hit in the region by the trade war. If China and the US do place tariffs of up to 25% on all the products they trade, then Singapore could see up to 0.8% shaved off its economic growth figures this year - and 1.5% next year.

Many goods that are needed for final assembly in China actually come from other South East Asian countries such as Malaysia and Indonesia, and go through Singapore because they also need to have some other products added to them at times.

This is one of the reasons why Singapore has benefited immensely from globalisation and free trade - transforming itself from a tiny fishing village into one of the world's financial powerhouses. But now, much like everywhere else in this region, Singapore has found itself stuck in the middle of a fight between the world's two superpowers.

But it's not just Singapore that will be affected, as the country's Minister for Trade, Chan Chun Sing, points out. "To produce a product, chances are it would be a global production chain, and if one part of the global production chain gets disrupted or distorted, it hurts not just one specific country, but it hurts all countries," he says.

"If global confidence is shaken and impacted negatively and everybody withholds their investment, then I think we will suffer quite a serious consequence for the entire global economy, and this is the greatest uncertainty," says Mr Chan.

Source: *BBC News*, 22 August 2018

### **Extract 8: Asian Countries Seen Benefiting Most From US-China Trade War**

A roaring US economy and inventory stockpiling due to the trade war with China has expanded the trade deficit. As companies redraw their supply chain maps, smaller South East Asian countries are seen benefiting more from manufacturing leaving China than the US.

As a result of the China-US trade war—or trade friction, as the Chinese prefer to call it—companies in the US have been busy stockpiling inventory out of concerns that President Trump will make good on his threats to increase tariffs on everything China exports to the US. The trade gap between the US and China is on the rise.

But that does not mean that Trump's trade tariffs are not working. Companies that have set up shop in China to export to the world are now redrawing their supply chain maps. If they are not there to sell to the Chinese, they are more likely to move to Vietnam, Indonesia or Thailand.

A number of luxury marques, including BMW and Mercedes-Benz, already have operations in Thailand. These companies are expected to ramp up their local output to support shipments to China. Although finished vehicle and auto parts exports are a small part of its total exports, Malaysia has over 800 auto component manufacturers, as well as a similarly diversified auto-component export network. This should position it to be another beneficiary of the US-China trade war.

Gone are the days when your shirt label reads *Made in China*. It's going to be *Made in Bangladesh, Vietnam and India* now. Vietnam is now the world's third-largest exporter of ready-made garments and has strong trade ties with the US.

However, for a majority of the countries involved, the impact of these changes will not be felt overnight. Indeed, it is likely to take at least two to three years for the effects of the trade war to be fully realised. Multinational companies will need time to draft new global and regional strategies, find new partners, navigate different legal systems and secure the required licenses and permits for new production facilities. As a result, the negative, disruptive effects of the trade war will predominate in the short term. Even under the most optimistic scenario, the benefits for Asia's winners in the trade war are unlikely to be seen before 2020.

Source: *Forbes*, 2 November, 2018

### Questions

- (a) With reference to Figure 1,
- (i) Identify the economy with the greatest variation in its growth rate. [1]
  - (ii) Identify two differences in the growth rates between China and the US. [2]
- (b) With reference to Table 2 and using Extract 6, identify the balance of trade position of the US in 2017 and explain one reason for this position. [3]
- (c) Explain how unemployment benefits could help dampen the effects on an economy during an economic downturn. [2]
- (d) Explain the usefulness of Table 2 in comparing the size of the multiplier between the US and Vietnam. [4]
- (e) With the help of a diagram, discuss the impact of tariffs imposed by the US on Chinese goods on consumers in the US and China. [8]
- (f) Discuss whether the trade war between the US and China is more likely to harm or benefit various South East Asian economies. [10]

[Total: 30 marks]

~End of Paper~



ST ANDREW'S JUNIOR COLLEGE

PRELIMINARY EXAMINATIONS 2019 (JC2)

General Certificate of Education Advanced Level

Higher 2

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**ECONOMICS**

**9757/01**

**Paper 1**

**26 August 2019**

**2 hours 15 minutes**

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Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

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**[Turn Over]**

**Question 1: The Telecommunications Industry in Singapore**

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## Questions

(a)	Compare the likely barriers to entry facing potential entrants to the mobile network operators (MNO) industry with those to the mobile virtual network operators (MVNO) industry.	<b>[2]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p><b>Compare BTEs [1]</b>  <b>Example of BTEs [1]</b></p> <p>Potential entrants to the MNO industry are likely to face higher barriers to entry due to high initial capital outlay for the infrastructure and network required to provide their services.</p> <p>Potential entrants to MVNO industry, on the other hand, face relatively lower barriers to entry as unlike the MNOs, they do not need to incur infrastructure costs to set up network as they buy bandwidth from MNOs at wholesale prices and resell them to consumers.</p>	
(b)	(i) Identify and explain the type of market structure of the Singapore telecommunications industry.	<b>[2]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p>Oligopoly.</p> <p>3-firm concentration ratio of – estimated 97.5%</p> <p>As there are 3 large firms with large market share in the Singapore telecommunications industry which suggest a high concentration ratio, it is deemed to be operating in an oligopolistic market structure.</p>	
	(ii) Explain how the telecommunications companies might compete in such a market structure.	<b>[4]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p><b><u>Mutual Interdependence [1]</u></b>  Due to the market being dominated by a few large firms, these firms are mutually interdependent. This means that each firm has high rival consciousness as they will be affected by their rival firms' actions, thus each firm has to consider the pricing and output decision of the rival firms.</p> <p><b><u>Price Rigidity</u></b>  Therefore firms focus on non-price competition [1] and avoid price competition as it is counter-productive and may lead to destructive price wars. [1]</p> <p><b><u>Eg of non-price competition [1]</u></b>  Loyalty schemes are used by the telcos like Singtel, Starhub and M1 to</p>	

	<p>reward their consumers for their loyalty and helps in building brand recognition.</p> <p>Telcos compete in terms of the value-added services they provide e.g. free incoming calls, free unlimited local mobile data to customers on weekends, free streaming on Spotify, etc.</p> <p>This is done with the aim of increasing the firm’s market share</p> <p style="text-align: center;">or</p> <p><b><u>Price wars do occur as well. [2]</u></b></p> <p>New firms entering the market might be prepared to sacrifice profits by cutting price to increase its market share.[1] This can be seen from TPG Telecom which seeks to offer certain free services in order to gain a foothold in the telecom industry in Singapore. [1]</p>					
<b>(c)</b>	<p>Extract 2 states the use of “inconsistent technical language” by the mobile network virtual operator (MVNO) resulting in difficulties for consumers when comparing plans.</p> <p>Explain how the use of “inconsistent technical language” could lead to market failure.</p>	<b>[4]</b>				
	<p><b><u>Suggested Answer:</u></b></p> <p>Consumers may lack good quality information when they make decision on which mobile plan service to sign up for.</p> <p>With the use of “inconsistent technical language”, consumers may find it difficult to understand the information. [1]</p> <p>Asymmetric information may exist in the case where the producer invariably know more about the product than the consumer. [1]</p> <p>In this case, it is difficult for the consumer to estimate the marginal private benefit and/or the marginal private cost of a product and hence decide on the appropriate quantity of the product to buy. [1]</p> <p>This leads to a consumption level that is lower or higher than the socially optimal level. Market failure results as societal welfare is not maximised because of inefficient allocation of scarce resources to the production of such services leading to deadweight loss. [1]</p>					
<b>(d)</b>	<p>With reference to the data, assess the strategies that telecommunications companies like M1, Singtel and StarHub have adopted to address their falling profits.</p>	<b>[8]</b>				
	<p><b><u>Question Analysis:</u></b></p> <table border="1"> <tr> <td><b>Command word</b></td> <td>Assess</td> </tr> <tr> <td><b>Content</b></td> <td>Strategies..... to address falling</td> </tr> </table>	<b>Command word</b>	Assess	<b>Content</b>	Strategies..... to address falling	
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	<table border="1"> <tr> <td></td> <td>profits</td> </tr> <tr> <td><b>Context</b></td> <td>M1, Singtel and Starhub</td> </tr> </table> <p><b><u>Schematic Plan:</u></b></p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b><u>Objective:</u></b> <b><u>To address falling profits</u></b></p> </div> <table border="1"> <thead> <tr> <th><b><u>Lower Cost</u></b></th> <th><b><u>Increase Revenue</u></b></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Restructuring</td> <td style="text-align: center;">           Infrastructure Upgrading             SIM-only Plans             Diversification         </td> </tr> </tbody> </table>		profits	<b>Context</b>	M1, Singtel and Starhub	<b><u>Lower Cost</u></b>	<b><u>Increase Revenue</u></b>	Restructuring	Infrastructure Upgrading  SIM-only Plans  Diversification	
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Restructuring	Infrastructure Upgrading  SIM-only Plans  Diversification									
	<p><b><u>Suggested Answer:</u></b></p> <p><b><u>Introduction</u></b></p> <p>In order to address the falling profits, telecommunications companies like M1, Singtel and Starhub explored various strategies which look to lower costs as well as to increase revenue to to try to increase their level of profits.</p> <p><b><u>Infrastructure upgrading</u></b></p> <p>(Extract 1 – Pilot 5G Network with Ericsson)</p> <p>As part of the development of the infrastructure upgrading to 5G, this pilot programme allows Singtel to experiment with the rollout of the 5G network. This would allow Singtel to be better equipped to manage the transition from current 4G to 5G network and when the 5G network is ready to be introduced, it would give them a head-start over their rivals.</p> <p>With the successful introduction of the 5G network, it would also allow Singtel to increase their revenue stream as they can expect customers to switch to the new 5G network which would offer super-fast wireless access and greater data transfers speeds.</p> <p><b><u>Limitations</u></b></p> <p>The costs involved for the infrastructural upgrading is likely to be high in the short-term as it involves updating of current network equipment and infrastructure.</p> <p>The benefits of higher revenue is likely to be materialised only in the long-term.</p> <p><b><u>Coming up with GOMO, GIGA and M1-SIM only plans to compete</u></b></p> <p>(Extract 3 GOMO GIGA and M1-SIM only plans)</p> <p>In response to catering to the SIM-only target audience that was carved out by the entry of MVNOs, the incumbent telco players, Singtel, StarHub and M1 introduced similarly-priced plans with benefits to cater to this group of customers. If successful, this would allow the incumbent players to re-capture their market share that was lost to MVNOs.</p>									

This would help to increase the demand for their services and thus increase the revenue of the incumbent telco players.

### **Limitations**

As competition is already stiff, with the many MVNOs already in the industry, they may have to compete in terms of non-price competition e.g. M1's offering of free data usage on weekends and unlimited streaming on Spotify and Singtel's offering of dining offers and privileges.

These tie-ups would involve costs as well as they try to compete to see who can provide customers with a more attractive deal.

### **Diversification**

Extract 1 – StarHub “Internet-of-things” (IOT) network with Nokia

Extract 3 – StarHub diversification to cyber-security and Pay TV

Extract 3 – Singtel diversification to fintech with mobile payments solution Dash and intention to operate as a digital bank

StarHub working with Nokia to develop new “internet of things” (IOT) use cases and applications allows them to diversify away from the provision of just telco services. This diversification attempt would allow StarHub and Nokia to reap the benefits as the successful development of the network would see companies looking to tap on to the services provided.

StarHub's diversification from their main line of business - that of the telecommunications industry, allows them to spread their risk across the different sectors. Their move to diversify into cyber-security and Pay TV also provides them with the opportunity to harness the possible synergies across the three sectors and allows them to develop product packages that can fit the needs of their customers.

SingTel has also diversified overseas and its Optus division in Australia, have performed well and helped offset the weakness in Singapore. Additionally, Singtel has also ventured into the fintech industry and came up with a mobile payments solution, Dash which can open a new market for Singtel in line with their intentions to move into digital banking.

### **Limitations**

While the diversification to a new area of business would help to create opportunities for Starhub and Starhub, it could also result in additional costs as the diversification would involve added infrastructure, employee training and overheads such as wages.

Additionally, if diversification is not approached with caution, they may run into an overextension of their resources and run into diseconomies of scale resulting in average costs to increase.

Also, the success of the diversification is uncertain as well. New technologies such as Netflix have also caused shrinking revenues from Starhub's Pay TV.

### **Restructuring to reduce costs**

Extract 4 – Singtel and StarHub restructuring to keep costs down

### **Benefits**

Restructuring undertaken by both Singtel and StarHub to improve its productivity and laying off of workers results in lower cost.

	<p><b><u>Limitations</u></b> The restructuring and layoffs could affect the morale of the remaining staff. Unemployment results.</p> <p><b><u>Synthesis</u></b> In response to the greater competition in the telecommunication industry, the incumbent players, M1, Singtel and Starhub have looked at various strategies to help to address the falling profits.</p> <p>Whether or not they are successful depends very much on whether the increase in revenue outweighs the increase in costs. As some of the costs could be rather substantial in the short run, whether the revenue earned in the future could offset these costs remains uncertain. Assuming that the conditions are right, these strategies would help to reduce cost and increase the revenue for these companies and aid in increasing the level of profits for these companies.</p> <p>With the upcoming entry of the 4<sup>th</sup> telco, TPG Telecom, more may need to be done as the competition intensifies. As the telecommunications industry reaches its saturation point, the incumbent players would need to stay vigilant in terms of their control over their costs as well as looking for new areas and opportunities to grow so that their profit levels would be protected.</p> <table border="1"> <thead> <tr> <th>Level (Marks)</th> <th>Knowledge, Understanding, Analysis and Application</th> </tr> </thead> <tbody> <tr> <td>L2 (4 – 6)</td> <td>Well-developed answer with economic analysis explaining the strategies used by the telecommunications firms. Limitations of each strategy is discussed as well.</td> </tr> <tr> <td>L1 (1 – 3)</td> <td>Under-developed answer for the strategies used, i.e. did not explain how each of them works nor provide limitations to question their effectiveness.</td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>Evaluation</b></td> </tr> <tr> <td>E2 (2)</td> <td>Judgment provided with substantiation.</td> </tr> <tr> <td>E1 (1)</td> <td>Judgment provided but no substantiation.</td> </tr> </tbody> </table>	Level (Marks)	Knowledge, Understanding, Analysis and Application	L2 (4 – 6)	Well-developed answer with economic analysis explaining the strategies used by the telecommunications firms. Limitations of each strategy is discussed as well.	L1 (1 – 3)	Under-developed answer for the strategies used, i.e. did not explain how each of them works nor provide limitations to question their effectiveness.	<b>Evaluation</b>		E2 (2)	Judgment provided with substantiation.	E1 (1)	Judgment provided but no substantiation.	
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	<b><u>Schematic Plan</u></b>													

<b><u>Increasing Competition</u></b>	
<b><u>Positive Effects</u></b>	<b><u>Negative Effects</u></b>
Productive Efficiency  Dynamic Efficiency  Improved Allocative efficiency	Lower profits resulting in less funds for R&D purposes  Wastage of resources (i.e. persuasive advertising)
<p><b><u>Suggested Answer:</u></b></p> <p><b><u>Introduction</u></b></p> <p>The increase in the level of competition in the telecommunications industry would bring about both positive and negative effects on efficiency as well as resource allocation.</p> <p><b><u>Positive effects:</u></b></p> <p><b><u>Efficiency</u></b></p> <p><b><u>Productive efficiency:</u></b></p> <p><b>From firm's point of view</b> – as the firm is assumed to be profit maximising, there is likely to be continued productive efficiency from firm's point of view as the firm is likely to be producing on a point along the long run average cost (LRAC) curve.</p> <p><b>From society's point of view</b> - the increased competition means firms have greater incentive to cut costs and remain efficient. Although the firm is not productively efficient from society's point of view as the firm is not producing at the lowest point of the LRAC curve, it might be more productively efficient than before as it seeks ways to move closer to the lowest point of the LRAC curve.</p> <p><b>Example:</b> Restructuring programme undertaken by Singtel and StarHub as a bid to improve productivity and reduce redundancy.</p> <p><b><u>Dynamic efficiency:</u></b></p> <p>The increased competition means firms have more incentive to innovate and come up with improvements to the quality of existing products and services as well as new products.</p> <p>The streamlining of product offerings by M1 as well as GOMO and GIGA are evidence of how incumbents react when the level of competition increases.</p> <p>The different benefits offered in Table 1 by the various telco companies as part of the lure for customers show the level of innovation the companies take to compete and differentiate themselves, thereby offering consumers choice.</p> <p><b>Example:</b></p>	

The ability to roll-over unused data for Starhub GIGA subscribers, 1-for-1 dining privileges offered to Singtel's GOMO subscribers as well as the free data on weekends, unlimited free calls to 3 M1 subscribers as well as free streaming on Spotify app offered to M1's SIM-only subscribers.

### **Allocative efficiency:**

Competition helps to keep prices low.

If there are supernormal profits to be earned, new firms will be encouraged to enter as barriers to entry may be rather low. The entry of MVNOs as well as the upcoming entry of fourth telco, TPG Telecom, has increased the competition level in the Singapore telecommunications industry. This will then cause each incumbent firm's demand (AR/MR) to fall, leading to lower prices.

The low prices help to increase allocative efficiency because prices will be closer to marginal cost.

### **Negative effects:**

#### **Lower ability to engage in R&D**

More competition -> lower profits -> less funds available for R&D -> reduces dynamic efficiency.

#### **Price Competition**

Firms may also offer short-term price cuts in light of the greater competition to stand out from competition, rather than investing in the long term future of the infrastructure. This would benefit consumers in the short-run but ultimately suffer in the long-run.

#### **Affects ability to reap EOS**

With greater competition, the firm's ability to reap economies of scale may be reduced as their scale of production might not be that extensive compared to the case before -> reduces productive efficiency

#### **Wastage of resources**

Additionally, with competition, firms may engage in intensive advertising and these resources that are spent on advertising could have been spent on R&D to improve products or processes.

#### **Synthesis/Conclusion**

**Make a judgement on the effects of having more competition in the telecommunications industry. Weigh overall positive and negative effects.**

Overall, the positive effects are likely to outweigh the negative effects of increased competition.

It is expected that with increased competition, it would greatly increase the service standards as the increase in competition will spur firms to deliver

more efficient and innovative services which is crucial to attract consumers.

However, there are also concerns as to whether the telecommunications industry would reach a point of saturation with the upcoming entry of the 4<sup>th</sup> telco, TPG Telecoms especially in a small market like Singapore. This may result in unhealthy competition as firms resort to wasteful advertising and price cuts which can prove to be allocatively inefficient.

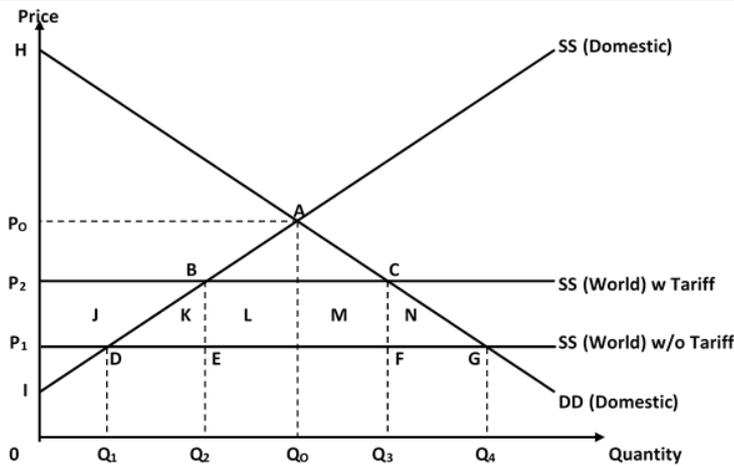
Level (Marks)	Knowledge, Understanding, Analysis and Application
L2 (5 – 7)	Well-developed and balanced answer that explained at least one positive and one negative effect.
L1 (1 – 4)	Under-developed answer that explained at least one positive and one negative effect <u>OR</u> well-developed answer that explained only one effect (either positive or negative).
<b>Evaluation</b>	
E2 (2 – 3)	Judgment provided with substantiation.
E1 (1)	Judgment provided but no substantiation.

## Question 2: US-China Trade War: What's in it for Asian economies?

### Questions

<b>(a)</b>	With reference to Figure 1,	
	<b>(i)</b> Identify the economy with the greatest variation in its growth rate.	<b>[1]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p>Singapore.</p>	
	<b>(ii)</b> Identify two differences in the growth rates between China and the US.	<b>[2]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p>China had a higher growth rate than the US over the entire period of time. [1]</p> <p>China experienced positive growth over the whole period but the US experienced negative growth from 2008-2010. [1]</p>	
<b>(b)</b>	With reference to Table 2 and using Extract 6, identify the balance of trade position of the US in 2017 and explain one reason for this position.	<b>[3]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p>The US had a trade deficit in 2017 [1]. (Evidence from from Table 2 and Extract 6)</p> <p>Although the US had a comparative advantage in labour-intensive mass production technology in the past, this comparative advantage had shifted towards Asia. US firms moved their production to places like China and India where labour was cheaper and as a result, US exported less and imported more from Asia, eventually leading to a trade deficit (import expenditure more than export earnings). [2]</p>	
<b>(c)</b>	Explain how unemployment benefits could help dampen the effects on an economy during an economic downturn.	<b>[2]</b>
	<p><b><u>Suggested Answer:</u></b></p> <p>When there is a recession, more unemployment benefits are given out and these benefits help households who lost income to be able to maintain some level of consumption of (essential) goods and service. [1] This helps to dampen the fall in disposable income and C and hence the fall in AD and NY. [1]</p>	
<b>(d)</b>	Explain the usefulness of Table 2 in comparing the size of the multiplier between the US and Vietnam.	<b>[4]</b>

	<p><b><u>Suggested Answer:</u></b>  Table 2 shows us that Vietnam imports make up a much larger % of GDP compared to the US. This means that Vietnam is <b>likely</b> to have a higher marginal propensity to import than the US. [1]</p> <p>Since <math>k = 1/mps+mpt+mpm</math>, [1] Vietnam's <math>k</math> is likely to be smaller than that of the US. [1]</p> <p>However, Table 2 does not provide us any information on saving and tax rates and hence, there is no info on <math>mps</math> and <math>mpt</math>.</p> <p><b>OR</b></p> <p>While import expenditure as a % of GDP gives us an idea of how reliant an economy is on imports, it is only an approximation of <math>mpm</math> value.</p> <p>Hence Table 2 is limited in its usefulness. [1]</p> <p><b><u>Alternative Answer:</u></b></p> <p>Table 2 shows that Vietnam has a smaller consumption expenditure as a % of GDP compared to US suggesting that the marginal propensity to consume (<math>mpc</math>) is smaller in Vietnam than in US. [1]</p> <p>As <math>k = 1/1-mpc</math> [1], Vietnam's <math>k</math> is likely to be smaller than that of US. [1]</p> <p>However, consumption as a % of GDP gives us only an approximation of the <math>mpc</math> value hence Table 2 is limited in its usefulness. [1]</p>							
<b>(e)</b>	With the help of a diagram, discuss the impact of tariffs imposed by the US on Chinese goods on consumers in the US and China.	<b>[8]</b>						
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	<p><b><u>Suggested Answer:</u></b>  Assuming that the US government introduces a specific tariff of P1P2 on imported steel from China (<i>from Extract 1</i>) and assuming for simplicity that they are only importing from China, this will lead to a fall in supply of imported steel and the world supply curve shift from SS(World) w/o Tariff to SS(World) w Tariff.</p>							



### Diagram

As seen in the diagram above, the new market price for steel will be  $OP_2$ .

At  $OP_2$ , total quantity consumed of steel is  $OQ_3$  which consists of domestic production and imports:

- Domestic production =  $OQ_2$
- Imports =  $Q_2Q_3$

**US Consumers of Steel** will now experience a

- Decrease in the total consumption of steel from  $OQ_4$  to  $OQ_3$ .
- Increase in price of steel from  $OP_1$  to  $OP_2$ .
- Decrease in the consumer surplus from  $P_1P_2CG$  to  $P_2CH$  i.e. a loss of  $P_1P_2CG$  or Area  $J+K+L+M+N$ .
- *(Anti-thesis) However, the higher prices may come down in the future if steel producers in the US improve their production methods and find ways to lower their costs of production.*
- **Chinese consumers of steel** may see a fall in domestic prices. There will be a decrease in quantity of exports from Chinese producers of steel from  $Q_1Q_4$  units to  $Q_2Q_3$  units. Chinese firms might experience an increase in inventories which might then be sold in the Chinese market. The increase in supply of steel might then cause prices of steel in China to fall.
- Chinese consumers who are also workers/households in China might see a fall in incomes and standard of living since there is a fall in  $(X-M)$ ,  $AD$  and hence  $NY$ .
- *(Anti-thesis) However, Chinese consumers of steel might not be affected as excess inventories of steel ( $Q_1Q_4$  units to  $Q_2Q_3$  units) might be sold to other countries.*

Evaluation:

- Since China is also retaliating, Chinese consumers might also suffer as their imports from US would also become more expensive.
- Not all consumers would be affected to the same extent. Consumers of products that can be imported from other countries might purchase substitutes from other countries. In this analysis, the assumption was

	<p>that US imported steel from China only but in reality, the US can import steel from other countries to avoid paying the tariffs.</p> <ul style="list-style-type: none"> <li>How Chinese consumers might be affected would largely be dependent on what China does with the excess supply. If they export the excess goods and services to other countries, Chinese consumers might not see any effect. If the excess supply ends up being sold in China, Chinese consumers would see a fall in prices.</li> </ul>											
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(f)	Discuss whether the trade war between the US and China is more likely to harm or benefit various South East Asian economies.	<b>[10]</b>										
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	<p><b>Suggested Answer:</b></p> <p><b>Introduction</b></p> <p>With increasing globalisation and interconnectedness between countries, the trade war between the US and China is likely to affect other countries. Some South East Asian countries will benefit from the trade war, while others might be harmed.</p>											

### **Thesis: Trade War Harms SEA economies**

When the US imposes tariffs on Chinese goods, the volume of exports from China to the US falls. From Extract 7, "*many goods that are needed for final assembly in China actually come from other South East Asian countries*". This means that exports from SEA economies would fall if demand for Chinese exports fall since SEA exports are used in China's production.

In particular, economies like Singapore that are very trade-dependent would be hardest hit in the region. According to Extract 7, Singapore would see slower economic growth "*if China and the US do place tariffs of up to 25% on all the products they trade*".

If (X-M) falls, the balance of trade and **balance of payments** worsen, ceteris paribus. AD also falls since (X-M) is a component of AD. This will result in a **fall in real national income** by a multiplier effect. With the fall in output, there will also be a fall in demand for labour, resulting in an **increase in unemployment**.

Furthermore, the trade war could result in a fall in confidence as there is greater uncertainty about the future and fears of recessions. For countries like Singapore who depend a lot on FDI, "*if global confidence is shaken and impacted negatively and everybody withholds their investment*" (Extract 7), their AD would also fall, worsening the effects of the fall in (X-M).

Furthermore, a fall in FDI would also affect Singapore's **potential growth** as LRAS might not be able to increase as quickly. If the capital and financial account worsens together with the current account, there would be an **overall worsening in the BOP**.

### **Anti-thesis: Trade War Benefits SEA economies**

However, Extract 8 suggests that "*smaller South East Asian countries are seen benefiting more from manufacturing leaving China than the US*". This is because firms may choose to relocate their factories to Vietnam, Indonesia or Thailand who also have a comparative advantage in labour-intensive manufacturing compared to the US, in order to avoid the tariffs imposed on Chinese goods.

Extract 8 suggests that Thailand and Malaysia would see an increase in exports related to the automobile industry. Bangladesh, Vietnam and India would see an increase in exports in the garment industry. Extract 6 suggests that over the past decade, China had "*substituted out other Asian economies*". Hence, there is high chance that US consumption of imports might not fall but instead be redirected towards SEA economies. These countries might thus see a rise in net exports instead, which would then lead to an improvement in the current account.

At the same time, the relocation of factories would also result in an increased inflow of FDI into these countries. This would lead to an improvement in the capital and financial account.

**Thus BOP would improve.** There would also be a rise in AD since (X-M) and I are components of AD, leading to a **rise in real national income** via the multiplier effect and a **fall in unemployment**. More jobs are created as factories are set up in these countries.

### **Judgment**

Whether the trade war between the US and China is more likely to harm or benefit various South East Asian economies would depend on:

**1. The comparative advantage of the economy**

Countries that have low labour costs because of a comparative advantage in labour-intensive manufacturing would likely benefit as they would be able to export more as the US buys from them instead of from China, to avoid tariffs.

For countries like Singapore which do not have such a comparative advantage, they would more likely be harmed as their exports which are part of the global supply chain would fall as trade volumes between US and China falls.

**2. The level of investor confidence**

If global confidence falls, the inflow of FDI into SEA economies might also fall which would then harm SEA economies. Singapore, in particular, depends a lot on FDI for economic growth. Thus Singapore is more likely to be harmed.

However, economies that might benefit from an increase in the relocation of production firms from China would more likely see gains from the trade war.

**3. The time frame in question**

Extract 8 suggests that *“the impact of these changes will not be felt overnight.”* MNCs will need time to move production facilities to other countries. Hence, SEA economies like Vietnam, Thailand, Indonesia and Malaysia might not see the benefits yet. Instead in the short-run, they might also suffer from the fall in the volume of trade between US and China as they are part of the global production chain.

While Singapore is also likely to be harmed, if there are policies in place to continue remaining attractive to FDI, some of the potential harms could be mitigated. For example, if Singapore continues to keep tax rates competitive and provide good infrastructure to attract foreign investors, FDI might not fall as much as expected.

Level (Marks)	Knowledge, Understanding, Analysis and Application
L2 (5-7)	<ul style="list-style-type: none"> <li>• Thorough knowledge and an excellent ability to analyse the positive and negative effects of the trade war on different SEA economies (which includes both effects on X-M and FDI).</li> <li>• Answer is presented in a precise, logical and reasoned manner.</li> <li>• Answer is balanced – how economies may benefit and how they may be harmed.</li> </ul>
L1 (1-4)	<ul style="list-style-type: none"> <li>• Answer may show some knowledge of the effects of the trade war on different SEA economies.</li> <li>• There could be basic errors of theory and inadequate</li> </ul>

		<p>explanations.</p> <ul style="list-style-type: none"> <li>• Answer is one-sided (i.e. may have considered only how SEA economies may benefit or how they may be harmed).</li> </ul>	
	E2 (2-3)	<ul style="list-style-type: none"> <li>• There is a good summative conclusion.</li> <li>• Economic arguments have been synthesised to arrive at well-reasoned judgements.</li> <li>• For full 3m, there must be clear criteria explaining what to consider in order to make a judgment on whether SEA economies are more likely to benefit or be harmed.</li> </ul>	
	E1 (1)	<ul style="list-style-type: none"> <li>• Unsupported judgment.</li> </ul>	



ST ANDREW'S JUNIOR COLLEGE

PRELIMINARY EXAMINATIONS 2019 (JC2)

General Certificate of Education Advanced Level

Higher 2

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**ECONOMICS**

**9757/02**

**Paper 2**

**2 September 2019**

**Suggested Answers with Examiners' Comments**

**2 hours 15 minutes**

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

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## Section A

- 1 The food and beverage (F&B) industry in Singapore offers a wide range of cuisine and dining options. Singaporeans can choose to eat local food in a hawker centre, Western food at a casual dining restaurant or Japanese food at a fine dining restaurant. A rise in rentals and a fall in incomes are likely to affect different F&B businesses differently.
- (a) Using price and income elasticities of demand, explain how each of these changes might affect the sales volume of different F&B businesses in Singapore. [10]
- (b) Discuss the likely combined impact of both of these changes on the sales revenue earned by these different types of F&B businesses. [15]

Command word	Explain
Content	Price elasticities of demand Income elasticities of demand Changes → i.e. rise in rentals and fall in incomes Sales volume
Context	Different F&B businesses Singapore

**Sales Volume**  
(i.e. equilibrium quantity)

Demand Factors	Supply Factors
<p style="text-align: center;"><b>Fall in incomes</b></p> <p>→ Rise in demand if the F&amp;B is an inferior good → → Fall in demand if the F&amp;B is a normal good</p> <p>The extent of the fall in demand depends on whether the F&amp;B is a necessity or a luxury good.</p>	<p style="text-align: center;"><b>Rise in rentals</b></p> <p>→ Fall in supply of all types of F&amp;B</p> <p>The extent of the fall in equilibrium quantity depends on the PED value of the F&amp;B.</p>

**Introduction**

- Identify that sales volume refers to the equilibrium quantity of different types of food and beverages in Singapore F&B industry.
- Define price elasticities of demand (PED) and income elasticities of demand (YED).
- State that the direction of change in the sales volume as well as the extent of the change of the sales volume of different types of F&B services would be affected by PED and YED.

**Set Context**

- Different types of F&B businesses in Singapore
  - Local food in hawker centre
  - Casual dining restaurants such as Jamie Italian, Marche, Fish & Co etc
  - Fine dining restaurants

### **Body**

- **Explain how fall in incomes could cause changes in the demand for different types of F&B services.**

#### 1. Local F&B in hawker centre

- Fall in income → consumers in Singapore experience a fall in their purchasing power → local hawker food could be deemed as inferior goods →  $YED < 0$  → demand for local hawker F&B would increase.
- Due to the increase in demand for local hawker food and beverages from DD to DD<sub>local food</sub>, there would be a shortage at the original price, which causes the consumers to compete with each other, bidding the price up.
- As price increases, quantity demanded falls while quantity supplied increases.
- At the new equilibrium where quantity demanded = quantity supplied, the equilibrium quantity i.e. the sales volume of local hawker food and beverages increases to  $0Q_3$ .

#### 2. Casual dining restaurants and Fine dining restaurants

- Fall in income → consumers in Singapore experience a fall in their purchasing power → F&B of casual dining restaurants and fine dining restaurants could be deemed as normal goods →  $YED > 0$  → demand for F&B of casual dining restaurants and fine dining restaurants.
  - Extent of the fall in demand depends on the YED value of the food and beverages provided by the casual dining restaurants and fine dining restaurants.

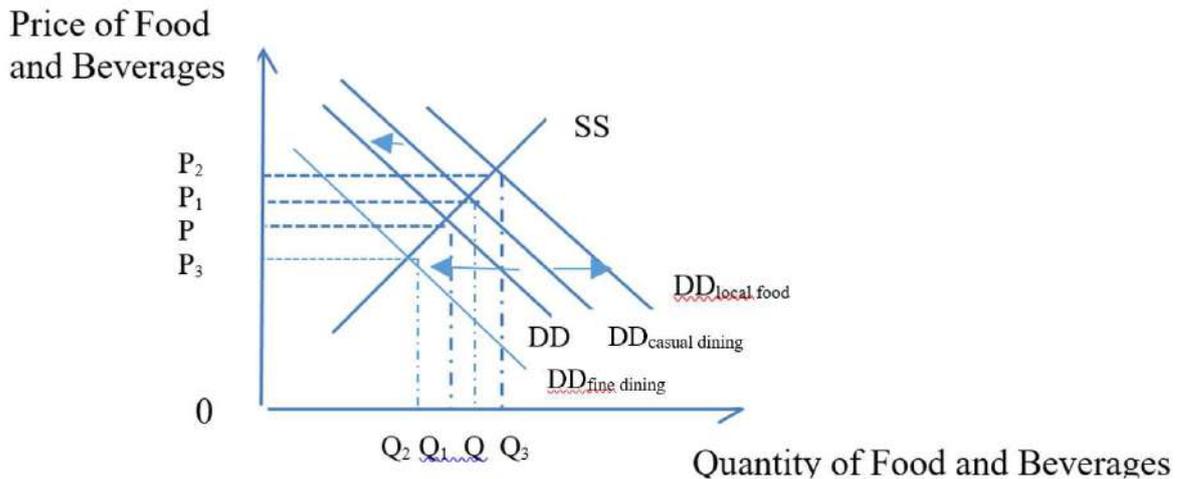
##### ***For casual dining restaurants***

- Casual dining restaurants generally serve food which could be considered as necessities for the general population in Singapore especially when the households might not have the time to have home-cooked food.
- As a result, YED value for casual dining food and beverages is less than one.
- Therefore, the fall in the demand for casual dining restaurants/fast food restaurants would fall less than proportionately from DD to DD<sub>fast food/casual dining</sub>

##### ***For fine dining restaurants***

- Fine-dining restaurants generally serve more luxurious food
- As a result, YED value for fine dining restaurants' F&B is greater than one
- Therefore, the fall in the demand for fine dining F&B falls more than proportionately DD to DD<sub>fine dining</sub>

- **Conclude how the different extent of the changes in demand of different restaurants would affect the sales volume**



Due to the more than proportionate fall in demand from DD to  $DD_{\text{fine dining}}$  for F&B of fine dining restaurants, the sales volume i.e. the equilibrium quantity of fine dining restaurants fall more (from  $0Q$  to  $0Q_2$ ) than the sales volume of the fast food/casual dining restaurants (from  $0Q$  to  $0Q_1$ ).

- Explain how rise in rentals could cause changes in the supply of the different types of F&B in Singapore.

Effect of the rise in rental on supply

Due to the increase in rental cost in Singapore  $\rightarrow$  cost of production of all types of food and beverages increase  $\rightarrow$  fall in supply of all types of food and beverages from  $SS$  to  $SS_1$ .

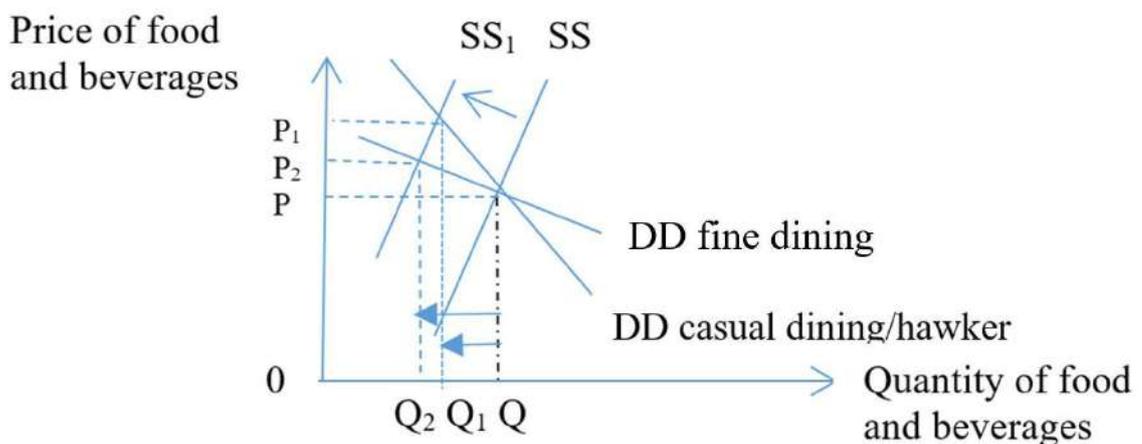
Analyse the PED values of different types of restaurants

Fine dining restaurant  $\rightarrow$   $PED > 1$

Reason: Proportion of income spent on the good is high

Casual dining restaurant and local hawker food  $\rightarrow$   $PED < 1$

Reason: Proportion of income spent on the food catered by casual dining restaurants and hawker stores is small.



Assuming that the extent of the fall in supply of both types of restaurants are the same, the fall in the sales volume (i.e. equilibrium quantity) of the food catered by fine dining restaurants would fall more (from  $0Q$  to  $0Q_2$ ) than the sales volume of the casual dining restaurant/hawker stores (fall from  $0Q$  to  $0Q_1$ ).

This is because the increase in price of the food and beverages catered by fine dining restaurants due to the fall in supply would lead to a more than proportionate fall in quantity demanded whereas the same increase in price of the food and beverages catered by casual dining restaurants/hawker stores would lead to less than proportionate fall in quantity demanded.

### Conclusion

In conclusion, when there is a fall in consumers' income in Singapore, the sales volume of local hawker food market would increase while the sales volume of fine dining restaurants market would fall greater than that of casual dining restaurant market.

When there is rise in rental cost, the sales volume of both local hawker food market and casual dining market fall less than the sales volume of fine dining restaurants.

Levels	Knowledge, Application/Understanding and Analysis
<b>L3 (8-10)</b>	For an answer that uses both price and income elasticities of demand to explain the likely effects on sales volume of various types of F&B businesses in Singapore. Well-developed explanations with use of examples relating to the context.
<b>L2 (5-7)</b>	For an answer that uses both price and income elasticities of demand but gives an underdeveloped explanation of the likely effects on sales volume of various types of F&B businesses in Singapore. OR For an answer that only explains either PED or YED well (i.e. analyses only the impact of either the fall in incomes or rise in rentals well).  Insufficient breadth and scope in essay.
<b>L1 (1-4)</b>	For an answer that may show little knowledge on PED and YED. Economic analysis might be lacking.

(b) Discuss the likely combined impact of both of these changes on the sales revenue earned by these different types of F&B businesses. [15]

<b>Command word</b>	Discuss
<b>Content</b>	Likely combined effects Both of these changes → i.e. fall in income and rise in rentals Sales revenue
<b>Context</b>	Different types of F&B businesses

<p><b>Sales revenue</b> (i.e. Total revenue)</p>
--

Different types of Food and Beverages		
	Normal Good	
Inferior	Necessity	Luxury
<p>From <b>part a</b>, restaurants that sells F&amp;B which are inferior would experience an increase in demand caused by the fall in incomes and a fall in supply caused by the rise in rentals.</p> <p>1. Consider how the increase in demand would cause a change in total revenue (i.e. TR) +</p> <p>2. Consider how the fall in supply would cause a change in TR +</p> <p>3. Combine the above changes in TR to determine the overall change in TR.</p>	<p>From <b>part a</b>, restaurants that sells F&amp;B which are necessity would experience a fall in demand caused by the fall in incomes and a fall in supply caused by the rise in rentals.</p> <p>1. Consider how the fall in demand would cause a change in total revenue (i.e. TR) +</p> <p>2. Consider how the fall in supply would cause a change in TR +</p> <p>3. Combine the above changes in TR to determine the overall change in TR.</p>	<p>From <b>part a</b>, restaurants that sells F&amp;B which are more luxurious would experience a fall in demand caused by the fall in incomes and a fall in supply caused by the rise in rentals.</p> <p>1. Consider how the fall in demand would cause a change in total revenue (i.e. TR) +</p> <p>2. Consider how the fall in supply would cause a change in TR +</p> <p>3. Combine the above changes in TR to determine the overall change in TR.</p>

### Introduction

- Define sales revenue
  - Sales revenue refers to the total revenue derived from the sales of food and beverages.
  - Total revenue = equilibrium price of food and beverage X equilibrium quantity of food and beverages
- The combined effect of both changes in income and rental cost on the various F&B businesses' total revenue (TR) depends on the values of PED and YED of these F&B.

Body:

Factors/Types of F&B businesses	Hawker	Casual Dining	Fine Dining
<b>Fall in Income</b>	<ul style="list-style-type: none"> <li>• <math>YED &lt; 0</math> (inferior good)</li> <li>• DD increase</li> <li>• <math>\uparrow P, \uparrow Q \rightarrow TR \uparrow</math></li> </ul>	<ul style="list-style-type: none"> <li>• <math>0 &lt; YED &lt; 1</math> (necessity)</li> <li>• DD decrease less than proportionately as income falls</li> <li>• <math>\downarrow P, \downarrow Q</math> less <math>\rightarrow TR \downarrow</math> less</li> </ul>	<ul style="list-style-type: none"> <li>• <math>YED &gt; 1</math> (Luxury)</li> <li>• DD decrease more than proportionately as income falls</li> <li>• <math>\downarrow P, \downarrow Q</math> more <math>\rightarrow TR \downarrow</math> more</li> </ul>
<b>Increase in rental cost</b> $\rightarrow COP \uparrow$ $\rightarrow SS \downarrow$ , Ceteris paribus	<ul style="list-style-type: none"> <li>• <math>PED &lt; 1</math> (proportion of income spent on good is small)</li> <li>• <math>SS \downarrow \rightarrow \uparrow P</math> and <math>Q \downarrow</math></li> <li>• Since <math>PED &lt; 1 \rightarrow</math> an <math>\uparrow P</math> would cause <math>Q_d</math> to <math>\downarrow</math> less than proportionately <math>TR \uparrow</math></li> </ul>	<ul style="list-style-type: none"> <li>• <math>PED &lt; 1</math> (proportion of income spent on good is small)</li> <li>• <math>SS \downarrow \rightarrow \uparrow P</math> and <math>Q \downarrow</math></li> <li>• Since <math>PED &lt; 1 \rightarrow</math> an <math>\uparrow P</math> cause <math>Q_d</math> to <math>\downarrow</math> less than proportionately <math>\rightarrow TR \uparrow</math></li> </ul>	<ul style="list-style-type: none"> <li>• <math>PED &gt; 1</math> (proportion of income spent on good is large)</li> <li>• <math>SS \downarrow \rightarrow \uparrow P</math> and <math>Q \downarrow</math></li> <li>• Since <math>PED &gt; 1 \rightarrow</math> an <math>\uparrow P</math> would cause <math>Q_d</math> to <math>\downarrow</math> more than proportionately <math>TR \uparrow</math></li> </ul>
<b>Combined effect</b>	<b>TR rises</b>	<b>TR indeterminate</b>	<b>TR falls</b>

### Conclusion (i.e. Possible evaluative points)

In conclusion, the combined effects of the rise in rental cost and decrease in income would cause an increase in the sales revenue of local hawker food businesses, and a fall in the sales revenue of fine dining restaurants. However, the sales revenue of casual dining restaurants market is indeterminate. Whether the sales revenue of casual dining restaurants market would increase or decrease depends on the relative magnitude of shift of demand and supply.

The extent of the fall in supply of casual dining restaurants market would depend very much on how much the business is affected by the rise in rentals. If the casual dining business is located in prime locations where rentals have increased the most, then the supply would fall to a larger extent. Assuming that a casual dining restaurant is located in a prime area in order to attract crowds, the rental costs could be a substantial part of its total costs of production. Rise in rentals might thus cause the supply curve to fall more than the demand. In this case, equilibrium price of casual dining would increase while the equilibrium quantity

of casual dining /fast food would fall. In this case, since PED is assumed to be less than 1, TR is likely to rise.

Furthermore, the above analysis on the change in sales revenue is based on the assumption that local hawker food is an inferior good and food catered by casual dining restaurants are a necessity. Whether a good is an inferior good, necessity or luxury good also depends on the stages of development of a country. While local hawker food and fast food/food provided by casual dining restaurants in a developing country such as Vietnam could be deemed as a normal good and luxury good respectively, Singapore's local hawker food could be deemed as an inferior good while fast food/food catered by casual dining could be deemed as luxury good. This is because there is a higher stage of development and income in Singapore.

<b>Levels</b>	<b>Knowledge, Application/Understanding and Analysis</b>
<b>L3 (8-10)</b>	For an answer that uses appropriate economic analysis to discuss a range of likely effects on total revenue of various types of F&B.  There is strong application of economic concepts and analysis relating to the context given. Appropriate examples are used.
<b>L2 (5-7)</b>	For an answer that gives an underdeveloped explanation of the likely effects on total revenue of various types of F&B.  There is some attempt to apply to the context but the examples may not always be appropriate.
<b>L1 (1-4)</b>	For an answer that shows knowledge of the likely effects on total revenue of various types of F&B.

<b>E3 (4-5)</b>	For an answer that arrives at an analytically well-reasoned judgement about what affect the effects on total revenue of various types F&B.
<b>E2 (2-3)</b>	For an answer that makes some attempt at a judgement about the likely effects on total revenue of various types of F&B.
<b>E1 (1)</b>	For an unexplained judgement.

- 2 In a highly competitive apparels industry where size matters, boutiques which offer customised tailoring services for discerning consumers nonetheless coexist with large firms which produce huge quantities of clothing for the mass market.

Discuss the factors that firms should consider when deciding whether to grow [25] and evaluate which is the most important factor.

**Question Analysis:**

<b>Command</b>	Discuss – balanced perspective Discuss the factors – identify and explain relevant factors Discuss... and evaluate – weigh the relative importance of factors to identify the most important one, based on a defined criteria
<b>Content</b>	Firms and decisions, Market structures - Revenue and costs advantages to firms from growing larger - EOS and DisEOS - Nature of firm, MES - Objectives of firms - Level of competition, firms' strategies in different market structures
<b>Context</b>	Open, i.e. pick a range of authentic industries to illustrate firms' decision making

**Schematic plan:**

<p><b><u>Intro</u></b></p> <ul style="list-style-type: none"> <li>• State firms' main objective</li> <li>• List the factors to be considered</li> </ul>
<p><b><u>Body</u></b></p> <ul style="list-style-type: none"> <li>• Benefits of expansion <ul style="list-style-type: none"> <li>○ Revenue advantages – e.g. ability to increase demand and reduce PED</li> <li>○ Cost advantages – e.g. ability to reap EOS</li> </ul> </li> <li>• Costs of expansion <ul style="list-style-type: none"> <li>○ Explicit costs incurred from strategies undertaken to expand</li> <li>○ Cost disadvantages – e.g. incur DisEOS</li> <li>○ Uncertainty of outcome of expansion drive – e.g. loss incurred from unsuccessful expansion drive</li> <li>○ Undue stress to owners</li> </ul> </li> <li>• Constraints <ul style="list-style-type: none"> <li>○ Firm's ability to grow, i.e. availability of resources or profits accumulated</li> <li>○ MES for the industry</li> </ul> </li> <li>• Unintended consequences <ul style="list-style-type: none"> <li>○ Incentivising rivals to enhance their competitiveness</li> </ul> </li> <li>• Objectives of firms – e.g. alternative objectives that firms may pursue, such as profit satisficing</li> </ul> <p><i>Alternative approach to analysis of costs and benefits:</i></p> <ul style="list-style-type: none"> <li>• <i>Benefits of remaining small</i> <ul style="list-style-type: none"> <li>○ <i>DD side factors, including provision of customised services; product differentiation; catering to localised demand</i></li> <li>○ <i>Operate at MES, which may occur at low level of output</i></li> </ul> </li> <li>• <i>Costs of remaining small</i> <ul style="list-style-type: none"> <li>○ <i>Inability to reap higher revenue from an expanded size</i></li> <li>○ <i>Inability to reap cost benefits from expansion</i></li> </ul> </li> </ul>
<p><b><u>Conclusion/ Evaluation</u></b></p> <ul style="list-style-type: none"> <li>• Judgment</li> </ul>

- Clear criteria for judgment, with substantiation
  - Importance of factor is dependent on:
    - Market structure
      - Contrast the difference between firms in different market structures, e.g. oligopolistic and monopolistically competitive industries
    - MES for industry
      - Contrast the difference between industries with MES occurring at larger and small output levels

### **Introduction**

Firms generally seek to maximise profits and do so by maximising total revenue and minimising total costs. In deciding whether to grow, firms will consider a range of factors, including the benefits and costs from expansion; constraints they may face; any unintended consequences of the planned expansion; and their core objectives.

### **Body**

Firms stand to reap various benefits from growing in size. Revenue advantages refers to the expanded firm's ability to earn greater total revenue. To expand, one possible way is for the firm to undergo horizontal integration with another firm in the industry. Thus, the merged firm will have a greater share of the market and this strengthens its market dominance. Combining the product lines from both firms, the merged firm will be able to offer a wider range of products that better cater to more consumers' taste and preferences. For instance, the fashion label may now carry both the kids' and adults' clothing lines, and offer apparels to suit a range of purposes ranging from sportswear to high street casual styles. With its greater capacity, it could then potentially capture higher demand. This then allows the merged firm to charge a higher price and sell a larger quantity of output, and earn higher total revenue.

If the merged firm is able to secure higher demand and also strengthen brand loyalty by regularly refreshing its product line to cater to consumers' fast change tastes, the firm could reduce the degree of substitutability of its products vis a vis its rivals' offerings. Thus, demand for its products become less price inelastic. If the firm is very competitive and its demand eventually become price inelastic, the firm can then raise price to increase total revenue.

Apart from revenue advantages, an enlarged firm can reap cost advantages if it successfully lowers its total cost or average cost, allowing it greater security in facing its competitors. With a larger share of the market, the firm will need to expand its scale of production thereby being able to enjoy economies of scale (EOS) that leads to a fall in average costs. For instance, firms can reap managerial EOS. As the firm increases in size, there will be more scope for division of labour and specialisation for the managers. There can be centralised administration of the firm, such as having one human resources department to administer all the wages, or a dedicated marketing department that oversees the conceptualisation and implementation of marketing and branding strategies. Such changes can lead to better decision making and higher efficiency, which leads to a fall in average cost due to higher productivity of individual managers in their dedicated roles.

The above revenue and cost advantages can allow firms to increase their profits, assuming that the gain in total revenue is greater than the increase in total cost from the expansion.

Firms will also consider the possible costs of any planned expansion. One key area of costs would arise from the strategies undertaken to expand. In the apparels industry, commonly used strategies to build brand awareness and/or strengthen brand loyalty include advertisements that feature brand ambassadors, steep discounts and flash sales, and the like. A comprehensive advertising campaign broadcasted across various mediums (such as television, radio, social media, and bill boards in public spaces) and fronted by a popular artiste can be very costly. This may thus require the utilisation of a substantial amount of profits the firm had accumulated previously.

It is also possible that the firm may incur internal diseconomies of scale with its expansion, resulting in a higher cost per unit of output. This could, for instance, arise from the high cost of monitoring and management. As the size of the firm increases, management problems can become more complex. The enlarged firm could have many departments and divisions – in the case of a merger, these could be inherited from the original organisational structures of both companies. The enlarged firm thus faces greater difficulty coordinating its operations, compared to when it was smaller. More managers may have to be hired to coordinate between departments – such as marketing, design and manufacturing teams – and for closer supervision of the expanded team of workers. All these would result in higher average costs.

In spite of best efforts, an expansion drive may not succeed if consumers do not respond favourably. The monetary resources committed to the various strategies hence cannot be recouped and the firm could incur significant costs from this failed expansion drive. With the inherent uncertainty of outcome, especially in a fast-changing and highly competitive industry like the fashion apparels industry, an expansion drive could also cause much stress to the owners of the firm.

Beyond considering benefits and costs, firms could be constrained by their (lack of) ability to grow. As mentioned above, expansion of firms typically require an expansion of production capacity as well as advertising efforts to build brand awareness and product familiarity. To better gauge size of market, consumer demand and tastes and preferences, market research could be undertaken. In absence of substantial accumulated profits, or should the firm be unable to secure a sizeable bank loan to fund the expansion strategies, a firm would not be able to grow.

Depending on the unique nature of each industry and the method of production, the minimum efficient scale (MES) may occur at a relatively lower output level. This could be the case for products that require more labour input – such as artisanal handicraft work – which cannot be replicated by automated assembly lines. Thus, an expansion in scale of production beyond a firm's MES would not be efficient and hence constraints a firm's growth.

In a highly competitive industry, such as the apparels industry, firms typically mirror the strategies of rivals – if their resources permit – in order to maintain market share. One firm's expansion drive may cause other existing firms to feel threatened, and hence a possible

unintended consequence of incentivising rivals to enhance their competitiveness may arise. The rival firms may then undertake product innovation or refresh their marketing campaigns. This could increase the level of competition in the industry, which then makes it more challenging for firms to grow.

Although most firms in general seek to profit maximise, some firms may be an exception and rather adopt alternative objectives such as profit satisficing objective instead. This could be the case for family-operated small and medium enterprises (SMEs) operating in competitive industries, whereby owners opt to avoid undue stress or perceived challenges of expanding the firm. In the apparels industry, boutique firms which employ artisans with niche skills to offer highly personalised and unique pieces of clothing may aim to profit satisfice. They may, perhaps, aim to maintain normal profits so as to continue operations and to cater to their niche clientele. For such firms, expansion and increasing output may reduce the perceived value and prestige of their pieces, thus creating no incentive for expansion.

### **Conclusion**

Firms have plenty to consider in deciding whether to grow – the potential benefits and costs, any constraints faced, any unintended consequences as well as their core objectives. It is essential that the firm owners determine that the benefits of expansion do outweigh the costs and that the constraints and unintended consequences are not prohibitively severe to hinder a move in this direction. The relative importance of the factors discussed above in a firms' decision on whether to grow would depend on factors such as market structure and MES for the industry.

The market structure in which a firm operates would influence a firms' pricing, output and other strategic decisions. In an oligopolistic industry, firms are mutually interdependent and highly conscious of the possible reactions of other rivals firms to their decisions. Thus, costs of expansion and unintended consequences may be the more important factors. Take for instance the retail petrol industry in Singapore, with a few dominant firms like ESSO, Shell and SPC selling a rather similar product. It is unlikely that any of the incumbents would reduce their selling price in order to grow and gain market share, as rivals are almost certain to respond by reducing their prices in order not to lose market share. To grow within a market, the petrol retailers might pursue non-pricing strategies like researching and enhancing the quality of their petrol to optimise engine performance; or introducing more attractive customer loyalty schemes; or partnering local banks to offer rewards to users of specific credit card. Such strategies are costly and the results are at best uncertain.

In a monopolistically competitive industry, however, constraints may be the more important factor. With the low barriers to entry and with firms earning normal profits in the long run, it is unlikely that firms would possess substantial resources to undertake expansion strategies. This could apply to neighbourhood hairdressing salons, bakeries, or hawker stalls. Price discounts to draw more customers can easily be replicated by rival firms. While efforts are made towards product differentiation, the outcomes may be superficial given the lack of resources for product development. New recipes or menu options can quickly be replicated by rivals thus consumers usually have many substitutes available and this constrains firms' ability to grow. Hence, many of such firms tend to remain small over time.

The MES of the industry would influence firms' decision on whether to pursue expansion. Take for instance two specific sub-markets within the larger food and beverage industry – the market for events catering services and that for handmade poh piah (Chinese spring roll) skin. For the former, the MES occurs at a larger output as there are various technical EOS that can be reap. Firms that operate out of central kitchens with industrial cooking equipment to reduce requirement for labour and to achieve greater consistency in food quality could reduce their average cost of production. For the latter, MES occurs at a much smaller output since production is entirely reliant on manpower and there is little that technology can assist with, without changing the nature (handmade) and quality of the product. Hence, firm's expansion is constrained by the availability of skilled chefs and also by the low demand.

**Mark scheme:**

Level	Descriptors	Marks
L3	<p><b>High L3</b></p> <ul style="list-style-type: none"> <li>• The answer should contain ALL of the following:               <ul style="list-style-type: none"> <li>○ Analysis of at least 4 distinct factors that firms will consider</li> <li>○ Discussion of the relevance/ importance of each individual factor</li> </ul> </li> <li>• Given the time constraint, the answer could not be improved significantly.</li> <li>• The answer demonstrates thorough knowledge and an excellent ability to explain facts and theory in a precise, logical and reasoned manner (an analytic explanation) and is coherent and well-structured.</li> <li>• The answer demonstrates good application to relevant contexts, with the use of real world examples.</li> </ul>	18 – 20
	<p><b>Low L3</b></p> <ul style="list-style-type: none"> <li>• The answer should contain MOST of the following:               <ul style="list-style-type: none"> <li>○ Analysis of at least 4 distinct factors that firms will consider</li> <li>○ Discussion of the relevance/ importance of each individual factor</li> </ul> </li> <li>• The answer demonstrates good knowledge of relevant facts and theory.</li> <li>• There is a reasoned (analytic) structure to the whole answer.</li> <li>• There is consistent attempt to apply to relevant contexts.</li> </ul>	15 – 17
L2	<p><b>High L2</b></p> <ul style="list-style-type: none"> <li>• Answer is relevant to question but theory is incompletely explained. It should contain:               <ul style="list-style-type: none"> <li>○ Analysis of at least 3 distinct factors that firms will consider</li> <li>○ Some attempt to assess the relevance/ importance of each individual factor</li> </ul> </li> <li>• There is application of economic principles to relevant contexts.</li> </ul>	12 – 14
	<p><b>Low L2</b></p> <ul style="list-style-type: none"> <li>• Accurate but undeveloped explanation of facts, theory and policy. The answer should contain:               <ul style="list-style-type: none"> <li>○ Analysis of at least 3 distinct factors that firms will consider</li> </ul> </li> </ul>	9 – 11

	<ul style="list-style-type: none"> <li>○ Limited or weak attempt to assess the relevance/ importance of each individual factor</li> <li>• Limited ability at recognising unstated assumptions or organisation of ideas.</li> </ul>	
<b>L1</b>	<b>High L1</b> <ul style="list-style-type: none"> <li>• Smattering of points that show weak understanding of question requirements.</li> <li>• An incomplete answer with question requirement partially addressed (e.g. a mere listing of factors with no explanation).</li> <li>• Poor application of content knowledge with several conceptual errors.</li> </ul>	<b>4 – 8</b>
	<b>Low L1</b> <ul style="list-style-type: none"> <li>• Few valid points offered.</li> <li>• Answer was mostly irrelevant or inaccurate.</li> </ul>	<b>1 – 3</b>
<b>E3</b>	<ul style="list-style-type: none"> <li>• A judgment with clear attempt to explain relevant criteria for assessing which would be <b>the most important factor</b> for consideration, and with consideration of relevant context(s).</li> </ul>	<b>4 – 5</b>
<b>E2</b>	<ul style="list-style-type: none"> <li>• A judgment with some attempt to explain relevant criteria for assessing which would be <b>the most important factor</b> for consideration.</li> </ul>	<b>2 – 3</b>
<b>E1</b>	<ul style="list-style-type: none"> <li>• An unexplained judgment.</li> </ul>	<b>1</b>

- 3 Ministry of Home Affairs cited two areas of concern in Singapore: the large proportion of young drug abusers and cigarette smokers, who harm themselves and others.

Singapore has a zero tolerance approach to drug consumption - drugs are banned. Various measures including tax have been adopted to tackle the problem of cigarette smoking.

- (a) With reference to the examples above, explain why government intervention is advocated in markets for demerit goods. [10]
- (b) Discuss whether a total ban is the most appropriate policy for different demerit goods. [15]

**Command Word**

***Explain why: give reasons***

**Key concepts**

**Market Failures:**

- Over-consumption of demerit good

**Market fails due to misallocation of resource. Society welfare is not maximised due to:**



**Over-consumption of demerit good  
E.g. cigarettes, drugs**

**Possible reasons**

- Presence of negative externalities
- Imperfect information
- Over- consumption → Partial market failure

**There had been inefficient allocation of resources. Where diagram is used, the area depicting DWL is expected as evidence of market failure.**

## Introduction

Market failure is a situation in which the market does not provide the right mix of goods or optimal amount of a particular good.

The market is not allocating resources efficiently and society's welfare is not maximised.

## Body

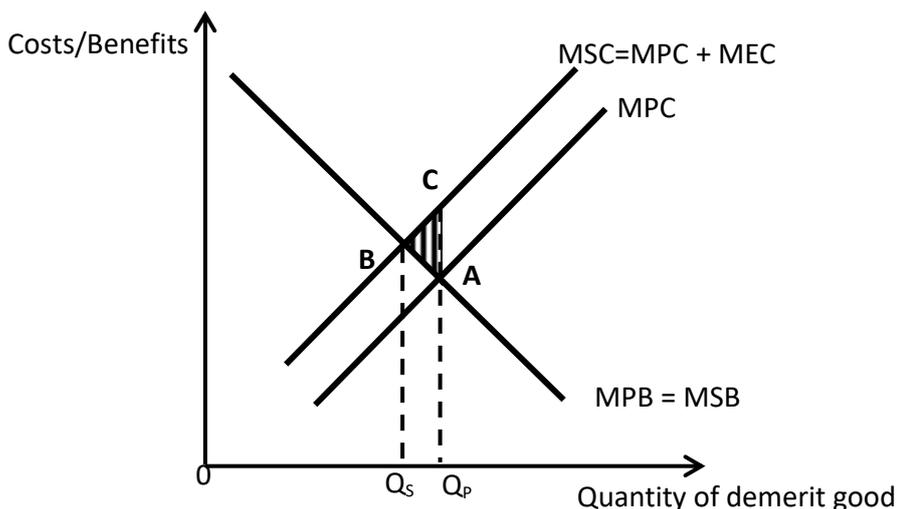
Market for demerit good

A demerit good is a good that generates negative externalities in consumption and is deemed by the government as socially undesirable and believed to be over-consumed if left to the free market. Examples of demerit goods include cigarettes and drugs. Over-consumption of demerit good is due to the 1) presence of negative externalities in consumption and 2) information failure.

### Presence of negative externalities in consumption.

Negative externalities give rise to external cost incurred by third parties who are not involved in the consumption of the good. E.g.: In the case of cigarette smoking, the external cost borne by third parties (non-smoking family members and friends) may be the healthcare cost and loss of income due to the health issues caused by the second-hand smoke. In the case of drug consumption, the external cost borne by third parties may be the loss of productivity of young workers who are drug consumers that dampens economic growth and thus standard of living in the country.

Given the external cost that resulted from the negative externalities in consumption, the marginal social cost incurred exceeds the marginal private cost at every unit of cigarette or drug consumed.



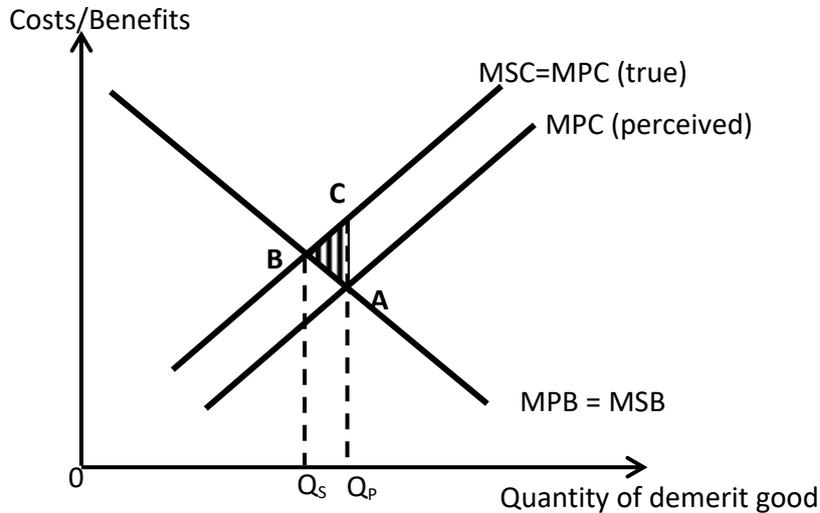
**Fig. 1 Overconsumption of Demerit Goods due to Presence of Negative Externalities**

If there is no government intervention in the market for cigarettes or drug, it can be seen from Fig 1 that the amount consumed would be at  $0Q_P$  where  $MPB = MPC$  when left to the free market. There is an over-consumption of  $Q_S Q_P$  because the allocative efficient quantity where  $MSB = MSC$  is  $0Q_S$ .

The quantity over-consumed,  $Q_S Q_P$ , generates a social cost of  $Q_S B C Q_P$  which exceeds its social benefits of  $Q_S B A Q_P$ , resulting in a deadweight loss of area  $A B C$  for the society.

**Information failure.**

Consumers may under-estimate the long-term damage to their health from cigarette smoking or drug consumption due to information failure. Individuals do not understand or appreciate the full extent of the ill effects on their health that can result from the consumption of cigarettes or drugs. Hence the perceived MPC is lower than the true MPC as shown Fig. 2.



**Fig. 2 Overconsumption of Demerit Goods due to Information Failure**

The socially optimum quantity is  $0Q_S$  where  $MSB=MSC$ . If there is no government intervention in the consumption of cigarettes or drugs, consumers will consume at  $0Q_P$  (where  $MPB=$  perceived  $MPC$ ) rather than at  $0Q_S$  which is the allocative efficient quantity. The quantity over-consumed,  $Q_SQ_P$ , would have generated a social cost of  $Q_SBCQP$ , which exceeds its social benefit of  $Q_SBAQP$ . Thus consuming  $0Q_P$  instead of  $0Q_S$  results in a deadweight loss of area  $ABC$  for the society.

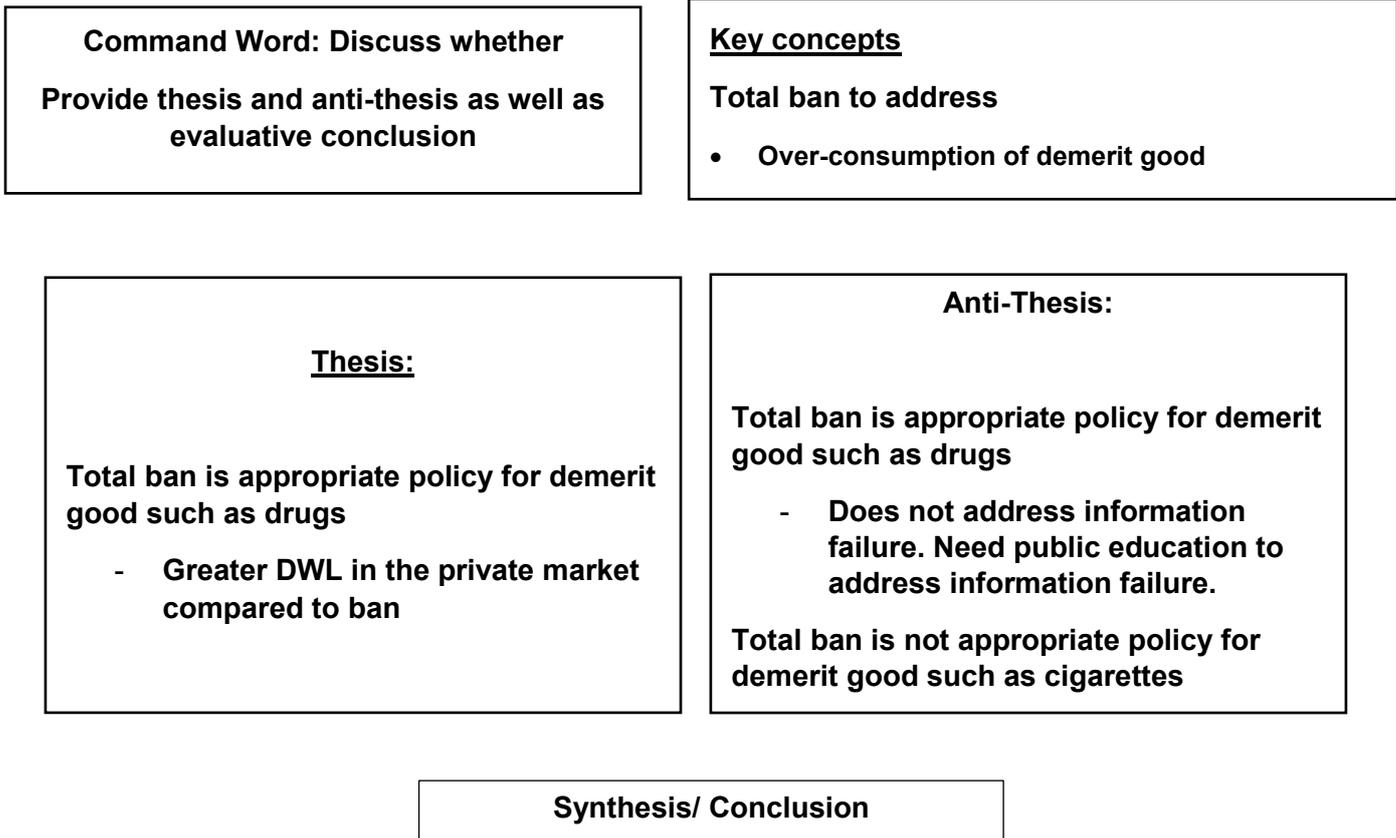
**Conclusion:**

A partial market failure exists in the case of cigarettes and drugs. Price mechanism allocates excessive resources leading to over-consumption of cigarettes and drugs, rather than at the socially efficient output level. As a result of this, resources are not allocated efficiently and thus societal welfare is not maximised, resulting in market failure.

<b>Level</b>	<b>Knowledge, Application, Understanding &amp; Analysis</b>	
<b>L3</b>	For an answer that provides a comprehensive explanation of negative externalities in consumption and information failure with good use of given examples of cigarettes and drug and relevant diagram(s).  Marking Tip: If only either cigarettes OR drugs are explained but they are explained very well, we can still give up to 9m.	<b>8 - 10</b>
<b>L2</b>	For an answer that shows an attempt to explain negative externalities in consumption and information failure but may lack application to given examples of cigarettes and drug.  Answer may have only well-explained either negative externalities or information failure but may not have explained adequately the other source of market failure.	<b>5 - 7</b>
<b>L1</b>	For an answer that shows some knowledge of negative externalities in consumption and information failure. Some errors are present.	<b>1 - 4</b>

(b) Discuss whether a total ban is the most appropriate policy for different demerit goods. [15]

**Schematic Plan:**



**Introduction:**

Due to the large extent of external costs arising from the consumption of drugs, countries such as Singapore have chosen to impose total ban on the consumption of drugs. Whether total ban is most appropriate depends on whether it is able to address the source of market failure.

**Body**

**Thesis: Total ban is appropriate policy for certain demerit good such as drugs.**

A total ban is a straight-forward method to deal with goods that generate huge negative externalities in consumption such as demerit goods such as drugs incur very huge welfare loss when consumed such that it could be better that the society do without it.

For example, narcotic drugs such as Ecstasy and Heroin, when consumed, would incur a large external cost to the society and hence huge welfare loss in the private market.

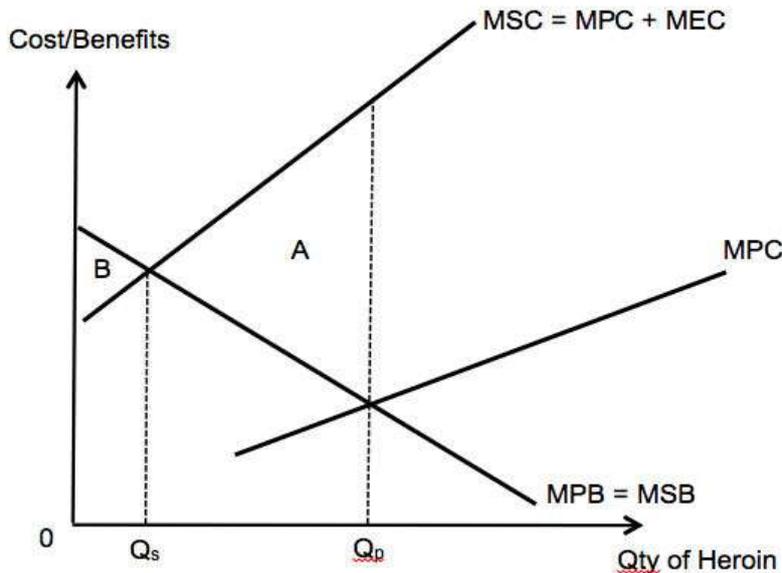


Fig. 3: Comparing welfare loss due to negative externality vs total ban

Fig. 3 compares the welfare loss caused by the externalities of consuming a drug such as Heroin against the welfare loss brought about by banning such a drug

If the drug is not banned, there is a welfare loss equal to the area of the triangle marked A. This is because the consumer's utility maximising level  $0Q_p$  is higher than the socially efficient output  $0Q_s$ . The over-consumption of heroin results in deadweight loss reflected by area A.

However, if the government ban the consumption of heroin, production levels of heroin will fall to 0. Society will suffer a deadweight loss area reflected by area B due to the ban. This loss is due to the non-realisation of the total welfare gain that the society will have if  $0Q_s$  of heroin is produced. Thus, compared to the socially optimum output of  $0Q_s$ , zero production and consumption, due to ban, will lead to net total welfare loss of B.

Though the negative externality in consumption of heroin and a ban both result in welfare loss, it can be seen from the above analysis that that banning heroin results in a SMALLER welfare loss (Area B) than not attempting to control consumption at all (Area A).

**Anti-thesis:** Total ban is not appropriate policy for demerit goods

For certain demerit goods such as cigarettes, total ban may not be appropriate if the extent of externalities is not as huge compared to drugs. In the case of cigarette consumption, indirect tax could be more appropriate than total ban.

To address the negative external costs that result from consumption of demerit good (e.g. cigarettes), as shown in Fig 4, a tax per unit equal to the MEC at  $Q_s$  can be implemented on every pack of cigarettes sold. This increases the cost of cigarettes to consumers, causing MPC of the consumers to rise to  $MPC'$ . Consumers will now consume at  $Q_s$  as this is where  $MPB = MPC'$  which coincides with the socially optimal quantity. Hence, due to government intervention, the market failure and deadweight loss of area ABC arising from negative externalities is thus eliminated. However, if a ban had been imposed instead, the deadweight loss would be area BDE which is much larger than deadweight loss of area ABC in the private market. Hence, an indirect tax may result in more efficient outcome than total ban and thus is likely to be more appropriate.

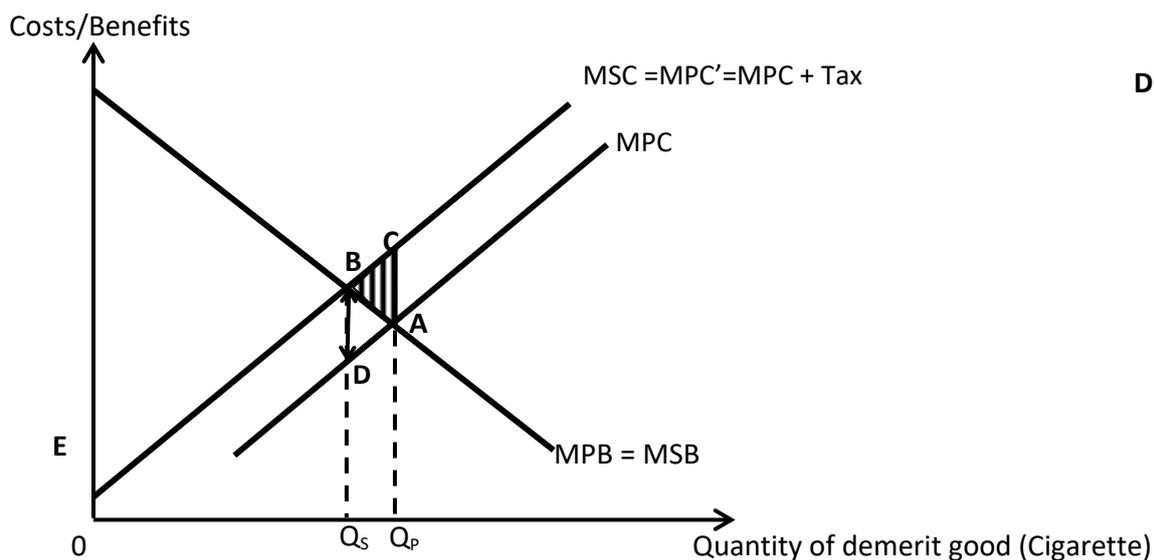


Fig 4

While total ban tackles negative externalities in consumption of demerit goods such as drugs, it does not address information failure that results in over-consumption of demerit goods. Public education campaigns such as Anti-Drug Abuse campaigns and Quit Smoking campaigns are more appropriate in reducing information gap and increasing MPC perceived to MPC true, thus eliminating deadweight loss and achieving allocative efficiency in the markets for drug and cigarette.

Regulation such as warning labelling and graphic images on cigarette packets also aids in reducing information gap and increasing MPC perceived to MPC true, thus eliminating deadweight loss and achieving allocative efficiency in the market for cigarette.

### Evaluative Conclusion:

#### **Criteria: Size of deadweight loss**

There will still be welfare loss incurred by the society when total ban is imposed, thus allocative inefficiency still exists. The impact on allocative inefficiency depends on the size of deadweight loss compared to the private market outcome if ban had not been imposed. As welfare loss after ban is significantly smaller compared to that of private market, banning of demerit goods such as drugs leads to a more efficient outcome. In cases where welfare loss after total ban is larger, it is more appropriate to impose partial ban for example banning of smoking cigarettes in most public places to reduce consumption of cigarettes to socially optimum level to achieve more efficient outcome.

#### **Criteria: Burden on government funds**

In the case of a ban, enforcement costs may be high and it might be difficult to ensure compliance. As seen in preamble, there is large proportion of young drug abusers which could imply over consumption of drugs, resulting in greater deadweight loss than zero consumption that should have existed under total ban. This evidence shows that it is difficult for government agencies such as Central Narcotics Bureau to effectively monitor and deter consumption of drugs. More funds and manpower might have to be dedicated to better enforce compliance which takes a toll on government's budget. A country with huge budget deficit may find it not appropriate to impose a total ban due to high enforcement costs and may instead adopt measures such as indirect tax which provide additional tax revenue to support public education campaigns to tackle information failure.

**Stand:** Total ban is the most appropriate policy when consumption of demerit goods such as drugs generate such huge negative externalities in consumption that society is better off without it being consumed at all. Since there is larger deadweight loss due to total ban for certain demerit goods such as cigarette than what would have existed in the private market, other measures such as indirect tax and regulation are more appropriate than total ban.

<b>Level</b>	<b>Knowledge, Application, Understanding &amp; Analysis</b>	
<b>L3</b>	For an answer that provides a well-balanced and comprehensive discussion on whether total ban is the most appropriate policy for different demerit goods with reference to both negative externalities in consumption and information failure.	<b>8 - 10</b>
<b>L2</b>	For an answer that shows an attempt to discuss total ban and other policies in terms of appropriateness with respect to different demerit goods.  Answer may lack balance as it may have focused more on total ban OR other policies OR only considered appropriateness in terms of either negative externalities in consumption or information failure.  Answer may be undeveloped.	<b>5 - 7</b>
<b>L1</b>	For an answer that shows some knowledge of policies to tackle market failure arising from demerit goods but did not address the stem of question in terms of whether total ban is the most appropriate policy.	<b>1 - 4</b>

<b>Level</b>	<b>Evaluation</b>	
<b>E3</b>	Well-reasoned judgements and a good summative conclusion.	<b>4 - 5</b>
<b>E2</b>	Some attempt at evaluation or a summative conclusion.	<b>2 - 3</b>
<b>E1</b>	Unsupported evaluative statement(s) or judgements.	<b>1</b>

## Section B

- 4 As of 2018, Singapore's current account surplus stood at \$87.8 billion. For the Financial Year 2018, Singapore had a \$2.1 billion budget surplus.

Explain the possible causes of a country's current account surplus and budget surplus and discuss whether such surpluses are beneficial to Singapore's economy. [25]

## Question Analysis

<b>Command</b>	Explain
<b>Content</b>	Factors/Reasons for CA Surplus and Budget Surplus
<b>Context</b>	Open

<b>Command</b>	Discuss
<b>Content</b>	Positive and Negative Effects of a CA Surplus and a Budget Surplus
<b>Context</b>	Singapore

## Schematic Plan

<b>Introduction:</b> Explain current account surplus		<b>Introduction:</b> Explain budget surplus	
Factors/Reasons for a current account surplus		Factors/Reasons for a budget surplus	
Benefits of a current account surplus	Problems with a current account surplus	Benefits of a budget surplus	Problems with a budget surplus
<b>Evaluative Conclusion</b>			
Consider criteria to make a judgment on whether these surpluses are beneficial			

(Part 1)*Current account*

The current account records receipts from exports and payments for imports of goods (merchandise trade) and services, plus incomes flowing into and out of the country, plus net transfers of money into and out of the country.

When there is a surplus in the current account, the total currency flow into the economy due to export revenue, property income from abroad or unilateral inflow is more than the total currency outflow from the economy due to import expenditure, property income to abroad or unilateral outflows.

Several factors might have contributed to a country's **current account** surplus.

1. Growing Foreign Income/ Falling Domestic Income

A rise in the national income of trading partners will increase the demand for the country's exports.

For example, due to the economic recovery of the global economy in 2010, there was an increase in demand for Singapore's exports. The more income elastic the demand for exports, the greater will be the rise in Singapore's exports and export earnings.

Assuming both balance of trade and current account are in equilibrium initially, a rise in export earnings will bring about a balance of trade and current account surplus.

OR

A falling domestic national income may lead to lower demand for imports which improves the current account balance. The extent of the fall in imports due to a fall in the level of domestic income depends on the marginal propensity to import.

Assuming both balance of trade and current account are in equilibrium initially, a fall in import expenditure will bring about a balance of trade and current account surplus.

## 2. Increasing international competitiveness

A country may enjoy strong demand for its exports due to lower cost of production and higher efficiency than its competitors, thus leading to a surplus in the current account balance.

For example, Singapore enjoys comparative advantage in high value-added industries such as petrochemical and electronics due to its higher efficiency caused by efficient infrastructure and skilled labour. As such, there is a high demand for our high value-added exports which increases our export earnings and if inflows exceed outflows in the current account, a current account surplus results.

Consumers in a country with a lower domestic inflation relative to its trading partners will find its domestic goods relatively cheaper compared to imported goods. Thus, consumers will switch from imported goods to domestic goods.

At the same time, its exported goods will be relatively cheaper than its trading rivals and hence there will be a rise in quantity demanded for its exports. Assuming that the demand for its exports is price elastic, quantity demanded will rise more than proportionately to the price fall, thus causing its export revenue to rise. Given the fall in import expenditure and rise in export revenue is such that the inflow of money exceeds the outflow of money in the current account, there will be a surplus in the current account.

## 3. Under-valued exchange rate / Depreciation of currency

In a flexible exchange rate or managed float regime, when a country's currency depreciates (due to reasons such as outflow of short-term capital flows), this causes price of its exports in terms of foreign currency to be lower while price of imports would become relatively higher in terms of domestic currency.

Assuming initially that the balance of trade and the current account was in equilibrium, the rise in export revenue and fall in import expenditure will result in a balance of trade and current account surplus, assuming Marshall-Lerner condition (i.e.  $PED_X + PED_M > 1$ ) holds.

## *Budget*

The government budget lists the revenue and the spending of the government. A budget surplus occurs when the government revenue exceeds government spending.

Several factors might have contributed to a country's **budget** surplus.

### 1. Strong economic performance

An unplanned budget surplus may be recorded when the economy performs better than expected and tax receipts from personal income and corporate income tax increase. If there is a progressive tax structure, when national income grows and household incomes grow, personal income tax rates may increase as workers find themselves pushed into a higher tax

bracket. This would result in higher tax revenue. When AD is strong, firms also increase their production and profits and corporate income tax revenue would also increase. This would result in a budget surplus if the revenue exceeds government expenditure in that financial year.

## 2. Contractionary Fiscal Policy

A planned budget surplus may occur when the government is pursuing contractionary fiscal policy to contract the economy when it is deemed to be overheating. If there is demand-pull inflation, the government might reduce its expenditure by postponing infrastructure development. It might also reduce subsidies provided to households and firms to reduce C and I. As expenditure falls, a budget surplus might result.

### (Part 2)

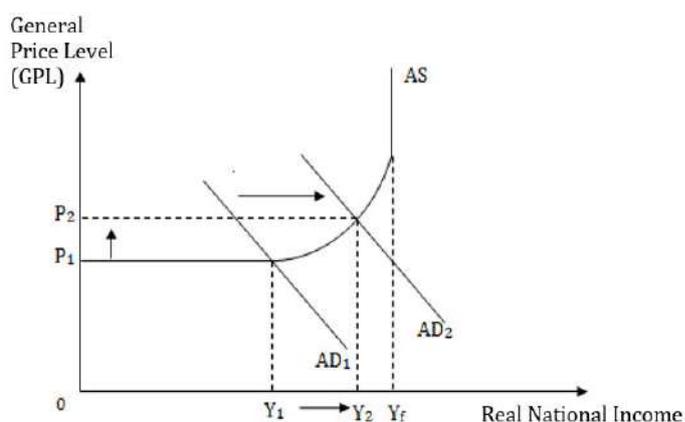
While many economies strive to achieve equilibrium in their current account and a balanced budget, surpluses in both Singapore's current account and budget might bring about some benefits.

#### *Benefits of a current account surplus*

Singapore's current account surplus can have an **expansionary effect** on the economy. If export revenue continues to rise faster than import expenditure, there would be a rise in AD since  $(X-M)$  is a component of AD.

Assuming the economy is initially operating below full employment, this rise in aggregate demand, ceteris paribus, will cause a **rise in national output** from  $Y_1$  to  $Y_2$  and a **reduction in unemployment** due to higher output levels as illustrated in Figure 3. Eventually, the initial rise in net exports will result in a greater rise in national income through the multiplier process, leading to positive economic growth.

The rise in national income will induce a rise in consumption by households because household incomes have risen thus they have higher purchasing power. A higher level of consumption of goods and services could lead an **improvement in households' material standard of living**. More imports could also allow a greater variety of goods and services to be enjoyed by Singaporeans.



#### *Problems with a current account surplus*

However, if the current account surplus continues to grow and Singapore nears full employment, there could be **demand-pull inflation** as general price levels rise from P1 to P2.

If the balance of payments is also in surplus, there would be an **appreciation of the SGD**. This would not only hurt export competitiveness but might also **deter FDI** as investors find it more costly to invest in Singapore. This could potentially **slow down the increase in LRAS and potential growth** of Singapore, making it even more difficult to achieve price stability and sustainable economic growth.

If Singapore continues to enjoy a persistent current account surplus, this would mean a current account deficit for its trading partners. This may mean that the AD of trading partners might fall and their national incomes might fall. If they face a recession, they might not be able to import as much from Singapore as before which would then affect Singapore's AD and growth as well. This is known as the **beggar-thy-neighbour** effect. Trading partners might also **retaliate** through discriminatory protectionist measures such as import tariffs on exports from Singapore. Such measures would affect Singapore's exports, strain the political and trade relationships between the trading countries.

#### *Benefits of a budget surplus*

Singapore's accumulated budget surpluses are added to the government's reserves. These reserves can then be used on rainy days. For example, in 2008, during the global financial crisis, Singapore could **tap on its reserves to implement expansionary fiscal policy**. Tax rebates and subsidies were provided to firms and households which helped them to tide over the recession.

Another benefit of budget surpluses which were added to Singapore's reserves in its early years is that the **reserves were invested and contributions from these investments are now the largest contributor to government revenues** today. If Singapore did not have reserves to generate investment returns to spend from, Singapore would have had to more than double personal income tax, or Goods and Services Tax (GST), to raise the same amount of revenue. This would affect competitiveness of the economy.

#### *Problems with a budget surplus*

A budget surplus might indicate that the government is taxing more than necessary and withholding government expenditure. In the absence of concerns about demand-pull inflation, **an opportunity cost of this could be higher standard of living** for its residents. The higher taxes might deter consumption and investment which would lead to a smaller rise in AD and LRAS, resulting in slower economic growth.

However **in Singapore's case, if not for the investment returns from government reserves, there would be a budget deficit**. This indicates that the government expenditure remains high compared to the tax revenue collected. With Singapore's ageing population and growing infrastructural needs, the government continues to spend on building hospitals, schools, transport networks etc. Tax rates remain relatively low, compared to other countries, so as to attract investment. Hence, it is unlikely that the standard of living in Singapore is compromised because of a lack of government expenditure.

#### *Evaluative Judgment*

**To conclude, Singapore's current account surplus is likely to be beneficial** because Singapore's economic growth has largely been export-driven. Given Singapore's small domestic market, domestic demand is limited. Hence, with large volumes of exports, Singapore's AD is able to increase and high economic growth can be attained. **However, there is a need to ensure that there are sufficient supply-side policies** put in place for LRAS to grow in tandem with AD so that the economic growth can be non-inflationary and sustainable.

**Singapore's budget surplus is also very beneficial** as it allows Singapore to finance its spending on the increasing needs of an ageing population. This budget surplus also **does not have a contractionary effect** since tax rates are not high but rather, the investment returns from government reserves have helped to ensure that the budget is not in deficit. However, **Singapore should continue to exercise prudence in its fiscal policy** to ensure that it spends within its means. Its reserves should also not be tapped on unnecessarily so that they can continue to be invested to provide a steady stream of revenue to fund increasing expenditure.

### Mark Scheme

<b>Knowledge, Application &amp; Analysis</b>		
<b>Level 3</b>	<ul style="list-style-type: none"> <li>The answer demonstrates <i>excellent</i> knowledge, understanding and analysis of               <ul style="list-style-type: none"> <li>Factors contributing to BOTH a current account surplus AND a budget surplus</li> <li>AND</li> <li>Benefits and problems of BOTH a current account surplus AND a budget surplus to the Singapore economy</li> </ul> </li> <li>The answer demonstrates a <i>excellent</i> grasp of the question requirements.</li> <li>The answer shows thorough knowledge and an excellent ability to explain all the required concepts with the use of appropriate examples, the benefits and problems, in a precise, logical and reasoned manner.</li> <li>Given the time constraint, the answer could not be improved significantly</li> </ul>	<b>18-20</b>
	<ul style="list-style-type: none"> <li>The answer demonstrates good knowledge, understanding and analysis of               <ul style="list-style-type: none"> <li>Factors contributing to BOTH a current account surplus AND a budget surplus</li> <li>AND</li> <li>Benefits and problems of BOTH a current account surplus AND a budget surplus to the Singapore economy</li> </ul> </li> <li>The answer demonstrates a good grasp of the question requirements.</li> <li>There is a reasoned (analytic) structure to the whole answer.</li> </ul>	<b>15-17</b>
<b>Level 2</b>	<ul style="list-style-type: none"> <li>The answer may be one-sided in the following ways:               <ul style="list-style-type: none"> <li>(For Part 1)                   <ul style="list-style-type: none"> <li>The answer explains factors contributing to either ONLY a current account surplus OR a budget surplus.</li> </ul> </li> <li>(For Part 2)                   <ul style="list-style-type: none"> <li>The answer explains the benefits and problems of ONLY a current account surplus OR a budget surplus to the Singapore economy.</li> <li>The answer explains ONLY the benefits OR problems of a current account surplus AND a budget surplus to the Singapore economy</li> </ul> </li> </ul> </li> <li>The answer may be balanced and largely accurate but explanations may be undeveloped.</li> <li>The answer uses examples but the examples could either be limited or inappropriate.</li> <li>The answer may not have been applied to the Singapore economy</li> </ul>	<b>12-14</b>

	<ul style="list-style-type: none"> <li>Ideas may not be well-organised in the answer.</li> </ul>	
	<ul style="list-style-type: none"> <li>The answer may have explained either Part 1 or Part 2 well only OR</li> <li>The answer may have explained either Part 1 or 2 well with the other part undeveloped.</li> <li>The answer may be mostly relevant but explanations may be undeveloped. Ideas may not be well-organised in the answer.</li> </ul>	<b>9-11</b>
<b>Level 1</b>	<ul style="list-style-type: none"> <li>Answer may show some knowledge of a current account surplus or a budget surplus OR Some knowledge of the benefits or problems of a current account surplus or a budget surplus.</li> <li>There may be basic errors or many errors</li> <li>The answer may have inadequate explanations. The answer may be mostly irrelevant or inaccurate</li> </ul>	<b>5-8</b>
	<ul style="list-style-type: none"> <li>The answer may have few valid points The answer may be mostly irrelevant or inaccurate</li> </ul>	<b>1-4</b>

<b>E 3</b> <b>4-5</b>	<ul style="list-style-type: none"> <li>The answer synthesises economic arguments to arrive at well-reasoned judgement on whether a current account surplus and a budget surplus is beneficial to the Singapore economy.</li> <li>The answer critically evaluates alternative theories, contemporary issues, perspectives or policy choices.</li> </ul>
<b>E 2</b> <b>2-3</b>	<ul style="list-style-type: none"> <li>The answer shows some attempt at evaluation or a summative conclusion</li> <li>The answer is relevant to the question but does not explain the judgement or base it on relevant analysis</li> </ul>
<b>E 1</b> <b>1</b>	<ul style="list-style-type: none"> <li>The answer has unsupported evaluative statement(s) or judgements</li> <li>The answer lacks explanation</li> </ul>

5 Stability in prices and low unemployment are two key macroeconomic aims of most governments.

(a) Explain the benefits of attaining the above aims. [10]

(b) In view of the possible conflict between the above aims, discuss the economic policies that a government might consider adopting to achieve them. [15]

(a)

### Question Analysis

<b>Command word</b>	Explain
<b>Content</b>	Macro aims – stable prices, low unemployment
<b>Context</b>	Nil

### Schematic Plan

Stable prices - Definition - Benefits of achieving stable prices  Low unemployment - Definition - Benefits of achieving low unemployment
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### Introduction

- Stable prices and low unemployment are two macroeconomic aims of a government. Achieving them brings about many benefits which usually lead to better standard of living for its people. Benefits of maintaining stable prices include making the economy an attractive investment destination and encouraging savings whereas achieving low unemployment could reduce social unrest and reduce government funds devoted to unemployment benefits.

### Body (Stable Prices)

- An economy achieves stable prices when the general price level remains relatively unchanged over time or grows at a slow and predictable pace over time. Most economy would aim to achieve a low single digit inflation rate (e.g. 2% in the UK).
- Benefit #1 – Attractive investment destination  
Investors, local and foreign, usually have more confidence in an economy with more price predictability. To maximise profits, investors will want to have a good gauge, especially over a near future, of their expected total revenue (expected price  $\times$  expected quantity of goods sold) and total cost (expected price of inputs required). With a profit potential, investors will then choose to invest in an economy. When that happens, Aggregate Demand of the economy will rise, more jobs will be created, more real income will be earned and households, on average, will earn higher income and enjoy a higher SOL. Furthermore, investment helps an economy achieve potential growth as LRAS increases.
- Benefit #2 – Encourages savings  
Households need to save for various reasons. With mild and predictable changes in prices, households are willing to save due to the negligible ebbing of the real value of

their savings in the bank. Banks, when flushed with lots of cash, will therefore be competing to lend to investors at attractive rates. This will in turn boost the economy and bring higher SOL to its people.

### **Body (Low Unemployment)**

- Low unemployment refers to a situation where a large proportion of the labour force are working. Typically, low single digit unemployment rates would be considered low.
- Benefit #1 – Less social unrest  
Most workers exchange labour (time, effort) for income to care for one's family or oneself. Criminal activities usually correlates with unemployment rates, as unemployed workers with no income may be desperate to bring money home (South Africa's unemployment rate is 27% and ranks 2<sup>nd</sup> in Crime Rate Index of the world). When only a small proportion of the labour force remain unable to care for one's family, the crime rate tend to be low since most workers will be able to afford the basic necessities for his family or himself. Households will thus be able to enjoy a relatively high standard of living.
- Benefit #2 – Lower opportunity costs incurred  
Achieving low unemployment means that a small government fund will be needed for unemployment benefits. This is especially true in countries where social welfare is a given and unemployment benefits are generous (e.g. Australia, the UK). Low unemployment exerts light burden on remaining portion of the working pool in terms of tax paid and, hence, allows government to charge low personal and corporate income taxes to make the economy more attractive to foreign talents and corporations. This will in turn boost economic growth in the country and bring higher SOL.

### **Conclusion**

In addition to the benefits brought up above, there are other benefits when a government achieves stable prices and low unemployment. Though each government may have competing aims at times, the attainment of both stable prices and low unemployment would bring direct and significant benefits to the economy.

<b>Level</b>	<b>Knowledge, Application, Understanding &amp; Analysis</b>
L3 (8 – 10)	For an answers that explained, using economy analysis, at least three benefits that achieving the two goals may bring. While not necessary, provision of real-world examples will help to score top marks.
L2 (5 – 7)	For an answer that provided a balanced (3 benefits) but weakly explained/elaborated response to the question. Answer reveals certain gaps in the understanding of how these two macroeconomic aims are desirable.
L1 (1 – 4)	For an answer that provided incidental response or one that was fraught with errors. Answers included mainly statements of outcomes rather than explanations of outcomes.

- (b) In view of the possible conflict between the above aims, discuss the economic policies that a government might consider adopting to achieve them. [15]

### Question Analysis

<b>Command word</b>	Discuss – present both sides
<b>Content</b>	Policies to achieve macroeconomic aims
<b>Context</b>	Nil

### Schematic Plan

#### 2 macroeconomic aims: stable prices, low unemployment

*Choose to explain policies that cover different goals (e.g. policies to deal with Dd-pull inflation, cost-push inflation, structural U, Dd-deficient U, frictional U)*

*A suggested approach is the following:*

#### **Dd-pull inflation (choose 1) + Limitations/Disadvantages**

- CFP, CMP
- SSP to increase LRAS

#### **Cost-push inflation + Limitations/Disadvantages**

- SSP to increase SRAS

#### **Low unNt (choose 1) + Limitations/Disadvantages**

- EFP, EMP (Dd-deficient)
- SSP (Structural, Frictional)

#### Synthesis & Conclusion

### Introduction

- To reap the benefits of having attained the above two macroeconomic aims, the government may need to implement discretionary policies. To achieve price stability, demand management or supply-side policies may be used. Depending on the causes of unemployment, various policies are at the disposal of the government to achieve low unemployment rates.

### Body #1 – To reduce dd-pull inflation

#### - **Contractionary Fiscal Policy**

Excessive rise in Aggregate Demand due to the rise in its components may lead to demand-pull inflation. This occurs when the economy is producing near or at the full employment level of output where resources become extremely scarce. Hence, the government can reduce such excessive rise in Aggregate Demand by raising both personal and corporate income tax rates. Doing so will reduce the personal and corporate disposable income respectively, reducing the purchasing power of households and firms and hence, reducing their ability to consume and invest. AD will thus fall, leading to a fall in general price level, bringing forth price stability in the economy.

- **Limitation/Disadvantages**

Adopting a contractionary demand-side policy necessarily leads to fall in real national income. Curbing household and firm spending leads to unplanned building up of inventories which in turn causes firms to cut output to maximise profits. Workers get dismissed and consume even less than before, sparking off the multiplier process in a downwards spiral towards lower equilibrium real national income. **Thus achieving price stability, in this instance, comes at the expense of achieving low unemployment.**

This policy takes a long time to produce the desired result, as changes in tax rates face implementation (debates/discussions among government authorities) and response (households and firms experience rise in tax rates in subsequent year of assessment) lags. During such lags, the economy will have to continue to suffer from the ills of inflation.

### **Body #2 – To reduce cost-push inflation**

- **Supply-side Policy to increase SRAS**

Rise in imported cost of factor input (e.g. fuel/crude oil) could lead to a fall in SRAS. Given unchanged AD in the economy, general price level will rise, giving rise to cost-push inflation. To achieve price stability, the government could provide subsidies to firms to offset, at least partially, such rise in cost of production. One example of such subsidies is the utilities or rental subsidies to firms to reduce the rise in overall cost of production.

**As SRAS increases, national output and hence demand for labour increases. In this instance, both price stability and low unemployment can be achieved together. This is therefore a good economic policy that can be employed.**

- **Limitation/Disadvantages**

This can be done only if the government has sufficient funds or, if already in budget deficit, is willing and able to borrow. Should the government run out of funds and borrowing cost is high due to the poor track record (e.g. Italy and Greece), it would be difficult to achieve price stability in the near term.

### **Body #3 – To reduce demand-deficient unemployment**

- **Expansionary Monetary Policy**

If an economy is facing demand-deficient unemployment, the government could increase AD by reducing interest rates. The lower costs of borrowing would incentivise households to borrow to purchase big ticket items like cars, and firms to borrow to invest. Since  $AD=C+I+G+(X-M)$ , increases in C and I would lead to an increase in AD and hence NY. As demand for labour increases, unemployment rate falls.

**However, achieving low unemployment would conflict with achieving price stability as increases in AD near  $Y_f$  would lead to an increase in GPL.**

**On the other hand if I increases substantially, there might be increases in LRAS. This would help mitigate the increases in GPL brought about by the increases in AD. This would then be advantageous as both price stability and low unemployment would then be achieved simultaneously.**

- **Limitation/Disadvantages**

If the prevailing interest rate is already very low, it might not be possible to reduce interest rate anymore.

Falling interest rates could also lead to short term capital outflows (hot money outflows) which might worsen the capital and financial account and hence BOP.

#### **Body #4 – To reduce structural unemployment**

##### - **Re-training of retrenched workers/upgrade skills of current workers**

As an economy restructures in order to be more competitive in the increasingly globalised world, there will be a portion of the labour force whose skills will become obsolete and thus face retrenchment. The government may set up skill-training agencies to equip such workers with relevant skills (e.g. data analytic, hospitality management) so as to be employable by the burgeoning sectors in the economy. The provision of opportunities to constantly upgrade the skills of the labour force will go a long way in ensuring the labour force remaining employed, thus reducing the likelihood of structural unemployment in the economy.

**At the same time, as productivity increases, LRAS also increases. This helps to bring down general price levels. In this instance, both price stability and low unemployment can be achieved together. This is therefore a good economic policy that can be employed.**

##### - **Limitation/Disadvantages**

Provision of training for workers facing structural unemployment may face resistance for various reasons – time, age, pride. Consequently, unemployed workers may delay or abort any intention to go for training. For example, recently retrenched white-collar workers (e.g. directors/senior managers) may find it difficult to pick up new skills (e.g. taxi-drivers, customer service) after having been in their core business for a long period of time. Hence, it will be difficult to achieve low unemployment in the immediate period, let alone at the same time with stable prices.

#### **Evaluation/ Conclusion**

- In conclusion, a combination of policies seems necessary for the government to achieve both aims. With dedicated strategies to address specific causes of the macroeconomic issues, the conflict that may possibly arise could then be dealt with. For example, while adopting contractionary fiscal policy does help with controlling inflation rates, demand-deficient unemployment will rise. Hence, the government ought to expand the economy's productive capacity to reduce the need to contract the economy in order to achieve low inflation rate. In so doing, the economy will not need to face unnecessarily higher unemployment rate.
- In addition, while trying to achieve full employment by expanding the AD, the short term impact of demand-pull inflation is necessary. Suppose the rise in AD generates supply-side effect in the long term, such demand-pull inflation may be negated over time. A more timely planned boost in AD could be designed to allow the economy to enjoy continuous rise in LRAS over the long term so as to achieve full employment with minimal inflationary pressure experienced by the economy.

<b>Level</b>	<b>Knowledge, Application, Understanding &amp; Analysis</b>
L3 (8 – 10)	Well-developed answer that covered policies to achieve both aims, while acknowledging the possible conflicts among them. Detailed analysis of how each policy works was provided and minimal errors, if any, were spotted.
L2 (5 – 7)	Suitable polices were brought up to address both aims. Explanation demonstrated a basic grasp of the macroeconomic issues (e.g. did not differentiate between the different types/causes of inflation or unemployment) and policies are only briefly explained.  Conflicts between aims may have been hinted at and not well analysed.  Only one aim is addressed: max 5m.

	If completely no hint of conflicts at all – max 6m.
L1 (1 – 4)	Answer did not address question requirement. Weak explanation of how policy achieves one macroeconomic aim is provided. Answer contained significant content/conceptual errors (e.g. use of expansionary policy to address dd-pull inflation).
E3 (4 – 5)	Reasoned judgement based on sound economic analysis/justification.
E2 (2 – 3)	Judgement provided but accompanied by weak substantiation or one not based on economic arguments.
E1 (1)	Unsubstantiated judgement.

6 In recent decades, globalisation has transformed the world, boosting economic growth and connecting developed and developing countries. However, there are signs of reverse globalisation as trade patterns are changing and capital flows and immigration are slowing down.

(a) Explain the determinants of an economy's pattern of trade. [10]

(b) Assess the effects of globalisation on the standard of living in a developing country like China. [15]

<b>Command word</b>	Explain
<b>Content</b>	Factors that determine Economy's pattern of trade
<b>Context</b>	Open

### Pattern of Trade

<b>Demand Factors</b>	<b>Supply Factors</b>
Consumer Tastes & Preferences	Comparative Advantage
Changes in Income	Transport Costs
Trade Agreements & Restrictions	Off-shoring and outsourcing

### Introduction

The pattern of trade of a country refers to the composition and volume of a country's exports and imports as well as the destination of its exports and the source of its imports.

### Body

The pattern of trade of an economy is influenced by both demand and supply factors.

### Comparative advantage (SS-side factor)

One factor that determines an economy's pattern of trade is the **comparative advantage**. According to the Theory of Comparative Advantage, a country should specialise in the good it has comparative advantage in. A country has comparative advantage in the production of a good if it can produce it at a lower opportunity cost than its trading partners. The comparative advantage of a country is in turn based on its **factor endowment, technological advancement and government policies**.

Singapore's trade pattern in terms of the goods that are exported and imported has been reflective of our **factor endowment**. Due to its limited land size, Singapore imports goods that are land-intensive in production, such as food. In its early years post-independence, Singapore possessed a relative abundance of low-skilled labour, thus the country produced and exported labour-intensive lower value added goods such as textiles and toys. As Singapore's workforce became more highly education, its factor endowment shifted to a relative abundance of high-skilled labour. Correspondingly, the country focused on producing and exporting high value added products such as financial services.

Additionally, **technological advancements** in a country may also allow countries to gain comparative advantage. China's rapid advancement in technology has allowed for them to produce some of the manufactured goods at a lower opportunity cost than other countries, thus allowing for them to export manufactured goods to other countries as they have gained a comparative advantage in the production of manufactured goods.

**Government policies** to encourage the development of certain industries can also change the economy's pattern of trade. China's government policies in subsidising firms in its manufacturing industry to innovate and develop new technology advancement has helped to change the economy's pattern of trade from being an exporter of cheap labour-intensive manufactured goods to being an exporter of high-end manufactured goods.

### **Transport Cost (SS-side factor)**

Another factor that determines the pattern of trade would be transport costs. Transport costs can play a major role in influencing a country's choice of major trading partners.

Neighbouring countries tend to have large volumes of trade with one another. Some firms may want to locate their production nearer to their key markets to better serve their customers as well as to reduce transport costs. This helps to explain the huge trade volume between Singapore and Malaysia. Canada and USA also have a huge trade volume despite the two countries having largely complementary industries.

### **Off-shoring and Outsourcing (SS-side factor)**

With differences in resource endowments, some firms may shift some of their production activities overseas to benefit from the lower relative factor prices in foreign countries that arise due to differences in opportunity cost.

For example, many MNCs set up their production of high technology components in countries like Singapore and locate the production of labour intensive intermediate products to countries such as Myanmar, Vietnam and Cambodia. Off-shoring and outsourcing thus plays a role in determining the type of goods the country exports.

### **Consumer Taste and Preferences (DD-side factor)**

The consumption pattern of a country can affect its demand for imports, thereby influencing the pattern of trade of a country. Even if Singapore has the same PPC as another country (and thus identical patterns of opportunity cost in production), Singapore may still export the good if the demand for the good in the other country is higher than in Singapore.

In addition, Singapore may import differentiated products due to its consumers' demand for variety of the same product. For example, Singapore's consumers may prefer to consume a variety of wine from Europe, Australia and the USA. Thus, the import of differentiated products is determined by consumers' tastes, even if there are differences in the cost of production across the countries.

### **Change in Income (DD-side factor)**

The economic growth and development of particular countries and regions also affects patterns of trade as fast developing countries tend to see a growing increase in both imports and exports. As a country's income increases, its demand for luxury goods may increase and volume of such imports would tend to rise. China has seen rising affluence and changing lifestyles. The higher income group has changed the consumption pattern in favour of high-end luxury goods such as Gucci, Louis Vuitton leather products and also Mercedes and BMW cars.

**Trade Agreements & Restrictions (DD-side factor)**

The presence of protectionist measures or the presence of Free Trade Agreements may determine the trading partners of a country as well as the type and volume of goods and services to import or export.

Bilateral and regional free trade agreements such as the ASEAN Economic Community (AEC), North America Free Trade Agreement (NAFTA) and the EU Customs Union have led to trade creation between member countries, thereby changing the direction of patterns of trade of member countries.

Likewise, the existence of trade barriers would also affect where countries would export to. If another country has placed trade restrictions such as tariffs on Singapore's exports, it may result in Singapore not exporting / exporting less to that country, thus distorting the trade pattern.

**Conclusion**

Thus the above suggests the factors that determine the pattern of trade of an economy.

	<b>Knowledge, Application / Understanding and Analysis</b>	
<b>L 3</b>	Well-developed answer that explain the factors that determine an economy's pattern of trade, with good use of concept of comparative advantage and other relevant economic concepts, and good use of relevant examples.	<b>8 – 10</b>
<b>L 2</b>	Answer that explains the factors that determine an economy's pattern of trade, using relevant economic concepts and some relevant examples but is not well-developed.	<b>5 – 7</b>
<b>L 1</b>	For an answer that shows some basic but largely unexplained knowledge of pattern of trade.	<b>1 – 4</b>

<b>Command word</b>	Assess
<b>Content</b>	Effects of globalisation Standard of living
<b>Context</b>	Developing country - China

<b>Globalisation</b>
----------------------

Positive Effects	Negative Effects
Higher material SOL Higher non-material SOL	Lower non-material SOL

### Introduction

Globalisation is the phenomenon of integration of markets in the global economy or international integration in the commodity, capital and labour markets. It results in an increasing interdependence of countries worldwide through increasing volume and variety of cross-border transactions in terms of goods and services and also freer flows of international capital, spread of technology as well as labour movement between countries.

There are benefits and costs arising from globalisation affecting material and non-material standard of living (SOL). Material SOL refers to the amount of goods and services available for consumption to each person in the country while non-material SOL refers to the quality of life in terms of health, literacy, social aspects etc.

The impacts of globalisation on the standard of living of a country would vary with different economies depending on the nature and size of the economy as well as the state of development.

### Body

#### Positive effects of globalisation on a developing country (China)

The Theory of Comparative Advantage suggests that countries stand to benefit if they specialise in the goods which they have comparative advantage. For a developing country like China, they are likely to have comparative advantage in the production of labour-intensive goods such as clothing and shoes due to them having a lower opportunity cost in the production of these goods relative to their trade partners. This difference in opportunity costs arises due to the differences in factor endowment, with China having an abundant supply of labour.

*(Through trade in goods and services)*

If China, according to the Theory of Comparative Advantage, were to specialise in the production of labour-intensive goods and trade with their trade partner, this would allow China and their trade partner to benefit as this would lead to increased world output and allows both countries to consume outside their PPC. Due to the greater amount of goods and services that can be consumed as a result of this, **material standard of living in China is likely to increase.**

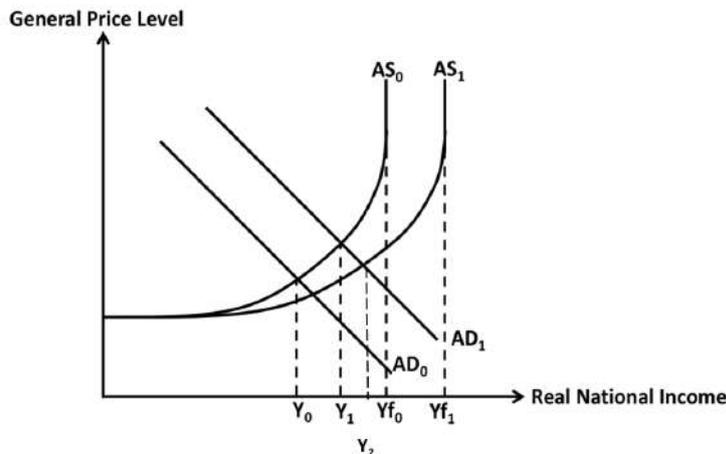
Greater economic integration through globalisation also allows developing countries like China to gain access to larger export markets, enhancing growth with an increase in demand of exports and exports quantity. The increase in exports would lead to an increase in the

aggregate demand (AD) and brings about actual economic growth for the economy, assuming *ceteris paribus*.

(Through capital and technological transfer)

Globalisation also brings about greater investments into China due to the lower cost of production in China. This would lead to a rise in foreign direct investments (FDI) and increasing AD. Assuming China's economy is below full employment, the inflows of FDI would increase the level of investment expenditure (I) in China and bring about a rise in AD from  $AD_0$  to  $AD_1$ . This increase in AD will lead to a multiplied increase in real national income from  $Y_0$  to  $Y_1$  and a rise in employment in China. Hence, there are more goods and services available for consumption and greater accessibility to them, leading to a **rise in material SOL** for a developing country like China.

In the long run, increase in investments on capital goods and technological transfer increases the quantity of factors of production and leads to a rise in the productive capacity and thus a rise in the long run aggregate supply (LRAS) curve from  $AS_0$  to  $AS_1$ . This leads to an increase in real national income from  $Y_1$  to  $Y_2$  and also brings about potential growth of the economy from  $Y_{f0}$  to  $Y_{f1}$  and hence **improving the material SOL** for China.



The higher economic growth experienced by China will generate greater tax revenue due to rising incomes ( $\uparrow$  income tax) and profitability ( $\uparrow$  corporate tax).

This tax revenue that is generated from the higher economic growth can be spent on infrastructure development such as improvements to roads and highways, improvement in the access and quality of education and healthcare which ultimately would lead to **improvement in the non-material SOL** of China. This positive effects of globalisation has seen China developed over the past decades and allow them to continue to do so in the years ahead.

### **Negative effects of globalisation on a developing country (China)**

Globalisation has been linked to rising income inequalities and this is evidenced by the widening rich-poor gap in China. This is the case as higher FDI inflows tend to raise the demand for higher-skilled workers who are limited in supply and thus causes their wages to rise. On the other hand, the less-skilled workers would tend to have to compete with the other cheaper labour either from the rural areas of China, or the neighbouring countries of China, thus depressing their wages. Additionally, workers who are in the export sector stand to benefit more from globalisation compared to those who are in the domestic sector. The

widening income gap here would thus lead to a **worsening of the non-material SOL** of China.

With globalisation, there is also an increase in the production of goods and services for trade purposes as well as rising FDI which would lead to greater use of resources. This gives rise to negative externalities like pollution, global warming arising from greenhouse emissions and environmental degradation, thereby **lowering non-material SOL** of China further.

(Through labour flows)

Lastly, China may also suffer from a 'brain drain' as their highly skilled or well-educated labour would be attracted to other countries by better wages or working and living environment and thus leaving the country for better opportunities abroad. When this happens, China may see a fall in quantity and quality of labour resulting in a fall in productive capacity, LRAS and also experience a fall in real national income, leading to negative economic growth. This would **impact the material SOL of China adversely**.

### **Synthesis**

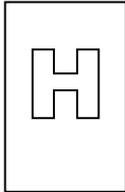
Overall, it can be said that globalisation as a whole brought about greater benefits than costs, thus leading to an overall improvement to the standard of living in a developing country like China. Factors such as the state of development of a country plays a huge role in determining whether there are to be net gains or net costs from globalisation.

Developing countries like China typically gain in terms of the higher material and non-material standard of living brought about by greater trade in goods and services as well as the technological and capital transfers. However, this gain comes at the expense of environmental degradation and rising income inequality which leads to the worsening of the non-material standard of living.

The overall impact of globalisation on the standard of living of a country would also depend largely on the ability of the government to implement policies that would maximise the benefits and minimise the costs of globalisation.

	<b>Knowledge, Application / Understanding and Analysis</b>	
<b>L 3</b>	Well-developed answer that assesses both the positive and negative effects of globalisation and the impact on both material and non-material standard of living on a developing country like China, with good use of relevant economic concepts and the use of relevant examples.	<b>8 – 10</b>
<b>L 2</b>	For an undeveloped answer that assesses both the positive and negative effects of globalisation and the impact on standard of living on a developing country like China, with an attempt to make use of relevant economic concepts and an attempt to use relevant examples.  For a well-developed answer that assesses either the positive or negative effects of globalisation and impact on standard of living on a developing country like China, with some use of economic concepts and framework to support the analysis.	<b>5 – 7</b>
<b>L 1</b>	For an answer that shows some basic but largely unexplained knowledge of the effects of globalisation on the standard of living on a developing country like China.	<b>1 – 4</b>
<b>Level</b>	<b>Evaluation</b>	
<b>E3</b>	Well-reasoned judgements and a good summative conclusion.	<b>4 - 5</b>
<b>E2</b>	Some attempt at evaluation or a summative conclusion.	<b>2 - 3</b>
<b>E1</b>	Unsupported evaluative statement(s) or judgements.	<b>1</b>





TEMASEK JUNIOR COLLEGE  
Preliminary Examination 2019  
General Certificate of Education Advanced Level  
Higher 2

## **ECONOMICS**

Paper 1 Case Study

**9757/01**

**Thursday 29 August 2019  
2 hours 15 minutes**

Additional Materials: One 12 Page Answer Booklet, one piece of writing paper for rough work

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### **READ THESE INSTRUCTIONS FIRST**

**Do not turn over until you are told to do so.**

Write your name and CG number on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

Rough work can be done directly on the question paper, on the extra piece of writing paper, or in the answer booklet. If rough work is done in the answer booklet, cross it through before handing it in.

Answer **all** questions.

Indicate the question number clearly in your answers.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **9** printed pages and **3** blank pages



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Economics**

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Answer **all** questions.

**Question 1: More of Wire-less? – The Market for Wireless Data**

**Table 1: 500MB Mobile Data Prices (in US Dollars)**

	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
<b>Singapore</b>	11.99	11.84	7.27	7.24	7.24
<b>India</b>	3.38	3.24	4.04	2.53	2.78
<b>United States</b>	65.32	48.94	38.11	54.44	21.76

Source: *International Telecommunication Union Database*

**Extract 1: Asia’s digital economy is booming. So why are Singtel and Co struggling?**

A rude shock came after Singtel reported its net profits had fallen 43 per cent to S\$3.1 billion in the year to March – a 16-year low for the firm. Singtel chairman Simon Israel blamed the results on a “perfect storm” of intense competition and rising economic uncertainty. Telecommunication companies (Telcos) supply the internet economy’s very lifeline: connectivity and mobile data. Yet rather than riding the same wave of success, many are struggling. A large part of why the internet economy has taken off in such a big way is the falling costs of access, particularly mobile data. Market liberalisation in the Telco space started in the 2000s and has accelerated in the past few years. With more competitors flooding the market, Singapore now has 11 Telcos.

DBS analyst Sachin Mittal points out that telcos had yet to unlock the secret to monetising data that they had. “Telcos also have customer data but have not been able to draw insights from that data due to legacy storage and lack of software expertise,” he notes. Some like Vietnam’s largest telco Viettel have started to take risks. Its post and delivery services arm, Viettel Post, launched its ride-hailing service called MyGo, with the ambitious target of turning a profit by 2021. But diversification did not bring immediate dividends, Maruvada notes. “Singtel was early in identifying the need to invest in areas adjacent to traditional telecom business [carriage of voice and broadband] but it is clear that the businesses are still far from maturity or having necessary scale to drive profitability,” he says.

Source: *South China Morning Post*, 13 July 2019

**Extract 2: Verizon reintroduced unlimited data plans**

Verizon reintroduced unlimited data plans back in February 2017, after an eight-year hiatus. Currently, Verizon is offering four different unlimited data plans: Start Unlimited, Play More Unlimited, Do More Unlimited and Get More Unlimited. The cheapest of the Verizon plans is called Start Unlimited, with one line costing \$70 a month. The plan costs \$120 a month for two lines, \$135 a month for three lines and \$140 a month for four lines. It offers unlimited 4G LTE data with 480p video streaming, unlimited talk and text in the U.S., unlimited talk, text and data in Mexico and Canada and a free six-month trial for the Apple Music streaming service.

Source: *Android Authority*, 28 July 2019

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### Extract 3: Why USA's mobile data plans are the most expensive on earth

A new study has found that US wireless consumers pay some of the highest prices for mobile data in the developed world. According to a new study from Finnish research firm Rewheel, the US mobile data market has the fifth most expensive price-per-gigabyte smartphone plans among developed nations, and was the most expensive for mobile data overall.

Critics have pointed to high prices to connect to cellular towers that impact pricing for the end user and smaller competitors. They have also argued that the US government's Federal Communications Commission recently made these problems worse by lifting price caps on this uncompetitive sector.

Source: *Tech by Vice*, 21 Nov 2018

**Table 2: Comparison of USA mobile data plans**

Carrier	Unlimited data monthly cost	Data limit	Hotspot allowance*	Bundled streaming services included^
Sprint Unlimited Basic	\$60	50GB/month	500MB at LTE speeds	Hulu
T-Mobile Essentials	\$60	50GB/month	Unlimited 3G data speeds only	none

*\*hotspots allow for the use of Wi-Fi instead of mobile data at certain locations. The fastest speed available for hotspots are LTE speeds.*

*^streaming services allow consumers to tap on third party apps for TV shows, music etc. 'Hulu' is a movie / TV shows streaming service.*

Source: *c|net*, 4 Sep 2018

#### **Extract 4: Wireless@SG**

Surfing speeds on Singapore's free public Wi-Fi service Wireless@SG will be more than doubled to 5Mbps by the end of this year, as the Government sees the network as a key enabler of Singapore's Smart Nation vision.

"We must build first-class infrastructure for pervasive, seamless and high-speed connectivity to benefit citizens and businesses," Minister of State for Communications and Information Janil Puthuchery said, in announcing the upgrades in Parliament yesterday. He also added that Wireless@SG's current speed is faster than most public Wi-Fi services around the world. But because demand is increasing, there is a need to boost current speeds.

Singapore will also have the highest hotspot density in the world, calculated by the number of hotspots per inhabitant. Currently, it trails only Tokyo. Coverage expansion will target congested places such as hospitals, government buildings and community centres so more people can connect to the network without surfing slowdowns, a common bugbear. More public places such as hawker centres, train stations and retail malls will also be added to the list of Wireless@SG zones.

"But it is not the connectivity that makes us smart; it is what we do with it," said Dr Janil. "Operators can also use Wireless@SG to offer improved services such as cashless payment and location-based analytics. All this benefits consumers, businesses, and productivity."

One group of beneficiaries is low-income users. The idea is to allow Wireless@SG to complement existing efforts to bridge the digital divide between those who can afford the good and those who might not be able to.

Source: *The Straits Times*, 12 April 2016

#### **Extract 5: Economics of public Wi-Fi**

The basic economic objection to free public Wi-Fi is that any benefits to low income is unlikely to be realised. Free public Wi-Fi is unlikely to be strong in all areas and therefore locations with stronger Wi-Fi signals will simply bid up existing land and building prices.

Any benefit due to the free public Wi-Fi will be compensated by higher prices for local services (such as cafes and short-stay accommodation). For this reason, the target population of the free public Wi-Fi, which is presumably the lower income group, may experience no net benefit once general prices of the goods and services in any area is taken into account. The main beneficiary at the end of the day may just be the landlords in the area serviced by the free public Wi-Fi.

Source: *Journal of Telecommunications and the Digital Economy*, February 2014

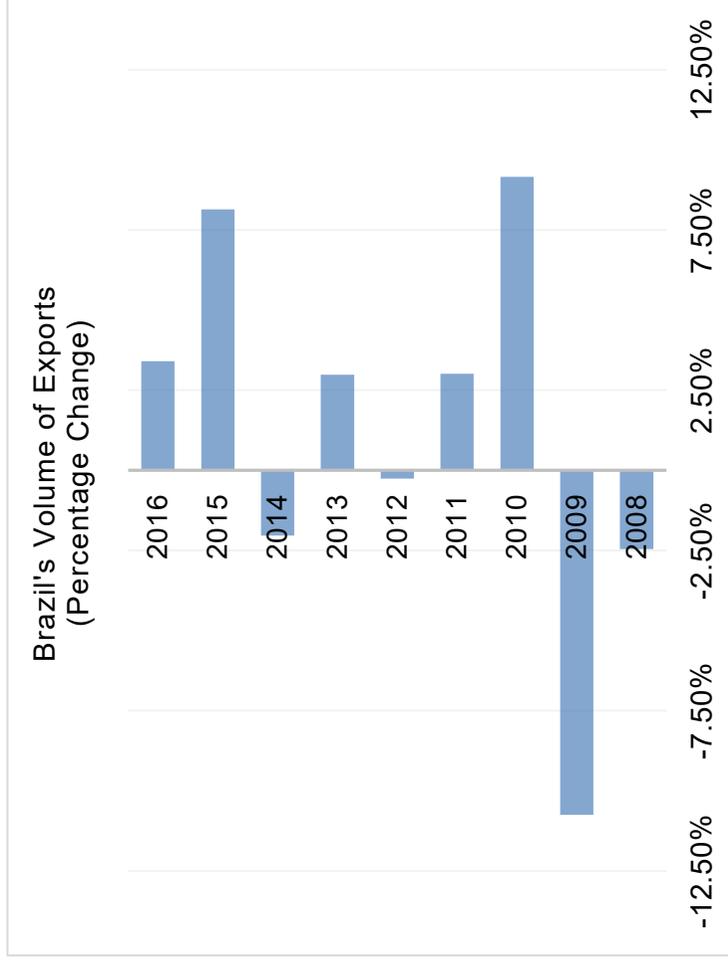
**Questions**

- (a) (i) With reference to Table 1, compare the trend in mobile data prices in Singapore, India and the United States from 2013 to 2017. [2]
- (ii) With reference to Extract 1, explain the general trend observed for Singapore in (a)(i). [4]
- (b) Using a diagram, explain the effect of the US government's action in Extract 3 on the consumer expenditure for mobile data plans. [4]
- (c) Suppose a US consumer is choosing between two plans in Table 2.  
Explain what is the opportunity cost of buying the '*Sprint Unlimited Basic*' data plan. [2]
- (d) Discuss whether Viettel's diversification strategy or Verizon's pricing strategy is more effective to increase revenue for a telecommunication company. [8]
- (e) Discuss whether governments should follow Singapore's example of providing free public Wi-Fi. [10]

[Total: 30]

## Question 2: The Economics of Sports

Figure 1: Change in export volume in Brazil (2008 to 2016)



Source: *The World Bank*, accessed August 2019

### Extract 6: Why is Rio de Janeiro finding it so hard to clear up its waste?

Eight years ago, air pollution in China was the curse of the Olympics. Beijing had to spend tens of millions of dollars closing factories, banning cars and trying to engineer the weather. Now it's Rio's turn to host the Games and attention has turned to water and basic sanitation. Rio has the image of a rich, beautiful city, but its crowded hospitals testify to the nightmare of its sanitation for people who must live with urban pollution every day. One in three of the more than 10 million inhabitants of the greater metropolitan area live in places that have no connection to a sewerage system, and only about half of the city's waste is treated before entering waterways and eventually the ocean.

Instead of sanitation being extended to 80 per cent of people, as promised, vast money has been spent on highly visible cable cars, beautification and facilities for tourists and athletes rather than on basic services like waste collection and sewers. Unsurprisingly there have been protests. This week, Eduardo Paes, the mayor of Rio, accepted that Guanabara Bay is not in the pristine state envisaged in 2007. But he said the city is in a far better state than 10 years ago. "For every one (Brazilian) real<sup>1</sup> we have spent on the Games, we have invested five on ensuring a legacy for the city, through sustainable infrastructure, improved public transport and accessible facilities for our citizens," he said.

Source: *The Guardian*, August 2016

<sup>1</sup> The Brazilian real is the official currency of Brazil.

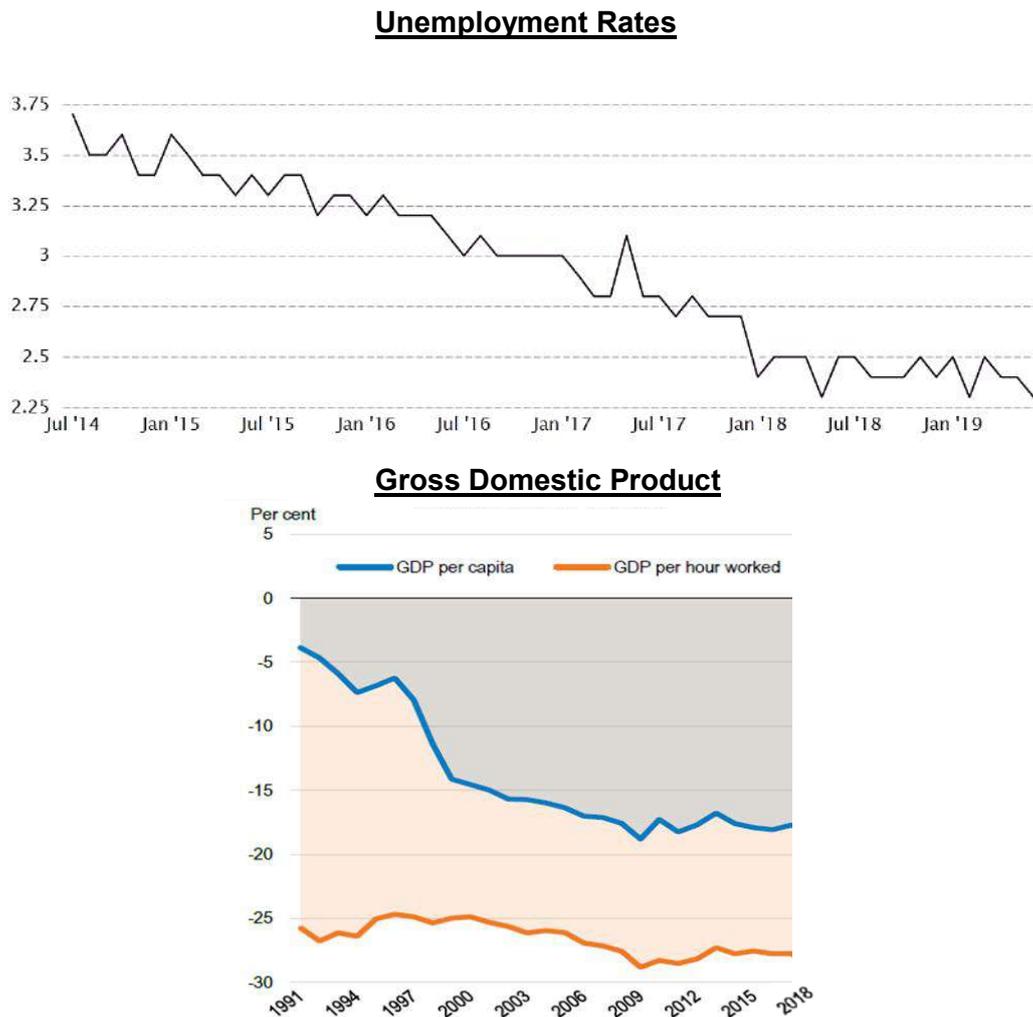
### Extract 7: A City Transformed

Since winning its bid for the 2016 Olympic Games seven years ago, Brazil's Rio de Janeiro has undergone a construction boom, including new sports venues, subway connections, and more infrastructure. One of the flagship transportation efforts, Rio built a new subway extension linking popular beach areas with the neighbourhood where the Olympic Park is located. Enormous investment has been pumped into transportation infrastructure projects throughout the city, including the VLT Carioca (the Rio de Janeiro Light Rail) in the port district. The rail connects Rio's domestic airport to a bus terminal and is aimed at revitalising the area.

The construction of the golf course, however, has stirred controversy. Golf is not widely played in Brazil, and though there is one small public course on the northern outskirts of Rio, Brazilian officials have touted the fact that after the Olympics, the course would become the first professional-quality public course in Brazil. But it was partially built on a protected nature reserve, angering local activists.

Source: *The Wall Street Journal*, August 2016

**Figure 2: Selected economic indicators for Japan**



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Sources: *CEIC data, Organisation for Economic Co-operation and Development*

### **Extract 8: Tokyo 2020 Olympics will come and quickly go, but the legacy is all-important**

The legacy of an Olympics refers to the benefits that a host city and country gains once the event is over. That can take the form of new stadiums, redeveloped urban areas and updated transport networks. The history of Olympic legacies is a mixed one, filled with cautionary tales of overspending and waste. Understandably, Tokyo is anxious to avoid a similar fate. The huge cost of staging an Olympics, and the potential economic dangers for a host city, has thrown the issue of legacy into sharp focus in recent years. That was never more evident than at last summer's Rio Olympics.

Transport was also the most recognisable legacy of the last time Tokyo hosted the Summer Olympics, with the debut of the shinkansen (high-speed rail) nine days before the start of the 1964 Games. Japan has hosted the Winter Olympics twice since then, in Sapporo in 1972 and Nagano in 1998. The 1998 Olympics prompted Japan to extend its shinkansen service from Tokyo to Nagano, cutting the three-hour journey in half. But the tourism boost that organisers hoped would follow failed to materialise, and the purpose-built hotels struggled to attract guests. "The shinkansen arrived and they built new roads, and it made Nagano closer to Tokyo," said Ezawa, who authored two books criticising the cost of the Nagano Olympics. "But with less traveling time, it also meant the amount of people staying in hotels here dropped. There was also a lot of damage to the natural environment in Nagano."

Source: *The Japan Times*, January 2017

### **Extract 9: Growth is coming home – How a successful World Cup will boost the British economy as Brexit looms**

Obviously, England winning the World Cup would be a brilliant achievement in isolation, putting to bed decades of jokes and generally imbuing Britain with a sense of sporting pride not seen since the 2012 Olympics. There's another reason, however, to hope that Gareth Southgate's boys bring back the trophy – the economy.

In the two years since Britain voted to leave the European Union, the country's economy has undoubtedly suffered. The pound dropped sharply, pushing inflation up. In tandem with stagnant wage growth, this created a scenario where workers were seeing their take home pay decreasing. That lowered the amount they were willing to spend, denting both consumer confidence and retail sales. As sales fell, the wider economy stuttered and growth stalled.

Things could improve in the second and third quarter of the year, and amazingly, the World Cup should be at least partially the reason why. The improving economic picture is one reason that three members of the Bank of England's Monetary Policy Committee – the body responsible for setting interest rates in the UK – voted to raise rates at its June meeting.

The argument is simple, when England play well in the World Cup, England supporters are happier and are more inclined to spend on non-essential items. Furthermore, when the World Cup in general is happening, Brits are more likely to host parties and barbecues, spending significantly more on groceries than they otherwise would do. People are, of course, more likely to go to the pub and buy drinks. Britain is generally a consumer powered economy, so when people are buying, growth accelerates.

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Source: *Business Insider Singapore*, June 2018

### Questions

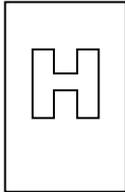
- (a) (i) With reference to Figure 1, describe the trend in Brazil's volume of exports from 2008 to 2016. [2]
- (ii) With the aid of a diagram, explain how the general trend above could have affected the external value of the Brazilian real. [3]
- (b) Using Figure 2, describe how productivity in Japan has changed since 2015. [2]
- (c) Using a production possibility curve diagram, explain **two** benefits of hosting the Olympics to the host country. [5]
- (d) Assess how far the data provided suggest that hosting the 2020 Olympics will improve Japan's employment rate. [8]
- (e) Discuss whether the decision made by the Bank of England's Monetary Policy Committee (Extract 9) is appropriate for the UK economy. [10]

[Total: 30]

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TEMASEK JUNIOR COLLEGE  
Preliminary Examination 2019  
General Certificate of Education Advanced Level  
Higher 2

## ECONOMICS

Paper 2 Essays

**9757/02**

**Wednesday 18 September 2019**  
**2 hours 15 minutes**

Additional Materials: One 12 Page Answer Booklet, one piece of writing paper for rough work

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### READ THESE INSTRUCTIONS FIRST

**Do not turn over until you are told to do so.**

Write your name and CG number on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a pencil for any diagrams or graphs.

Rough work can be done directly on the question paper, on the extra piece of writing paper, or in the answer booklet. If rough work is done in the answer booklet, cross it through before handing it in.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B, and **one** from **either** Section A or Section B.

Begin each question on a new page in the answer booklet.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **3** printed pages and **1** blank page.



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Answer **three** questions in total.

### Section A

**One or two** of your three chosen questions must be from this section.

- 1 (a) Explain why prices of the same soft drinks are usually higher in tourist attractions than in neighbourhood grocery stores. [10]

- (b) Some governments are imposing a tax on soft drinks. At the same time, tourist attractions have announced an increase in their entrance fees.

Discuss the impact of these events on consumers and producers of soft drinks. [15]

- 2 In April 2018, as part of an escalating trade war, China imposed tariffs (ranging from 15-25%) on 128 US products (worth US\$3 billion) including fruit, wine, seamless steel pipes, pork and recycled aluminium in retaliation to the US steel and aluminium tariffs on Chinese imports into the USA.

Discuss the potential impact of the US-China trade war on different types of firms in the US. [25]

- 3 Current global policies on e-cigarettes (which mimic smoking by delivering nicotine without the harmful effects of cigarette's tar) range from outright prohibition in Singapore, to largely unregulated market access in the USA. Supporters of e-cigarettes believe they are less harmful than traditional cigarettes and help cigarette users kick the habit. Health lobbyists, meanwhile, argue that the health effects of e-cigarettes are still unclear.

- (a) Explain why the Singapore government chose to ban e-cigarettes. [10]

- (b) Discuss the factors that might have led to governments' differing approaches in intervening in the market for e-cigarettes. [15]

**Section B**

**One or two** of your three chosen questions must be from this section.

- 4 (a)** Explain the factors that increase the effectiveness of exchange rate centred monetary policy in managing an economy. [10]

- (b)** Discuss the view that exchange rate centred monetary policy should be focused primarily on achieving a low and stable rate of inflation in Singapore. [15]

- 5** In Budget 2017 and 2018, Finance Minister Heng Swee Keat announced increases in diesel tax, Goods and Services Tax (GST) and a new carbon tax. These measures reflect a global shift from direct to indirect taxes as a source of government revenue.

Source: *The Business Times*, 23 February 2017

Assess how a shift from direct to indirect taxes affects the microeconomic and macroeconomic goals of the Singapore government. [25]

- 6** Four decades of breakneck economic growth turned China into the world's biggest carbon emitter. But the government is trying to change that without damaging the economy—and perhaps even use its green policies to become a leader in technological innovation.

Source: *Bloomberg News*, 9 March 2018

- (a)** Explain the factors that contribute to sustainable growth in a country. [10]

- (b)** Discuss how China's pursuit of sustainable economic growth can impact its balance of payments. [15]

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**H2 CSQ 1**  
**Suggested Answers**

<b>(a)</b>	<b>(i)</b> With reference to Table 1, compare the trend in mobile data prices in Singapore, India and the United States from 2013 to 2017. [2]
<p><b>General trend [1 mark]</b></p> <ul style="list-style-type: none"> <li>Mobile data prices are generally falling for all 3 countries.</li> </ul> <p><b>Refinement [1 mark]</b></p> <ul style="list-style-type: none"> <li>Mobile data prices fell by the greatest percentage in the US</li> <li>Mobile data prices fell by the smallest percentage in the India</li> <li>US and India experienced episodes of increase in mobile data prices but Singapore did not.</li> </ul>	
	<b>(ii)</b> Using reference to Extract 1, explain the general trend observed for Singapore in (a)(i). [4]
<p><b>2m for each demand/supply factor analysed]</b></p> <ul style="list-style-type: none"> <li>The “intense competition” saw more firms enter the mobile data market giving rise to an increase in supply. “With more competitors flooding the market”, there are more firms in the market and hence there is now an increase in supply in the mobile data market. [2m]</li> <li>The “rising economic uncertainty” could have brought about lower willingness to purchase mobile data amongst the consumers due to an uncertainty over their future income. Consumers may thus hold back their expenditure, hence causing a decrease in demand. [2m]</li> <li>Taken together, this will lead to a fall in equilibrium price.</li> </ul> <p><i>Note: Candidates will be penalised for not linking changes in demand and/or supply to a fall in equilibrium price.</i></p>	
<b>(b)</b>	Using a diagram, explain the effect of the US government’s action in Extract 3 on the consumer expenditure for data plans. [4]
<ul style="list-style-type: none"> <li>Consumer expenditure can be calculated by multiplying the price of each mobile plan by the quantity of mobile plans purchased (i.e. <math>P \times Q</math>)</li> <li>The US government’s action is equivalent to a removal of the price ceiling at <math>P_{max}</math>, evidenced by the “lifting price caps on this uncompetitive sector.” [1m for correct identification of government action from the case]</li> <li>The removal of the price ceiling would allow the market to correct the shortage of <math>Q_3 - Q_1</math> at the initial maximum price of <math>P_{max}</math>. <ul style="list-style-type: none"> <li>Hence there will be a rise in price from <math>P_{max}</math> to <math>P_2</math> and quantity from <math>Q_1</math> to <math>Q_2</math>, resulting in a rise in overall consumer expenditure (CE) from <math>0P_{max}E_1Q_1</math> to <math>0P_2E_2Q_2</math></li> </ul> </li> </ul> <p>[2m for correct identification of initial and final CE, and a recognition of the overall increase in CE.]</p>	

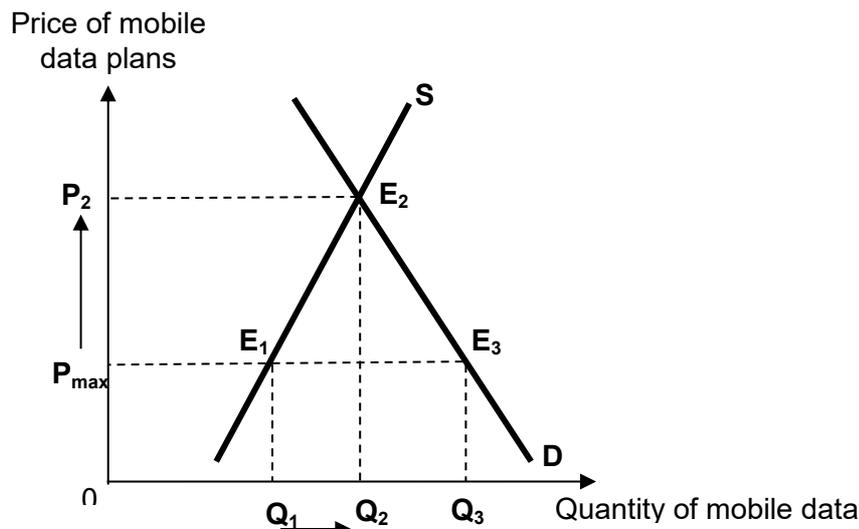


Figure 1: Market for mobile data plans

[1m for correctly drawn and labelled diagram.]

- (c) Suppose a US consumer is choosing between two plans in Table 2.  
Explain what is the opportunity cost of buying the ‘*Sprint Unlimited Basic*’ data plan.[2]
- Opportunity cost is the value of the next best alternative forgone when one buys the ‘*Sprint Unlimited Basic*’ plan. [1m]
  - These forgone benefits are 50GB/month data access and the unlimited Wi-Fi hotspot access at 3G speeds from the T-Mobile Essentials plan. [1m]
- (d) Discuss whether Viettel's diversification strategy or Verizon's pricing strategy is more effective to increase revenue for a telecommunication company. [8]

<b>Command word/phrase</b>	“Discuss”	Provide a balanced view for the two firm strategies before coming to a reasoned judgement
<b>Content</b>	“diversification strategy” “pricing strategy” “increase revenue”	Venturing into other good/service markets Second-degree price discrimination Increase firm’s total revenue which is the product of price and quantity sold
<b>Context</b>	“Viettel”, “Verizon” “telecommunication company”	Strategies employed by these two firms Effectiveness for any telecommunication company

Introduction

- Total revenue for a telecommunication company is given by the product of the quantity of service it sells and the price of the given service.
- A balanced analysis of Viettel's diversification strategy to venture into another service market and Verizon's price strategy of second-degree price discrimination will be provided before reaching a reasoned judgement on their effectiveness.

**Body 1 - Explain how Viettel's diversification strategy can increase total revenue for the firm + Limitations**

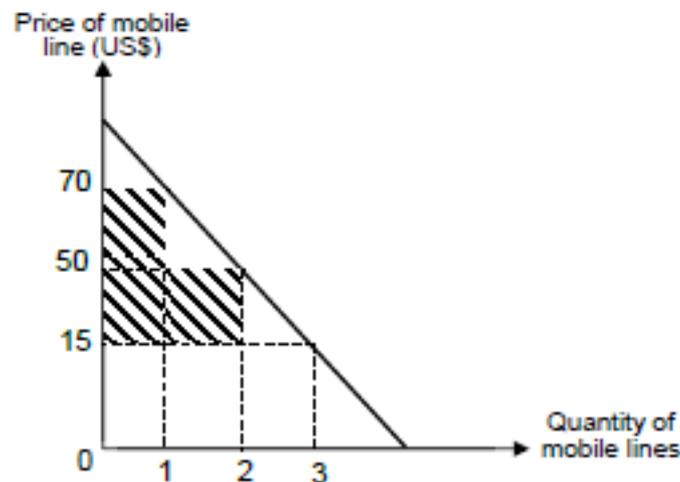
- Viettel sought to increase total revenue by implementing a diversification strategy which it ventured into other service markets such as postal, delivery and ride hailing services.
- By doing so, Viettel is able to increase the sources of consumer demand and as a result, obtain other sources of revenue beyond those arising from its telecommunication services.
- *Limitation:* However, venturing into other service markets means that the telecommunications company is stepping into unfamiliar territory and hence may not provide the quality of service that is competitive with incumbents of those markets. Hence they might experience a lower than expected demand for its service in the ride-hailing and postal markets. As a result, the increase in revenue could be limited.

**Body 2 – Explain how Verizon's pricing strategy can increase revenue for the firm + Limitations**

- Verizon, on the other hand, used a pricing strategy in the form of second-degree price discrimination to increase its total revenue.
- Under second-degree price discrimination, the firm charges lower prices for larger number of units that a consumer buys.
- For Verizon's Start Unlimited plan, one line costs \$70 a month, while two lines cost \$120 a month, three lines cost \$135 a month for three lines.

- Assuming a situation where a consumer purchases 3 mobile lines, Verizon would be able to capture some of the consumer surplus (shaded area) with 2<sup>nd</sup> degree price discrimination compared to the situation where it charges only one price, at US\$15 per line, for all 3 lines. As a result, total revenue increases.

Fig 1: 2nd Degree Price Discrimination



- Limitations (one of the following would suffice):*
  - However, such pricing strategy increases complexity for the consumers which may result in them staying away instead, lowering demand, and hence limit or even reduce total revenue.
  - Also, it is very difficult to estimate the exact demand curve of the market, which can limit the extent to which the revenue actually increases.
  - Not all consumers will have a need for multiple lines. Not all consumers will have large families/close friends networks to tap on for this plan, as friends/families might already be locked into other plans with other companies already.

#### Evaluation Conclusion

- [Stand]:** A combination of these strategies could be adopted with the diversification strategy positioned as a longer-term strategy.
- [Situation/Time Frame]:** In Extract 1, it was suggested that "diversification did not bring immediate dividend". In the short run, diversification strategies are unlikely to be effective strategy as firms' ability to do so is limited by their "lack of software expertise" to glean insights from the data they have about the other service markets. It was also suggested that "necessary scale (is required) to drive profitability" as firms venture into other service markets. As a result in the short run, second degree price discrimination can be used to increase revenue, as a changing of the prices is much quicker to implement than the entry into a new market.
  - In the long run, as the telecommunication company could then develop appropriate capability to analyse data to identify suitable product development and achieve scaling of these businesses. Diversification would then be a more effective strategy as it brings about more revenue streams which reduces dependence on any one of these streams.
  - [Magnitude]** Moreover, in the long run, diversification is more difficult to copy by other firms than 2<sup>nd</sup> degree price discrimination.

**Mark Scheme**

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed answer that: <ul style="list-style-type: none"> <li>• is balanced by analysing the how both strategies increase the total revenue for a telecommunication company and their limitations</li> <li>• supports analysis with relevant economics concepts and tools of analysis; and</li> </ul>	4 – 6
L1	For an underdeveloped answer that: <ul style="list-style-type: none"> <li>• is unbalanced, e.g. only how strategies increase total revenue or limitations of the strategies; and/or</li> <li>• lacks economic rigour in the analysis</li> </ul>	1 – 3
E	Up to 2 marks for valid evaluative judgement on the effectiveness of both strategies to increase a telecommunication company's total revenue	1 – 2

**(e)** Discuss whether governments should follow Singapore's example of providing free public Wi-fi. [10]

<b>Command word/phrase</b>	“Discuss”	This is a single policy discussion question
<b>Content</b>	“governments should follow Singapore's example...”	In deciding whether to follow Singapore's policy, the benefits and limitations/ unintended consequences of the policy need to be considered.
<b>Context</b>	“free public Wi-Fi”  “government”	The context is on free public Wi-Fi and therefore Extracts 4 and 5 would come in particularly useful.  There is no context given to the ‘other government’ in question – can take advantage in your evaluation!

**Introduction**

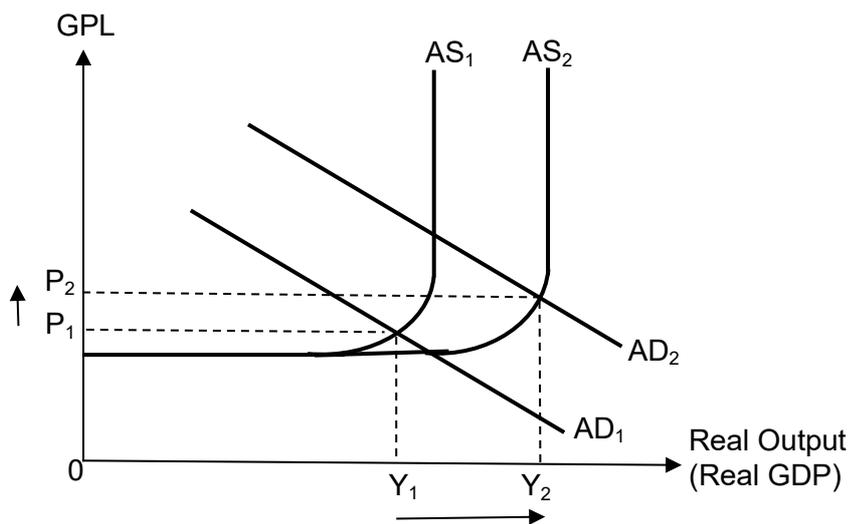
- The provision of free public Wi-Fi can be justified on both macroeconomic and microeconomic grounds, and we can consider the impact in terms of economic growth, efficiency and equity.

***Thesis – choose 1-2 out of the following three arguments:***

**Thesis 1: The promotion of free public Wi-Fi could help to generate sustained growth in the long run.**

- In the short run, the promotion of free public Wi-Fi will require a large amount of Government expenditure on infrastructure to boost connectivity around a city. It could also increase consumption as purchasing of goods become more convenient with online shopping. This, coupled with a multiplier effect where the initial increase in income would lead to further increases in induced consumption, would lead to a rise in AD.
- In the long run, the free public Wi-Fi would increase productivity and innovation among businesses. As mentioned in Extract 4, "Operators can also use Wireless@SG to offer improved services such as cashless payment and location-based analytics," which are all evidences of improved productivity.
  - As the quality of labour and entrepreneurs grow over time, this would lead to a rise in AS as well.

Fig 1: Sustained Growth in the economy



- As seen in the figure above, taken together, the increase in AD and AS would lead to an increase in income from  $Y_1$  to  $Y_2$ , with mild increases in general price levels from  $P_1$  to  $P_2$  – indicating that sustained growth has taken place.

**Thesis 2: The promotion of free public Wi-Fi could help to achieve equity in the**

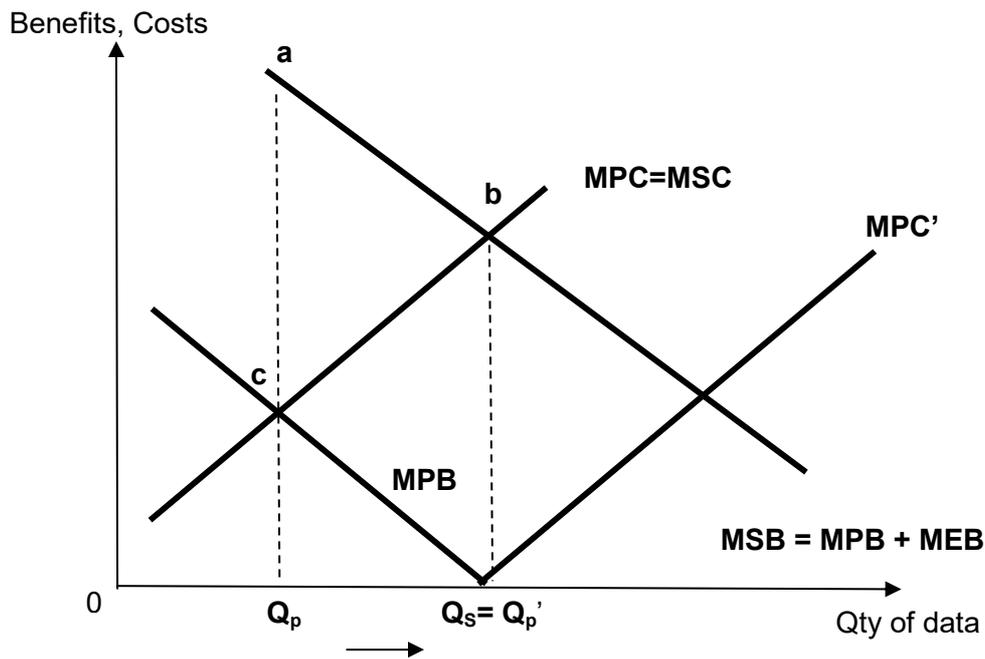
**market for data access.**

- In developed countries such as Singapore, data can be seen to be a necessity in people's everyday lives as it gives ready access to information for work or entertainment for leisure.
- If this is left to the free market, the price of data may become too expensive for low-income consumers due to the expensive mobile data plans.
- As a result, the low income may not get access to essential government services online (Extract 2 – “cannot avail a single government service today without online intervention”) if Wi-Fi is not readily available. The direct provision of free public Wi-Fi would thus help to increase equity in the market for data access.

**Thesis 3: The promotion of free public Wi-Fi could help to promote greater efficiency by correcting under-consumption due to positive externalities in consumption in the market for data.**

- **<P: Private Decision>** When deciding to consume additional data, the consumer considers only his own private benefit such as the utility of the data, and private cost such as the cost of mobile plans.
- **<E: External Benefit>** However, the use of data results in external benefits as well, such as the increased productivity of the workforce, or new ideas to spur production in other firms.
- **<T: Third Parties>** The firms who were not involved in the consumption of Wi-Fi by workers and are therefore considered third parties.
- **<D>** Due to existence of marginal external benefits (MEB), there is a divergence between Marginal Private Benefits (MPB) and Marginal Social Benefits (MSB) by the amount of MEB. Assuming no negative externalities, Marginal Social Costs (MSC) = Marginal Private Cost (MPC).
- **<Qp vs Qs>** In the free market, out of self-interest, consumers consume  $Q_p$ , where  $MPC = MPB$ . However, the social optimal outcome is  $Q_s$ , where  $MSB = MSC$ . Since  $Q_p < Q_s$ , there is underconsumption of data.
- **<D>** Due to the underconsumption of  $(Q_s - Q_p)$ , society loses benefits of area  $Q_p ab Q_s$ , which is less than the cost -savings of area  $Q_p cb Q_s$ , resulting in a deadweight loss of the area  $abc$ . The price mechanism fails to allocate resources efficiently, the market fails and society's welfare is not maximised.
- As a result, the direct provision of Wi-Fi would cause a fall in MPC, increasing the consumption from  $Q_p$  to  $Q_p' = Q_s$  and removing the deadweight loss, achieving allocative efficiency.

Fig 2: Positive Externalities in data consumption



**Anti-Thesis – choose 1-2 out of the following three arguments:**

**Anti-Thesis 1: Countries should not provide free public Wi-Fi as the gains in equity may not be realised**

- As argued in Extract 5, free Wi-Fi can actually just lead to increased property prices for landlords instead of truly serving the poor. (supported by Extract 5)
- This is because in areas where the free Wi-Fi is stronger, more businesses would sprout up to take advantage of the improved connectivity.
  - For example, a café would be set up in an area where the free Wi-Fi connection is strong and charge relatively expensive prices for its coffee.
  - This would result in the poor still being unable to access the free Wi-Fi because to do so, they would have to dine at the café in the first place.

**Anti-Thesis 2: Countries should not provide free public Wi-Fi as there could be a large opportunity cost involved.**

- There could be a strain on the government budget due to extensive spending on the networks required for free public Wi-Fi to be set up.
  - The opportunity cost of the spending would be any gains in allocative efficiency in merit goods such as education/ healthcare market if the government had chosen to spent the money there.

**Anti-Thesis 3: Countries should not provide free public Wi-Fi as there negative externalities in consumption of the internet.**

This is primary due to the easy access to online activities such as online gaming or online gambling

- **<P: Private Decision>** When deciding to spend an additional hour on online gambling, the consumer considers only his own private benefit such as his potential winnings and private cost such as the cost of data and the money he is gambling. Note that with free Wi-Fi, the private cost would be especially low.
- **<E: External Cost>** However, the consumption of online gambling results in external costs as well, such as the possibility of family members having to pay to fund the consumer's gambling addiction.
- **<T: Third Parties>** The family members of the online gambler are not involved directly in the consumption of online gambling and are therefore considered third parties.
- **<D>** Due to existence of marginal external costs (MEC), there is a divergence between Marginal Private Costs (MPC<sub>actual</sub>) and Marginal Social Costs (MSC) by the amount of MEC.
- **<Q<sub>p</sub> vs Q<sub>s</sub>>** In the free market, out of self-interest, consumers consume Q<sub>p</sub>, where MPC<sub>perceived</sub> = MPB. However, the social optimal outcome is Q<sub>s</sub>, where MSB=MSC. Since Q<sub>p</sub>>Q<sub>s</sub>, there is over-consumption of online gambling.
- **<D>** Due to the overconsumption of (Q<sub>p</sub>-Q<sub>s</sub>), society experiences an additional cost of area Q<sub>p</sub>b<sub>a</sub>Q<sub>s</sub>, which is more than the additional benefits of area Q<sub>p</sub>c<sub>a</sub>Q<sub>s</sub>, resulting in a deadweight loss of the area abc. The price mechanism fails to allocate resources efficiently, the market fails and society's welfare is not maximised, leading to allocative inefficiency.

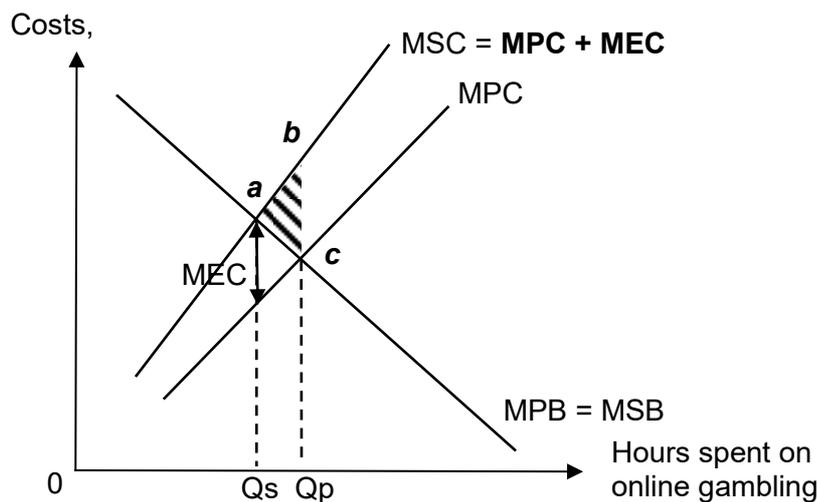


Figure 3: negative externalities from online gambling

**Note: 3 key arguments (2 benefits + 1 cost or 2 costs + 1 benefit) would suffice for the maximum L marks!**

**Evaluative conclusion (a reasoned stand plus a max of 2 ATMS angles would suffice):**

- **[Stand]** The provision of free public Wi-Fi would bring about a set of benefits and costs to a city but the extent of the benefits and costs would differ based on the city in question.
  - **[Situation]** Whether a government should adopt Singapore’s model of free public Wi-Fi depends on the country in question. The opportunity cost may be greater for a less-developed country as they might need to sacrifice spending in other more strategic and urgent sectors that can spur actual economic growth, such as road infrastructure.
  - **[Situation]** One reason why Singapore is able to enact free public Wi-Fi is due to our relatively small size and relative low incidence of absolute poverty. Other cities/countries may face a bigger challenge due to their larger size and the amount of ghettos/undeveloped areas that would be difficult to reach.
- **[Magnitude]** Given that there are potentially both positive and negative externalities arguments involved in the consumption of data, the efficiency argument is relatively weak in helping make a decision and government should focus more on the potential of Wi-Fi to spur growth.
- **[Alternatives]** To ensure that the benefits from free public Wi-Fi are truly realised, governments can have accompanying supply-side policies to enhance the effectiveness of free public Wi-Fi, such as courses for workers and companies on how to leverage on wireless systems to improve productivity.

Level	Knowledge, Application/Understanding, and Analysis	Marks
L2	For a well-developed answer that: <ul style="list-style-type: none"> <li>• is balanced by analysing the benefits of the policy and its costs/unintended consequences;</li> <li>• supports analysis with relevant economics concepts and tools of analysis; and</li> <li>• supports analysis with good use of the case material pertaining to free public Wi-Fi</li> </ul> Note: Candidates will not receive full credit if analysis does not cover both macro and micro aspects.	5 – 7
L1	For an underdeveloped answer that: <ul style="list-style-type: none"> <li>• is unbalanced, e.g. only positive or negative effects of the policy analysed; and/or</li> <li>• lacks economic rigour in the analyses of the benefits/costs of the policy; and/or</li> <li>• lacks use of the case material pertaining to free public Wi-Fi to support analysis.</li> </ul>	1 – 4
E	Up to 3 marks for valid evaluative judgement on the overall effect of impact of free public Wi-Fi to governments.	1 – 3

**H2 CSQ 2**  
**Suggested Answers**

(a) (i) With reference to Figure 1, describe the trend in Brazil's volume of exports from 2008 to 2016. [2]

**General trend [1]:** Brazil's volume of exports generally increased from 2008 to 2016

**Refinement [1],** any 1 of the following:

- fluctuated during the period
- largest fall in export volume from 2008 to 2009
- greatest increase in 2010

(ii) With the aid of a diagram, explain how the general trend above could have affected the external value of the Brazilian real. [3]

**Increase in demand for the Brazilian real [1]:** As Brazil's export volume generally increased from 2008 to 2016, there will be a general increase in the demand for the Brazilian currency in the same period. This is represented by a rightward shift of the demand curve for Brazilian real from  $D_0$  to  $D_1$  in Figure 4.

**Appreciation of the Brazilian real [1]:** The increase in the demand for the Brazilian currency puts an upward pressure on the external value of the Brazilian currency and results in an appreciation of the Brazilian real, represented by the increase in price of Brazilian real from  $P_0$  to  $P_1$ .

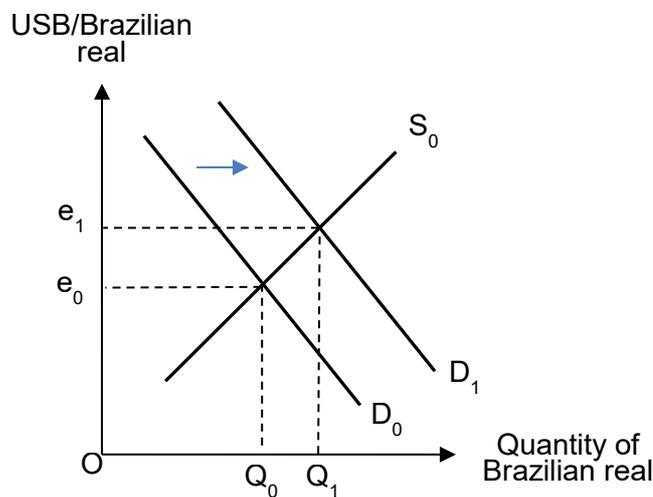


Figure 4: Market for Brazilian real

**Accurate diagram** showing increase in demand for the Brazilian currency and the appreciation of the Brazilian currency. [1]

(b) Using Figure 2, describe how productivity in Japan has changed since 2015. [2]

- As shown in Figure 2, there was a decline in GDP per hour worked since 2015. [1]
- Therefore, productivity in Japan decreased since 2015. [1]

(c) Using a production possibility curve diagram, explain **two** benefits of hosting the Olympics to the host country. [5]

**One benefit of hosting the Olympics is actual growth [2]:**

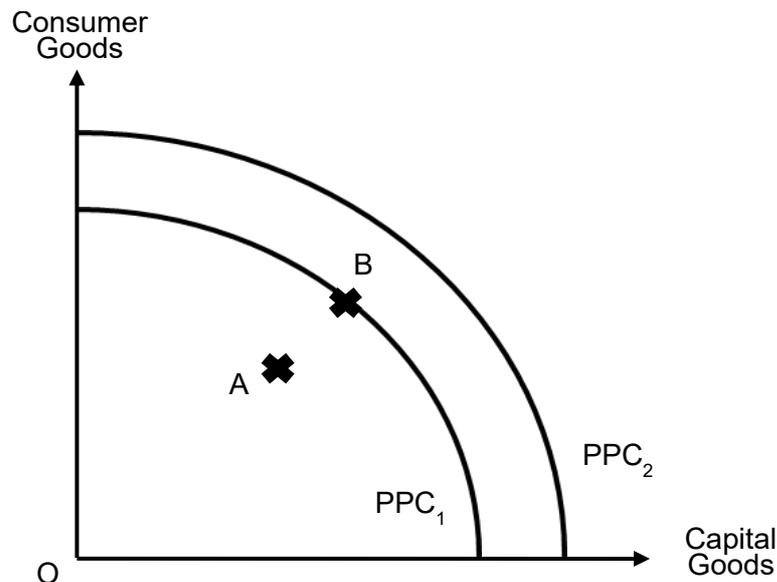
- Greater utilisation of resources [1] to meet the increase in investment and/or government expenditure as a result of hosting the Olympics [1]

**Another benefit of hosting the Olympics is potential growth [2]:**

- Increase in investment and/or government expenditure can increase productive capacity [1], such as infrastructure projects improving the quantity and/or quality of resources available in the economy [1]

**PPC to illustrate actual growth and potential growth [1]:**

- Actual growth: movement from Point A to Point B in Figure 1 (operating within the PPC to operating on the PPC)
- Potential growth: outward shift of the PPC from  $PPC_1$  to  $PPC_2$  in Figure 1



**Figure 1: Production Possibility Curve for Brazil**

\* Cap at 4 marks for explanations involving ONLY potential growth or ONLY actual growth. These answers needed to consider different factors for potential growth or actual growth in order to score 4 marks.

(d)	Assess how far the data provided suggests that hosting the 2020 Olympics will improve Japan's employment rate. [8]
-----	--

**Thesis: *The data suggests that hosting the 2020 Olympics can improve Japan's employment rate***

- More labour is demanded in the construction industry, a relatively labour-intensive industry, to support infrastructure projects ahead of the Olympics (Extract 8: "new stadiums, redeveloped urban areas and updated transport networks"), which results in a fall in demand-deficient unemployment
- Anticipated surge in tourist arrivals (Extract 8: "purpose-built hotels" and "tourism boost") may lead to firms hiring more factors of production and the derived demand for labour increases, reducing demand-deficient unemployment
- After winning the bid to host the 2020 Olympics, Japan's unemployment rate has decreased (Figure 2 shows a decline in unemployment rate since July 2014), which suggests that hosting the 2020 Olympics might have contributed to improving Japan's employment rate

**Anti-thesis 1: *The data suggest that hosting the 2020 Olympics does not improve Japan's employment rate***

- While tourism-related industries anticipate a surge in tourist arrivals, past experience might have dampened business confidence (Extract 8: "But the tourism boost that organisers hoped would follow failed to materialise, and the purpose-built hotels struggled to attract guests"), hence firms might refrain from hiring new labour on a permanent basis and instead rely on technology and/or temporary workers

**Anti-thesis 2: *The data is insufficient to conclude that hosting the 2020 Olympics can improve Japan's employment rate***

- While labour is needed in the construction industry to support infrastructure projects, the data does not provide information on the extent of impact on labour employment
  - The construction industry might be driven by new building technologies and the increase in labour employment might not be significant, and/or
  - The construction industry could be reliant on foreign labour instead of the local population
- The data provided does not indicate the extent of impact on permanent employment
  - While more workers might be temporarily hired before the Olympics to build infrastructure as well as during the Olympics to cope with the surge in tourist arrivals, higher unemployment results once the projects are completed and the subsequent contraction in economic activity after the Olympics
- While Figure 2 shows a fall in unemployment rate since July 2014, the data is insufficient to conclude if this was indeed due to hosting the 2020 Olympics or other factors, since no information is given about which industries had expanded and demanded more labour in this period

**Evaluative conclusion**

- **[Stand]** The data provided suggests that Japan’s employment rate might not improve from hosting the 2020 Olympics. The eventual impact depends on
- **[Situation]** The global economic situation plays a large part in determining the extent to which Japan’s employment rate can improve from hosting the Olympics as that would determine the extent of tourist arrivals, for example
- **[Magnitude]** extent to which Japan’s construction industry depends on local workers for the infrastructure projects

Level	Knowledge, Application/Understanding and Analysis	Marks
L2	For an answer that: <ul style="list-style-type: none"> <li>• Provides a rigorous analysis of the positive and negative effects of hosting the 2020 Olympics on Japan’s employment rate</li> <li>• Is well-supported with case material</li> </ul>	4-6
L1	For an answer that: <ul style="list-style-type: none"> <li>• Provides a limited analysis of the positive <u>or</u> negative effects of hosting the 2020 Olympics on Japan’s employment rate</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>• Identifies the positive <u>and</u> negative effects of hosting the 2020 Olympics on Japan’s employment rate with little/no economic analysis</li> <li>• Might or might not have used the case material</li> </ul>	1-3
Level	Evaluation	Marks
E	For a well-reasoned assessment of the extent to which the data provided suggests that Japan’s employment rate will improve from hosting the 2020 Olympics.	1-2

<b>(e)</b>	Discuss whether the decision made by the Bank of England's Monetary Policy Committee (Extract 9) is appropriate for the UK economy. [10]

<b>Command word/phrase</b>	Discuss...  Decision... Appropriate...	Present key points for both sides of the argument (for and against) in detail and come to a conclusion. There should be some evidence of balance, though not necessarily of equal weighting.  The appropriateness of an action would require an analysis of the context in which it is being implemented in in order to determine how the decision would interact with other factors in order to determine the overall impact.
<b>Content</b>	decision made by the Bank of England's Monetary Policy Committee (Extract 9)...	According to extract 9, England's Monetary Policy Committee has decided to raise interest rates. This is a contractionary (interest rate) monetary policy.
<b>Context</b>	UK economy	The UK economy is currently facing: <ul style="list-style-type: none"> <li>• Depreciation of the pound → inflation</li> <li>• Stagnant wage growth</li> <li>• Poor consumer confidence and retail sales</li> <li>• Stalled growth</li> </ul> <p>The UK economy is also expected to grow <b>IF</b> England plays well in the <b>upcoming</b> World Cup</p>

**Introduction**

- The Bank of England's Monetary Policy Committee opted to raise interest rate (Extract 9)
- Context: the UK economy was recovering from a time where "the wider economy stuttered and growth stalled" (Extract 9)

**Thesis: *The decision to raise interest rate can benefit the UK economy***

- Reduce demand-pull inflation: Higher interest rate increased the cost of borrowing, resulting in fall in consumption expenditure and investment expenditure, which leads to a fall in AD and reduces any demand-pull inflationary pressures that the recovering UK economy might be experiencing
- Reduce cost-push inflation: Higher interest rate could make the interest rates in the UK relatively higher than in other countries, resulting in greater hot money inflows and an appreciation of the UK pound as the demand for the UK pound increased. Appreciation helps to reduce imported inflation (Extract 9: "The pound dropped sharply, pushing inflation up." implies appreciation of the pound can reduce

inflation)

**Anti-thesis: *The decision to raise interest rate might have a negative impact on the UK economy***

- Recovery in the UK is potentially temporary (Extract 9: “when England play well in the World Cup, England supporters are happier and are more inclined to spend on non-essential items”)
  - In this case, consumption expenditure is a significant component of the UK’s AD (Extract 9: “Britain is generally a consumer powered economy, so when people are buying, growth accelerates.”) and the increase in interest rate was likely to have a significant contractionary impact
- The fall in AD could hamper the economy’s recovery and cause it to slip back into slow/negative growth and raise demand-deficient unemployment

**Evaluative conclusion**

- **[Stand]** Whether the decision to raise interest rate by the Bank of England’s Monetary Policy Committee is appropriate depends on the state of the UK economy.
- **[Situation + Magnitude]** Should the UK economy be operating near/at its productive capacity, the benefits of the Committee’s decision to raise interest rate (i.e. reduce inflationary pressures) would likely outweigh the costs of doing so (i.e. slow/negative growth and higher demand-deficient unemployment), and hence the decision would be appropriate.
- **[Situation + Time frame]** Given the broader economic context of Britain’s exit from the European Union (“Brexit”), however, the UK economy’s long-term economic outlook is likely to be pessimistic and the optimism that followed sporting excellence at the World Cup could be short-lived. As such, the decision to raise interest rate might not be appropriate as it could cause the economy to slip back into a period of weak/negative economic growth, higher demand-deficient unemployment and possibly deflation.

Level	Knowledge, Application/Understanding and Analysis	Marks
L2	For an answer that: <ul style="list-style-type: none"> <li>• Provides a rigorous analysis of the positive and negative effects of higher interest rate on the UK economy</li> <li>• Is well-supported with case material</li> </ul>	5-7
L1	For an answer that: <ul style="list-style-type: none"> <li>• Provides a limited analysis of the positive <u>or</u> negative effects of higher interest rate on the UK economy</li> <li><b>OR</b></li> <li>• Identifies of the positive <u>and</u> negative effects of higher interest rate on the UK economy with little/no economic analysis</li> <li>• Might or might not have used the case material</li> </ul>	1-4

<b>Level</b>	<b>Evaluation</b>	<b>Marks</b>
E	For a well-reasoned assessment of the extent to the decision to raise interest rate is appropriate for the UK economy.	1-3

**H2 Essays (9757/2)**

- 1 (a) Explain why prices of the same soft drinks are usually higher in tourist attractions than in neighbourhood grocery stores. [10]
- (b) Some governments are imposing a tax on soft drinks. At the same time, tourist attractions have announced an increase in the entrance fees. Discuss the impact of these events on consumers and producers of soft drinks. [15]

Part (a)

Question Interpretation

<b>Command word/phrase</b>	<i>Explain why</i>	This is a cause-and-effect question, with the effect given and students are required to explain the cause.
<b>Content</b>	<i>Price...higher in... than...</i>	Determined by difference in the level of demand and supply in different contexts, or price setting abilities of the firm(s).
<b>Context</b>	<i>Soft drinks.</i>	This is a necessity, but not without substitutes. (e.g. coffee, tea, mineral water).
	<i>Tourist attractions.</i>	Location tends to be more exclusive with a small number of sellers of a certain product e.g. soft drinks. Tourists have less alternatives to turn to.
	<i>Neighbourhood grocery stores.</i>	Location tends to be open access and offers a larger number of sellers of similar products e.g. soft drinks. Residents / visitors have more alternative to turn to.

Suggested Answer

**Introduction**

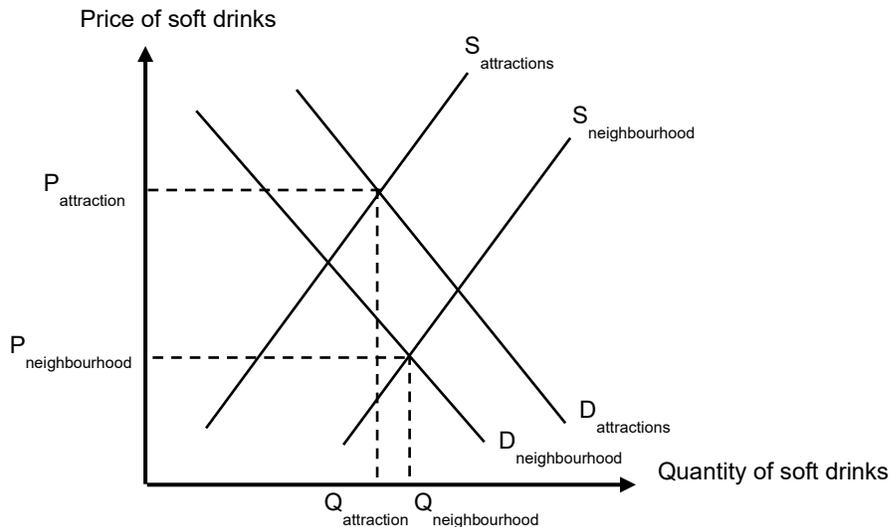
- Prices are determined by the interaction of demand and supply. Soft drink prices are typically higher in tourist attractions than in neighbourhood grocery stores. Differences in the price of soft drinks sold at tourist attractions and neighbourhood grocery stores could be due to differences in demand and supply conditions.

*Setting the context and theoretical framework.*

**Main Body 1 – The price of soft drinks differ in tourist attractions and neighbourhood grocery stores due to demand factors**

- Demand is typically higher in tourist attractions (especially those that are very popular, e.g. RWS) compared to neighbourhood grocery stores. ( $D_{\text{attractions}}$  is higher than  $D_{\text{neighbourhood}}$  in Fig 1). This is due to a higher human traffic flow in tourist attractions compared to neighbourhood grocery stores. It might also be the case that visitors to tourist attractions have higher

*Just one of the factors affecting the level of demand will do.*



**Figure 1: Soft drinks market**

income than average. The ability of tourists to pay for soft drinks is thus generally higher. This causes the demand for soft drinks to be higher in tourist attractions compared to that in neighbourhood grocery stores.

**Main Body 2 – The price of soft drinks differ in tourist attractions and neighbourhood grocery stores because of different supply conditions**

- Supply is typically lower in tourists spots compared to neighbourhood grocery stores. ( $S_{\text{attractions}}$  vs  $S_{\text{neighbourhood}}$  in Fig. 1). This is because some tourist attractions are located far away and can be relatively inaccessible (e.g. mountain resorts), while neighbourhood grocery stores are usually situated along or in nodes of supply chains. Supply is possibly lower in tourist attractions due to it being more difficult to obtain the licence to sell soft drinks in tourist attractions compared to selling soft drinks in a neighbourhood grocery store. In addition, there could be higher cost of production from higher delivery costs to bring soft drinks into tourist attractions (e.g. delivery vehicles need to pay the entrance fee in order to enter Sentosa to deliver soft drinks to RWS).

*Just one of the factors affecting level of supply will do.*

*Providing factors*

**Main Body 3 – PED**

- Also, the demand for soft drinks is likely to be relatively price inelastic in tourist attractions and relatively price elastic in neighbourhood grocery stores. This is because while tourists have fewer alternatives to turn to if soft drink prices are higher in tourist attractions, those who visit neighbourhood grocery stores could always choose to purchase from other firms (e.g. hawker centre, coffee shops, vending machines). Due to the relatively small number of substitutes for soft drinks in tourist attractions, sellers of soft drinks in tourist attractions have higher price-setting abilities compared to the neighbourhood grocery stores.
- Setting a higher price results in a less than proportionate fall in quantity demanded for sellers of soft drinks in tourist attractions since demand is relatively price inelastic. This allows them to earn higher total revenue.
- On the other hand, sellers in neighbourhood grocery stores would experience a more than proportionately increase in quantity demanded should they set a lower price given that demand is relatively price elastic. This allows them to earn higher total revenue.
- Given that the aim of the sellers of soft drinks is to maximise profit, those in tourist attractions would sell soft drinks at a relatively higher price while those in neighbourhood grocery stores would set a relatively lower price.

**Conclusion – bringing demand and supply conditions together**

- As a result of higher demand and lower PED, as well as lower supply in tourist attraction compared to neighbourhood shops, the equilibrium price of drinks in tourist attractions is likely to be higher than in neighbourhood stores. ( $P_{\text{attractions}}$  vs  $P_{\text{neighbourhood}}$  in Fig. 1).

*determining PED.*

*Explaining the  
different price-  
setting decisions.*

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	<p>For a well-developed essay that</p> <ul style="list-style-type: none"> <li>• compares the levels of demand and supply as well as the PED between the two soft drinks markets to arrive at a logical conclusion of the price of soft drinks sold at tourist attractions being higher than those in neighbourhood grocery stores; and</li> <li>• has sufficient scope by considering the price-setting ability of the sellers in different drinks markets.</li> </ul>	8 – 10
L2	<p>For an underdeveloped essay that</p> <ul style="list-style-type: none"> <li>• uses the economic framework of demand and supply to analyse differences in price between the two soft drinks markets, but with gaps in rigour; and/or</li> <li>• lacks scope when considering demand and supply factors.</li> </ul>	5 – 7
L1	<p>For an undeveloped essay that</p> <ul style="list-style-type: none"> <li>• fails to analyse the differences in prices effectively using economic logic and framework; and/or</li> <li>• states the differences in demand and supply conditions, but do not go on to justify or explain the reason for the differences; and/or</li> <li>• misinterpreted the question and went on to purely analyse why there could be changes in prices of soft drinks in each market; and/or</li> <li>• is severely lacking in scope, with limited factors that account for the difference in price.</li> </ul>	1 – 4

Part (b)

Question Interpretation

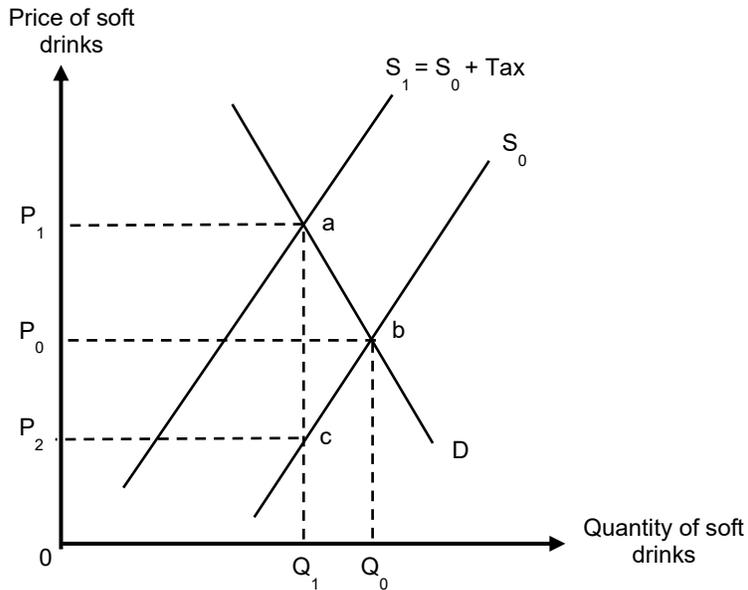
<b>Command word/phrase</b>	<i>Discuss the impact</i>	Various perspectives, outcomes (positive and negative) to be considered.
<b>Content</b>	<i>Impact on consumers and producers of soft drinks</i>	Impact on consumers is assessed by total expenditure, given by the price they pay for each unit of good multiplied by the quantity bought.  Impact on producers is assessed by total revenue, given by the amount that producers receive for each unit of good sold (net of any tax payments) multiplied by the quantity sold.
<b>Context</b>	<i>Tax on soft drinks. Tourist attractions increasing entry prices</i>	Increased cost of production for producers → supply falls.  Tourist attraction tickets are strong complements to soft drinks sold at tourist attractions since the demand for soft drinks is contingent on visitors entering the tourist attraction. Increase in entrance fees → DD for soft drinks fall more than proportionately.

Suggested Answer

**Introduction**

- The events that might affect consumer expenditure and producer revenue are increases in tourist attraction prices and taxes on soft drinks. Total consumers' expenditure is given by the price paid for each unit of soft drinks multiplied by the quantity bought. Producers' revenue is derived by total revenue, given by the amount that producers receive for each unit of soft drinks sold (net of any tax payments) multiplied by the quantity sold.

*Establishing the framework for analysing CE and PR.*



**Figure 2: Impact of tax imposed on soft drinks market**

**Main Body 1 – Impact of tax**

- Tax on soft drinks increase cost of production for producers. Supply falls from  $S_0$  to  $S_1$  (Fig. 2)
- With an increase in price from  $P_0$  to  $P_1$  as a result of the tax, quantity demanded falls less than proportionately (from  $Q_0$  to  $Q_1$ ). (As argued in part (a), demand for soft drinks is likely be price inelastic in tourist attractions). Increase in consumers expenditure due to price increase outweighs the decrease due to fall in quantity demanded. **Hence, consumers expenditure on soft drinks increase from  $P_0bQ_0$  to  $P_1aQ_1$ .**
- However for the producers, they have to pay a tax of  $P_1 - P_2$  on each unit of soft drink sold. Hence, the post-tax revenue is  $P_2cQ_1$ , which was lower than the initial amount they received before tax ( $P_0bQ_0$ ). **Hence, producer revenue on soft drinks falls.**

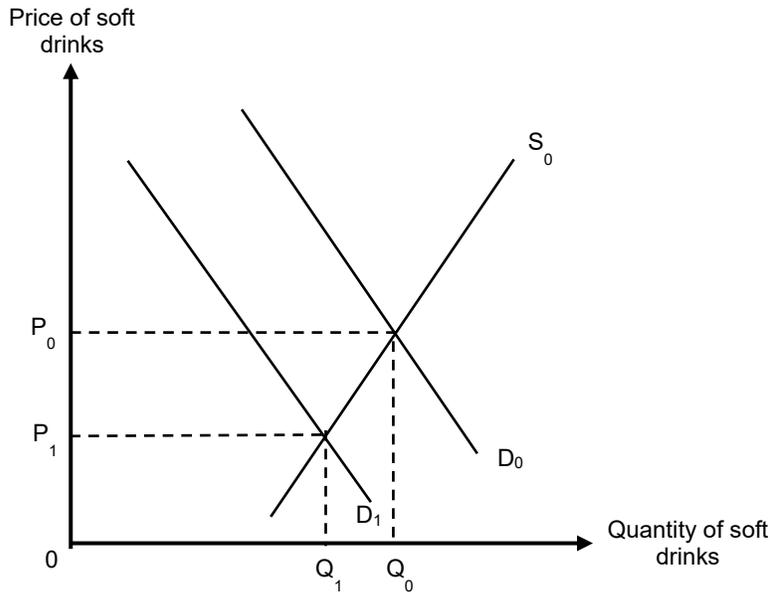
*Impact on consumer expenditure*

*Impact on producer revenue.*

**Main Body 2 – Impact of increase in tourist attraction entrance fees**

- Tourist attractions and soft drinks are strong complementary goods. When visiting tourist attractions, tourists are likely to buy soft drinks to quench their thirsts in the outdoor attractions. **The cross price elasticity of demand (XED) is therefore a negative one, and likely to be larger than one.** XED is defined as the percentage change in demand of a good in response to a change in the price of a related good, ceteris paribus.
- When price of tourist attractions increase, demand for soft drinks may fall from  $D_0$  to  $D_1$  (Fig. 3). As a result, equilibrium price falls from  $P_0$  to  $P_1$ , and equilibrium quantity falls from  $Q_0$  to  $Q_1$  (Fig. 3). **Consumption expenditure and producer revenue both fall from  $(P_0 \times Q_0)$  to  $(P_1 \times Q_1)$ .**

*Establishing relationship between entrance fees and soft drinks.*



**Figure 3: Impact of increasing entrance fees on soft drinks market**

**Evaluative Conclusion**

- **[Stand]** As a result of the imposition of tax and rise in tourist attraction entrance fees, producer revenue is likely to fall. Change in consumer expenditure depends on whether the rise in consumer expenditure due to tax outweighs the effect of fall in expenditure due to more expensive entrance fees.
- **[Magnitude]** However, the fall in soft drink revenue for will likely be more serious for soft drinks sold within the tourist attractions.
  - For the soft drinks sold outside the tourist attractions the XED value is likely to be very small, as few are willing consumers would buy drinks from outside the tourist attractions, given that some tourist attractions impose restrictions on bring food and drinks from outside the attractions.
  - As such, the fall in producer revenue will be less for soft drinks sold outside the attractions, as the fall in their revenue are mainly only affected by the taxes.
- **[Magnitude]** In tourist attractions, due to the strong negative XED between entrance fees and soft drinks, the magnitude of fall in consumer expenditure is likely to overcome the rise in consumer expenditure due to tax, resulting in an overall fall in consumer expenditure.
  - In non-tourist attractions, consumer expenditure is likely to fall as well. Consumers of soft drinks in non-tourist attractions are not very affected by the rise in tourist attraction prices, and given the substitutes available, they have a demand that is price elastic. Hence the tax will cause a more than proportionate fall in quantity demanded and a fall in consumer expenditure.

*Establishing the confirmed effect on PR, and uncertain effect on CE.*

*2 of the following ATMS angles would suffice.*

- **[Assumption]** The above analysis assumes a competitive market. However, the soft drink market is one that is dominated by a few large firms (e.g. F&N, Pokka). To maintain price competitiveness to retain their market share, the firms may choose to absorb the tax and maintain relative prices of the soft drinks. If this is the case, then in markets both inside and outside tourist attractions, consumer expenditure will fall simply due to the effect of a rise in entrance fees.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed essay that <ul style="list-style-type: none"> <li>• analyses the impact of <b>both</b> events on <b>both</b> consumer expenditure and producer revenue.</li> </ul>	8 – 10
L2	For an underdeveloped essay that <ul style="list-style-type: none"> <li>• lacks scope due to a lack of analysis on either the producer, the consumer or both parties; and/or</li> <li>• lacks scope due to a lack of analysis on their the tax or the tourist attraction price increase; and/or</li> <li>• may contain illogical links in analyses, or conceptual errors.</li> </ul>	5 – 7
L1	For undeveloped answers that <ul style="list-style-type: none"> <li>• are not answering the question, superficial and descriptive, or contains multiple areas of conceptual error.</li> </ul>	1 – 4
<b>Evaluation</b>		
E3	For evaluative comments that provide substantiated evaluative outcomes on <b>both</b> consumer expenditure <b>and</b> producer revenue, based on different situations or assumptions.	4 – 5
E2	For evaluative comments that provide some substantiated evaluative outcomes on consumer expenditure <u>or</u> producer revenue with some consideration of different situations/assumptions.	2 – 3
E1	For unsubstantiated evaluative comments.	1

**2** In April 2018, as part of an escalating trade war, China imposed tariffs (ranging from 15-25%) on 128 US products (worth US\$3 billion) including fruit, wine, seamless steel pipes, pork and recycled aluminium in retaliation to the US steel and aluminium tariffs on Chinese imports into the USA.

Discuss the potential impact of the US-China trade war on different types of firms in the US. [25]

Question Interpretation

<b>Command word/phrase</b>	<i>Discuss</i>	This is a cause-and-effect question but with a requirement for a balance of effects to be presented (i.e. positive and negative effects).
<b>Content</b>	<i>US-China trade war</i>  <i>impact .... on different types of firms</i>	This is the 'cause' and it encompasses both US tariffs on Chinese firms and retaliatory tariffs by China on US firms.  The key 'effect' is the impact on firms in terms of profits. Profits = Total Revenue – Total Costs. Can also consider firm's ability to survive the crisis (whether it might have to shut down)
<b>Context</b>	"firms in the US"	Tap on the preamble to come up with different examples of US firms!

Suggested Answer

**Introduction**

- The US-China trade war encompasses the use of protectionist measures like tariffs by both US and China against each other's goods.
- The impact that the US-China trade war has on different types of firms in the US will depend on the whether it is an **exporter of goods to China**, an **importer of goods from China** or a **firm which produces substitutes of goods from China**. It is also possible to differentiate in terms of small and large firms, domestically-oriented firms and export-oriented firms, as well as the nature of the product that the firm sells.

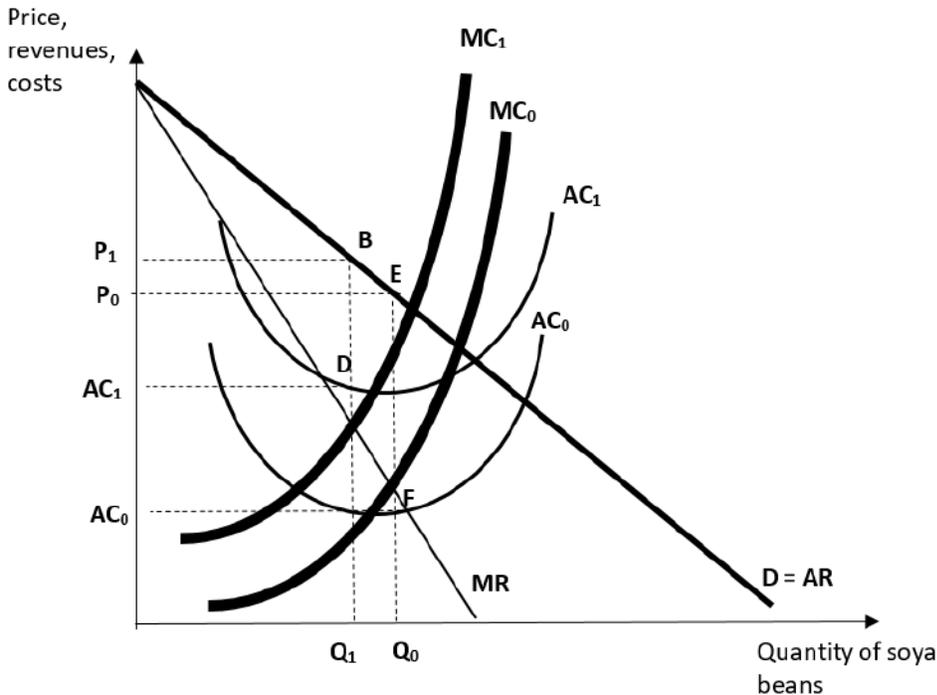
**Body 1: Impact of trade war on US firms which export goods to China**

- Firstly, with the US-China trade war, US firms which export goods to China (e.g. US farmers who sell fruits, wine and soya beans to China) would face tariffs imposed on their goods that enter China. These tariffs would add on to their costs of production and would raise their average costs. The AC curve of such a firm would shift up from  $AC_0$  to  $AC_1$  and its MC would shift up from  $MC_0$  to  $MC_1$ .

*Outline what constitutes a trade war*

*Outline the types of firms to be analysed*

*Many students modelled this as a fall in demand instead of a rise in costs leading to a fall in quantity demanded. To*



**Figure 4: Impact of increasing costs of production on US firm**

- Originally, the output of the firm was at  $Q_0$  where  $MC_0 = MR$  and the price was at  $P_0$ . The supernormal profit of the firm was represented by the area  $P_0EFAC_0$ . However, after the increase in the AC, the output of the firm is at  $Q_1$  and the price is at  $P_1$ . The supernormal profit of the firm has decreased and is now represented by the area  $P_1BDAC_1$ .
- **[Alternative + Magnitude]** However, the extent of this negative impact on the profits of the firm might not be so significant if these US firms take steps to diversify their markets. If successful, the demand for their products might not fall that significantly and their revenues and profits might only see a slight drop.
  - For example, US soya bean producers are currently trying to sell more of their products to other markets such as the European Union, Middle East and North Africa.
  - Furthermore, they are also trying to develop domestic demand by producing new varieties that are suitable for domestic use.
  - Another strategy that some of these firms are considering is to switch to producing another crop instead, like corn.

*figure out why AC and MC increases, go back to your DD/SS basics – a tax would cause supply to shift, not demand!*

*Notice how there is a chance for intermediate evaluation here? Basically, we are questioning whether profits will really fall!*

**Body 2: Impact of trade war on US firms which import factors of**

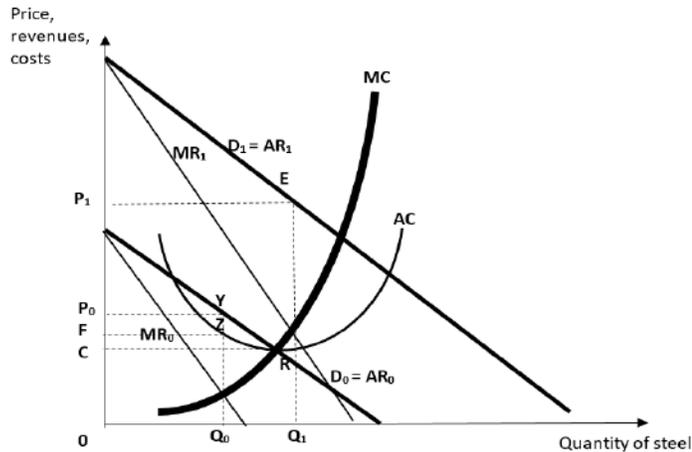
***production from China***

- Similar to US firms which export goods to China, US firms who import factors of production from China would also face a similar rise in their average costs. This is because these US firms would face tariffs imposed on their products by the US government. These tariffs would similarly add on to their costs of production, raise their average costs and reduce their profits, with the diagrammatic analysis similar to Figure 4 above.
  - For example, many of the US automakers who import steel and aluminium from China face a rise in the cost of their factor inputs.
- **[Alternative + Magnitude]** In order to reduce the negative impacts of these tariffs, US firms can try to source for cheaper domestically produced substitutes for these factor inputs or to find substitutes from countries outside of China. They could also try to slash costs via other ways such as to increase efficiency of their production via R&D. If successful, all these would help to offset some of the rise in their AC and the fall in profits would not be so drastic.
- **[Alternative + Magnitude]** How much of the tariffs these firms need to absorb may also depend on how they are able to pass on the higher prices to US consumers.
  - Passing a substantial portion of the tariff cost to consumers might be difficult for auto firms given that the demand for cars from a particular brand like Ford, tends to be quite price elastic as there are many close substitutes of cars from other well-known brands like Toyota.
  - When price increases, quantity demanded for its cars falls by more than proportionately, causing total revenue to fall.

*Once again, ATMS is used here to question whether profits will really fall.*

***Body 3: Impact of trade war on US firms which produce substitutes of factor inputs from China***

- Next, domestic producers who produce substitutes of factor inputs from China might gain. When the price of steel from China rises due to the imposition of tariffs by the US, quantity demanded for Chinese steel in the US drops.
- As steel from China and steel made in the US are goods in competitive demand with a positive XED value, this will cause US firms that use such steel in their production processes to switch to using US steel instead. The demand for US steel produced by a US steel firm will increase and the demand curve for its product will shift to the right from  $D_0 = D_1$



**Figure 5: Impact of increasing revenue on US firm**

- Originally, the output of the firm was at  $Q_0$  where  $MC = MR_0$  and the price was at  $P_0$ . The supernormal profit of the firm was represented by the area  $P_0YZF$ . However, after the increase in the demand, the output of the firm is at  $Q_1$  and the price is at  $P_1$ . The supernormal profit of the firm has increased and is now represented by the larger area of  $P_1ERC$ .

**Body 4: Impact of the trade war would differ based on the size of firms**

- Given that many US firms will be facing a fall in their profits during the US-China trade war, how well they can survive also depends on the size of the firm and the nature of the industry that they belong to.
- Big firms, which tend to be oligopolistic firms and monopolies, survive better than smaller ones during times of recession because they are able to earn supernormal profits even in the long run. Firms which belong to an oligopolistic or monopolistic market structure are able to accumulate supernormal profits and can use these reserves to cushion the fall in revenue during a recession, making them less likely to shut down during the trade war as compared to monopolistically competitive firms.
  - They are able to earn supernormal profits even in the long run because in oligopolies, there are high barriers to entry that prevents the entry of new firms which might have been attracted to the supernormal profits that firms earn in the industry. With excess profits from previous years acting as a buffer, the firm may not earn subnormal profits and therefore is able to better survive the trade war. For example, the large US auto firms like Ford and General Motors have been enjoying high profits for years before Trump's trade war and are unlikely to shut down despite their profits being squeezed.
  - On the other hand, smaller firms (e.g fruit/pork sellers) that are more monopolistically competitive in nature would earn normal profits in the long run. When tariffs are applied to their exports, they might end up earning subnormal profits and shutting down.

*Note that Body paragraphs 1-3 would give you excellent scope already and Body 4 and 5 are different extensions to the firm analysis that you can consider. However, to get a mid L3, Body 1-3 would suffice!*

**Body 5: Impact of the trade war would differ based on YED of the firms**

- It is very possible that this trade war leads to a recession in the US. This is because, as prices of US products increase in China, assuming demand for US exports is price elastic, quantity demanded for them will fall by more than proportionately and the export revenue of the US will fall. (X-M) falls, AD decreases and there will be a multiple fall in real national income via the reverse multiplier effect, resulting in a recession in the US.
- There could be a similar recession sparked in China due to the trade war as well as the trading partners of these countries due to the beggar-thy-neighbor effect. This could very well mean a global recession. **The effect of this recession induced by the trade war would have varying effects on different US firms, depending on the type of products that they sell.**
  - For example, firms that sell luxury goods like luxury watches would have a large and positive YED value and would notice a more than proportionate fall in the demand for their products, causing the demand curve for their goods to shift significantly towards the left and therefore their revenues and thus, profits to be reduced to a relatively large extent.
  - On the other hand, firms that sell necessities like bread, would have a smaller and positive YED value, and would notice a less than proportionate fall in the demand for bread, causing their revenues and profits to fall, but by a relatively smaller extent as compared to firms which sell luxury goods.
  - Finally, firms that sell inferior goods that sell basic models of mobile phones, would have a negative YED value, and might see the demand for their goods and therefore their revenues and profits to rise instead.

**Evaluative Conclusion**

- **[Stand]** Generally, the impact of the US-China trade war on firms in the US would be negative for most firms, with the exception of US substitutes to China's imports.
  - **[Magnitude]** For example, even though it is possible for US soya bean exporters to use different strategies to limit a fall in its demand, it would be difficult to completely negate the effect of the large fall in profits by selling less to China, which has been a major buyer for many years. According to an article from the Wall Street Journal, in 2017, China bought 57% of all U.S. soybeans that were exported, more than eight times the total sold to Mexico, the next-biggest buyer by quantity.

*A reasoned stand plus 2 of the following ATMS angles would suffice.*

*If you are able to quote facts such as those underlined, great! But don't worry too much if you don't have such general knowledge 😊*

- **[Time Frame]** Furthermore, even though it was mentioned that domestic steel producers would benefit in terms of revenues and profits, a protracted trade war, which might even extend beyond the time that President Trump is in office, could mean that the global economy, including the US enters a recession. This could cause a sharp fall in the derived demand for steel when incomes fall.
  - Even for the large firms that have large accumulated profits to cushion their losses, a recession would result in their reserves eventually run out and such firms might eventually have to shut down.
- **[Assumption]** However, in this essay, we have assumed so far that the US-China trade war would not be resolved. If resolved via a trade treaty where China removes its tariffs on US exports, it is highly possible that the various firms in the US would benefit significantly instead as their exports to China become more competitive as compared to before.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that: <ul style="list-style-type: none"> <li>• contains rigorous explanations of the impacts on US exporters to China, US importers of goods from China as well as US producers of domestic substitutes of goods from China); and</li> <li>• shows balance with consideration of both the positive and negative impacts of the trade war on different types of firms.</li> </ul>	15 – 20
L2	For an under-developed answer that: <ul style="list-style-type: none"> <li>• has insufficient scope in answer (did not address impacts on US exporters to China, US importers of goods from China as well as US producers of domestic substitutes of goods from China); and/or</li> <li>• shows a lack of balance (e.g. only negative impacts analysed; and/or</li> <li>• has insufficient rigour in answer</li> </ul>	9 – 14
L1	For an undeveloped answer that is very limited in scope and has serious conceptual errors and gaps in explanations.	1 – 8
<b>Evaluation</b>		
E3	For an answer that uses competent economic analysis to support an evaluative judgement on the impact of the US-China trade war on different types of US firms	4 – 5
E2	For an answer with some economic analysis (either incomplete or with some inaccuracies) to support an evaluative judgement on the impact of the US-China trade war on different types of firms in the US	2 – 3
E1	For an answer that provides an unsupported evaluative statement on the impact of the US-China trade war on different types of firms in the US	1

- 3** Current global policies on e-cigarettes (which mimic smoking by delivering nicotine without the harmful effects of cigarette’s tar) range from outright prohibition in Singapore, to largely unregulated market access in the USA. Supporters of e-cigarettes believe they are less harmful than traditional cigarettes and help cigarette users kick the habit. Health lobbyists, meanwhile, argue that the health effects of e-cigarettes are still unclear.
- (a) Explain why the Singapore government chose to ban e-cigarettes. [10]
- (b) Discuss the factors that might have led to governments’ differing approaches in intervening in the market for e-cigarettes. [15]

Part (a)

Question Interpretation

<b>Command word/phrase</b>	<i>Explain why</i>	To give a thorough explanation on why the market failed in the case of e-cigarettes
<b>Content</b>	<i>ban</i>	Demerit good, negative externalities and imperfect information Show how ban works
<b>Context</b>	<i>e-cigarettes</i>	Contextualise to the e-cigarettes market

Suggested Answer

**Introduction**

- E-cigarettes are deemed a demerit good in Singapore, considered by the government to be socially undesirable and will be overconsumed if left to the free market. The two sources of market failure in e-cigarettes are negative externalities and imperfect information. The Singapore government has deemed it necessary to ban the good due to the large extent of negative externalities and/or imperfect information.

*Define demerit good and explain essay approach*

**Body 1: Contextualise market failure in e-cigarettes using PET**

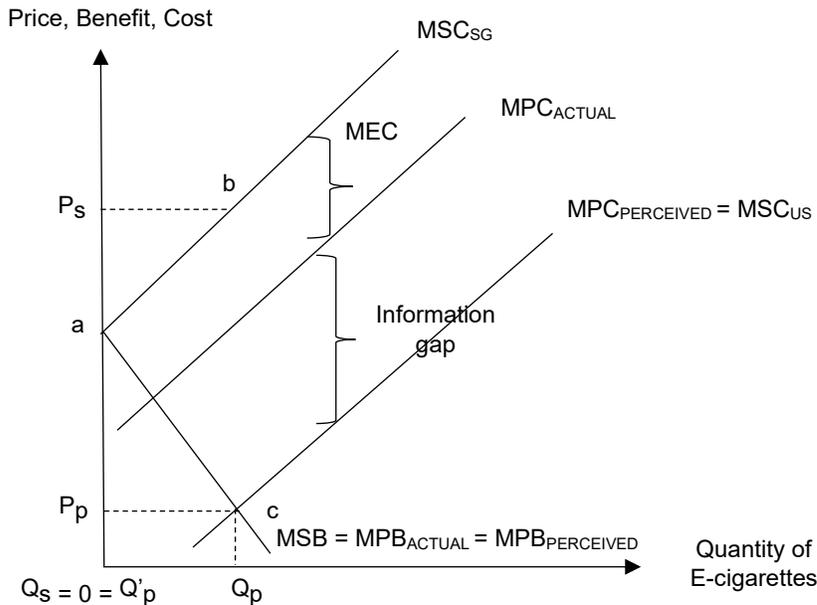
- <P: Private Benefits/Costs>** When consuming e-cigarettes, consumers consider only their own private benefits, such as the satisfaction derived from inhaling nicotine, and private costs, such as the cost of the e-cigarettes as well as healthcare costs associated with the activity.
- <E: Externalities>** Negative externalities refer to external costs incurred by third parties arising from consumption of e-cigarettes including the lower productivity from health-related issues, affecting the productivity and revenue of third parties not directly involved in the economic transaction, **<T: Third Parties>** such as fellow workers and employers.
- In addition, information failure results from myopic decision-making on the part of e-cigarette smokers, who tend to underestimate or ignore the full private costs, including long-term health risks such as developing lung

*Contextualise private benefits and costs as well as externalities and third parties for the e-cigarette market*

*Contextualise information failure to e-cigarette market*

cancer.

**Body 2: Compare private and social optimal outcomes in market for e-**



**Figure 6: Market failure in e-cigarettes with ban imposed**

**cigarettes using DQQD**

- **<D: Divergence>** In Figure 4, the existence of negative externalities creates a divergence between the Marginal Private Costs (MPC) and the Marginal Social Costs of Singapore ( $MSC_{SG}$ ). As consumers also underestimate the full private costs of e-cigarettes, they perceive the MPC to be lower than what it actually is. Diagrammatically, the  $MSC_{SG}$  curve lies above the  $MPC_{ACTUAL}$  by the amount of the Marginal External Costs (MEC), and the  $MPC_{ACTUAL}$  curve lies above the  $MPC_{PERCEIVED}$  curve by the extent of the information gap. Assuming that there are no positive externalities, Marginal Private Benefits (MPB) = Marginal Social Benefits (MSB).
- **<Qp: Private quantity>** Left to the free market, the consumers consume  $Q_p$  units of the e-cigarettes, where  $MPB_{PERCEIVED} = MPC_{PERCEIVED}$ , as they only consider their perceived private costs and benefits.
- **<Qs: Socially Optimal Quantity>** However, the social optimal level of consumption is  $Q_s$  units, where  $MSB = MSC_{SG}$ . Since  $Q_p > Q_s$ , there is an overconsumption of E-cigarettes.
- **<D: Deadweight Loss>** At  $Q_p$ ,  $MSC_{SG} > MSB$ . The additional unit of E-cigarettes consumed adds more to society's costs than to society's benefits. From  $Q_p$  to  $Q_s$  units, the total social costs (area  $Q_sabQ_p$ ) exceeds the total social benefits (area  $Q_sacQ_p$ ). The shaded area  $abc$  represents the deadweight loss which is the reduction of net benefits to society when E-cigarettes are not consumed at the social optimal level. The price mechanism fails to bring about a socially optimal allocation of resources and the market fails.

Draw and label diagram accurately. To save time, the same diagram is also used for Part (b).

Explain how deadweight loss arises from market failure in the e-cigarette market

**Body 3: Explain how ban works and why the Singapore government banned e-cigarettes**

- A ban can be seen as a quota where the output is set at zero. The imposition of a ban is socially optimal when the divergence between MSC and MPC<sub>perceived</sub> is very large such that MSB intersects MSC where the social optimal quantity is zero. This is why the Singapore government deemed it necessary to ban e-cigarettes, resulting in  $Q^p=0$ , so as to remove the deadweight loss and achieve allocative efficiency.

*Answer the question on why the Singapore government chose to ban e-cigarettes*

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that: <ul style="list-style-type: none"> <li>• provides a clear and developed explanation of how the market for e-cigarettes can fail (negative externalities and imperfect information); and</li> <li>• explains how a ban works to solve the market failure.</li> </ul>	8 – 10
L2	For an under-developed explanation that: <ul style="list-style-type: none"> <li>• explains the market failure due to only either negative externalities or imperfect information; and/or</li> <li>• does not include explanation of how the ban works; and/or</li> <li>• contains multiple gaps in conceptual accuracy or rigour.</li> </ul>	5 – 7
L1	For an undeveloped answer that is generally descriptive in nature, has serious misconceptions or with limited reference to any economic framework.	1 – 4

Part (b)

Question Interpretation

<b>Command word/phrase</b>	<i>Discuss</i>	To present arguments in detail and come to a conclusion
<b>Content</b>	<i>Factors Governments' differing approaches</i>	Cost, benefits, information, constraints, perspectives (DM Framework)  Ban vs Unregulated market
<b>Context</b>	<i>e-cigarette market</i>	Both e-cigarette and traditional cigarette market are relevant

Suggested Answer

**Introduction**

- As explained in part (a), the Singapore government has chosen to ban e-cigarettes. On the other hand, the US government has left the market largely unregulated. This essay discusses the factors that could explain these two vastly differing approaches, using the Decision-making Framework.

*Make links to part(a), reference the preamble and state the approach.*

**Body 1: Differing views on costs of e-cigarettes**

- The first factor that might have led to the governments' differing approaches could be their differing views on the costs of e-cigarettes. As shown in Figure 6, the Singapore government's view is that e-cigarettes exert a very high cost on society, and the divergence between MPC and  $MSC_{SG}$  is so large that the socially optimal quantity is one that is close to or at zero, thus justifying an outright ban on the market.
- The US government, meanwhile, may consider the MPC to be equal to the  $MSC_{US}$  (or have negligible divergence) due to a perceived lack of negative externality and information failure, so that the private quantity is the same or close to the socially optimal outcome. This results in USA's decision to keep the market largely unregulated. Intervening would result in more cost to society in the form of higher deadweight loss than not intervening at all.

*Use DM Framework, and always include Costs and Benefits as main factors to differentiate policies.*

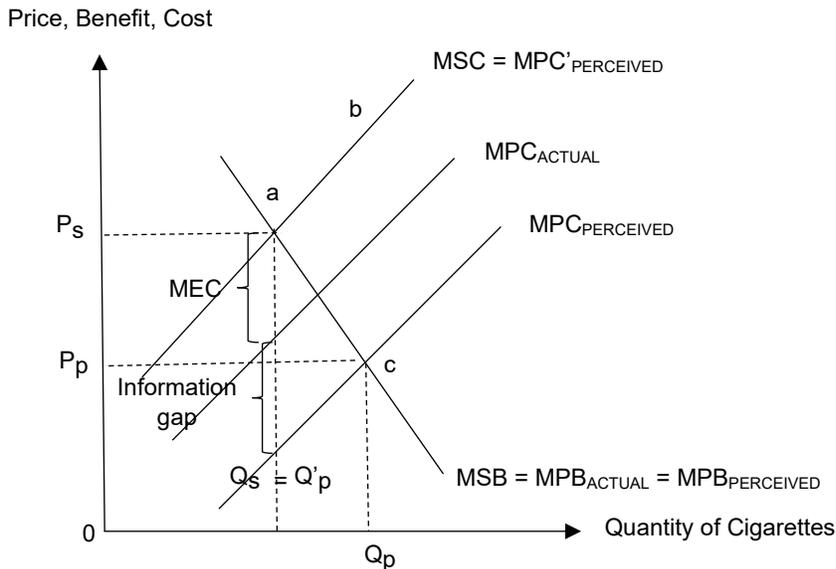
**Body 2: Differing views on benefits of e-cigarettes**

- The two governments may also have very different views on the benefits of e-cigarettes. The US government may consider e-cigarettes to not only be harmless, but useful in the fight against smoking. Concerned about market failure in the traditional cigarette market, it may be encouraging e-cigarettes as an alternative to cigarettes. Healthcare providers have touted e-cigarettes as an effective way of helping smokers quit their habit. By making e-cigarettes an attractive alternative to cigarettes, this increases the opportunity cost of smoking traditional cigarettes, thus shifting the

*Consider how e-cigarettes affect the market failure in the traditional cigarette market.*

$MPC_{PERCEIVED}$  to  $MPC'_{PERCEIVED}$  in the market for cigarettes, towards the MSC, achieving socially optimal outcome, as shown in Figure 7.

- In contrast, Singapore might view any benefits in the cigarette market to be minimal. This is because high taxes already being levied on the market for cigarettes, the MPC in Singapore is much closer to MSC, minimising the deadweight loss in the cigarette market for Singapore.



**Figure 7: Increasing opportunity cost in the cigarette market**

### Body 3: Differing levels of constraints

- Singapore faces little constraints in implementing a ban as it has an effective regulatory and monitoring system to ensure compliance and to prevent black market activities. The society is also generally compliant and less likely to view the ban as a challenge to their right to consume e-cigarettes. The number of people affected by the ban is also smaller as e-cigarettes have not taken off yet in Singapore, making it easier to ban the good.
- The US government meanwhile, may find it harder to implement a ban even if they consider e-cigarettes to be harmful as the country is much bigger with more porous borders, increasing the likelihood of smuggling and black market activities. The number of people affected may be large and this move could be politically unpopular. Moreover, a ban entails high monitoring costs which might stretch policing resources in the US, which already faces huge budgetary constraints.

*Explain a third factor that governments might have considered.*

*Some students considered the implementation costs of the policies instead and this was accepted as well.*

**Evaluative Conclusion**

- **[Stand]** In making the decision on e-cigarette market intervention, governments will weigh factors such as costs, benefits, constraints and information.
- **[Magnitude]** The most important factor leading to the government's differing approaches is likely to be the constraints. If a government faces funding limitations that impede its ability to administer a ban, it is unlikely to do so even if it deems e-cigarettes to be harmful.
- **[Time Frame]** Factors that government consider most important will change with time as more information becomes available. Perspectives of economic agents especially users will become more important to governments as they take into account new information on benefits of e-cigarettes and consider the likelihood of government failure.

*Cheat code: This stand can be used for questions on Factors to consider when making decisions*

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that: <ul style="list-style-type: none"> <li>• provides a rigorous and balanced analysis that demonstrate understanding of factors that might have led to governments' differing approaches in intervening in the market for e-cigarettes, using the DM Framework; and</li> <li>• includes relevant real-world examples of policies throughout the essay to effectively support the analysis.</li> </ul>	8 – 10
L2	For an under-developed answer that: <ul style="list-style-type: none"> <li>• lacks scope and/or rigour in discussing the factors that might have led to governments' differing approaches in the market for e-cigarettes; and/or</li> <li>• lacks effective use of relevant real-world examples to support the analysis.</li> </ul>	5 – 7
L1	For an undeveloped answer that shows some knowledge of the factors that might have led to governments' differing approaches in intervening in the market for e-cigarettes.	1 – 4
Evaluation		
E3	For an answer that substantiates the <i>relative</i> importance of the various factors using analysis. Real world knowledge, weighing criteria, and challenging the assumptions underlying economic theories are used consistently in the weighing of the factor.	4 – 5
E2	For an answer that makes some attempt at a judgement on the factors governments might have considered when deciding on the different approaches to the intervention in market for e-cigarettes.	2 – 3
E1	For an answer that gives an unsupported evaluative statement(s) that addresses the question.	1

- 4 (a)** Explain the factors that increase the effectiveness of exchange rate centred monetary policy in managing an economy. [10]
- (b)** Discuss the view that exchange rate centred monetary policy should be focused primarily on achieving a low and stable rate of inflation in Singapore. [15]

Part (a)

Question Interpretation

<b>Command word/phrase</b>	<i>Explain the factors</i>	This is a cause-and-effect question, with 'causes' being the main points of explanation.
<b>Content</b>	<i>increase the effectiveness of exchange rate centred monetary policy (ER MP)</i>	Knowledge on exchange rate centred monetary policy and what determined its effectiveness.
<b>Context</b>	<i>managing an economy</i>	No particular context specified by question but students are expected to consider specific aims of ER MP when explaining the factors.

Suggested Answer

**Introduction**

Exchange rate centred monetary policy manages the economy through the control of the exchange rate. In order for it to be effective, we consider the following factors:

**Key arguments (picking 3-4 factors from the list below would suffice!)**

- **The openness of the economy.** As exchange rate monetary policy affects net exports most directly, the relative significance of net export to the other components of aggregate demand (AD) will determine the extent it will affect AD. Suppose the government wanted to raise actual growth, it will implement an expansionary exchange rate policy by depreciating the home currency. This will make exports more competitive and imports more expensive. Foreigners will buy more exports and locals will seek domestic alternative to imports. Assuming that the Marshall-Lerner Condition (MLC) holds, net exports will rise. If net export is a large component of AD relative to the other components, the expansionary exchange rate monetary policy will be more effective in raising actual growth.

*Unpack terms and scope essay*

*Explain how openness of an economy affects the effectiveness of ER MP. This point is similar to reliant on external sector.*

- **The Marshall-Lerner Condition (MLC).** The MLC holds when the sum of  $PED(X)$  and  $PED(M)$  is greater than one. This would mean that for any change in exchange rate, the desired corresponding effect on net export will be realised and will affect AD accordingly. Suppose that the government wanted to reduce inflation, it can implement a contractionary exchange rate monetary policy by appreciating the exchange rate. This will make exports more expensive and imports cheaper. If ML condition holds, it will trigger a corresponding fall in net exports and subsequently a fall in AD.  
*Explain how MLC affects the extent of ER MP's effect on net exports and on AD.*
  - **The size of multiplier.** Any change in the component of AD will work through the multiplier to cause a greater change in AD itself. The bigger the multiplier, the bigger the change in AD, which raises the effective of the exchange rate, centred monetary policy to achieve its intended objective. Countries with relative high Marginal Propensity to Consume (MPC) or relatively low Marginal Propensity to Save (MPS), Marginal Propensity to import (MPM) and Marginal Propensity to Tax (MPT) will have a larger multiplier. Suppose there is an increase in  $(X-M)$ , a greater proportion of the increase will be spent on domestic consumption rather than leaking out of the circular flow, triggering more rounds of domestic consumption that leads to a greater rise in AD and actual growth.  
*Explain how the multiplier affects the extent a change in net-exports have on AD.*
  - **Economic conditions of foreign countries.** The extent to which foreign countries respond to a change in the home country's exchange rate depends on the economic conditions that these countries are going through presently. A depreciation of the domestic currency is likely to be more effective in achieving its intended effect of boosting net-exports and AD if other countries are not suffering from recession or poor economic outlook, which may deter them from consuming imports. Similarly, the effect of an appreciation to reduce net-exports is also strengthened if other countries are not facing a boom and become more likely to reduce consumption of imports.  
*Explain how the external sector influences the effect of ER MP on a country's net-exports*
  - **Availability of foreign reserves (This factor is only applicable to contractionary policies).** Any change in the exchange rate requires the central bank to intervene in the foreign exchange market. While it is technically possible for the central bank to sell its own currency continually and gain foreign reserve to depreciate its exchange rate, the central bank can only appreciate its exchange rate provided it has sufficient foreign reserves. The amount of foreign reserve that a central bank has will limit the extent that it could support the appreciation of its own currency to achieve its objectives.  
*Explain how the amount of foreign reserves affects the extent a central bank's ability to appreciate the currency.*
- Explain how time lags affects the*

- **Time lags in terms of recognition, implementation and impact lags.** Effectiveness of policies will depend on how timely the government recognise the problem to be fixed and for the government to intervene and adjust the exchange rate accordingly. Furthermore, after adjustment of the exchange rate, it takes time for exports and importers to respond and adjust their inventories.

*effectiveness of ER MP. (This is a minor point as this applies to all policies)*

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that: <ul style="list-style-type: none"> <li>• fully explains how the factors will increase effectiveness of ER MP clearly in relation to the specific aims that ER MP is trying to achieve.</li> </ul> <i>(Note: at least 3 factors required to access L3 marks)</i>	8 – 10
L2	For an underdeveloped answer that: <ul style="list-style-type: none"> <li>• attempts to explain the factors and how it affects the effectiveness of ER MP with no relation to specific aims</li> </ul> <b>OR</b> <ul style="list-style-type: none"> <li>• provides a weak explanation of the factors in which the application of the factor in the explanation is cursory</li> </ul>	5 – 7
L1	For an undeveloped answer that has limited/no application of relevant economic concepts, and/or contains conceptual errors and descriptive treatment of answer	1 – 4

Part (b)

Question Interpretation

<b>Command word/phrase</b>	<i>Discuss the view</i>	To provide a balanced response to the view presented in the question.
<b>Content</b>	<i>exchange rate monetary policy  achieving low and stable rate of inflation</i>	Knowledge of exchange rate monetary policy and how it achieves low and stable of inflation and other macro goals, such as actual growth, low unemployment and healthy balance of payment.  The benefits of low and stable rate of inflation.
<b>Context</b>	<i>Singapore</i>	It would be useful to have some knowledge of the conditions surrounding Singapore that could determine its monetary policy focus

Suggested Answer

**Introduction**

- While an exchange rate monetary policy (ERMP) can achieve a low and stable rate of inflation in Singapore, it may lead to harmful unintended consequences. Furthermore, ERMP can also achieve other macroeconomic aims such as actual growth and healthy BOP. This essay will discuss if ERMP should focus primarily on achieving a low and stable rate of inflation.

*Unpack terms and scope essay*

**Thesis 1: ER MP should be focused primarily on low achieving a low and stable rate of inflation in Singapore because of the benefits to Singapore**

- *An appreciation of Singapore's currency would cause (X-M) to fall, assuming ML condition holds, thereby causing AD to fall and reducing demand pull inflation. Also, an appreciation would lower the cost of imported inputs and increase AS, reducing cost-push inflation.*
- With a low and stable rate of inflation, households enjoy greater certainty to make plans concerning consumption and savings. As inflation is low, this would give households greater certainty over the price level, which will encourage them to make plans for current and future consumption which will benefit both the material and non-material living standards of Singaporeans. It also encourages household to save as the real value of their income can be better preserved, which may improve upon their future material living standards. For example, Singaporean families find it worthwhile to make plans for their children's future education expenses when inflation is within normal expectations.

*Briefly state how ER MP can achieve low and stable rate of inflation in SG.*

*Explain the benefits of achieving a low and stable rate of inflation.*

*(approximately 2 benefits would suffice!)*

- Low and stable rate of inflation also creates a more conducive environment for firms to invest. As household save more, the supply of loanable funds increases which reduces interest rates, lowering the cost of borrowing for firms to finance their investments. Low inflation also enhances the confidence of firms since they now have greater certainty over the expected returns of their investment. This will promote firms to take out long term investments which benefits Singapore's potential growth.
- Besides benefits to household and firms, the economy will benefit as a whole when it also creates the conditions to achieve other macro-economic objectives. A low and stable rate of inflation tend to be an indicator of a healthy economy which encourage firms to raise their production levels and employ more factors of production leading to a fall in unemployment rate. It also maintain export competitiveness and leads to stronger net exports, which helps in improving the current account.
- Finally, a low and stable rate of inflation also enhances efficiency as fewer resources are needed to constantly update changing prices which reduces the menu costs.

***Thesis 2: ER MP should be focused on achieving a low and stable rate of inflation in Singapore because of its positive unintended consequences it brings (assuming large and persistent current account surplus)***

- In terms of positive unintended consequences, a positive aspect of achieving a low and stable inflation rate could be reducing a large current account surplus. As the currency appreciates, net exports falls which reduces the current account surplus. This is likely to complement the objective of a low and stable inflation.

***Anti-thesis 1: ER MP should not focused primarily on achieving a low and stable rate of inflation in Singapore because it should be focused on achieving actual growth and low unemployment***

- *Briefly state how exchange rate centred monetary policy can achieve other objectives such as actual growth and low unemployment (these two can be explained together) as well as healthy BOP. → Expansionary exchange rate monetary policy (depreciate exchange rate)*
- With actual growth and low unemployment, households enjoy a higher material standard of living. With greater production, firms hire more workers which allow them to earn an income that can be spent on goods and services. With income, households will be better able to save up to improve on future living standards. Having an income also reduces financial stress that promotes non-material standard of living as well.

- Actual growth and low unemployment is means that that is more production

*Explain possible positive unintended consequences of achieving a low and stable rate of inflation.*

*Explain the benefits of achieving other objectives*

and more people earning an income. This means that firms are able to produce and sell more of their goods and services thereby raising their revenue and profits. Actual growth and low unemployment is also associated with a healthy economy, which boost business confidence, encouraging firms to invest.

- As an economy, actual growth and low unemployment also raises tax revenue and lowers unemployment benefits. This creates an ideal condition for the government to use the tax revenue collected to improve various aspect of the economy that have a positive impact on both material and non material standard of living such as spending on education and healthcare. Crime rates are also lowered promoting the safety of citizens.

**Anti-thesis 2: ER MP should not focused on achieving a low and stable rate of inflation because of the negative unintended consequences of achieving low and stable rate of inflation such as lower economic growth, increase unemployment and worsening current account deficit (assuming large and persistent current account deficit)**

- In the pursuit of low and stable rate of inflation, the contractionary exchange rate monetary policy may have unintended consequences in terms of lower economic growth and higher unemployment. As the exchange rate appreciates, AD starts to fall due to the fall in net-exports. The fall in AD adversely impact actual growth as well as raising demand-deficient unemployment. Furthermore, the stronger exchange rate could have worsen a current account deficit by reducing net exports.

**Evaluative conclusion (one of the two sets of stand + elaboration would suffice)**

- **[Stand]** Exchange rate centred monetary policy should be focused primarily on achieving low and stable rate of inflation in Singapore.
- **[Magnitude]** Given Singapore's heavy reliance on external sector for export markets and imported goods, price stability has a far-reaching impact on almost all sectors. Therefore, a low and stable exchange rate can be argued to have the greatest impact on Singapore's material standard of living. This is supported by the fact that net-exports is the largest component of AD and is most likely to cause a shift in AD in Singapore of which changes to actual growth and employment levels is dependent upon.
- **[Situation]** Given that Singapore current account position tends to be in surplus, a contractionary exchange rate centred monetary policy helps to moderate the surplus earned.

**OR**

- **[Stand]** Whether to use ER MP to achieve low inflation depends on the root

*Explain the possible negative unintended consequences in achieving a low and stable rate of inflation*

*Evaluate by first providing a stand*

*Substantiate the stand by comparing the importance of low and stable inflation relative to the other objectives in Singapore.*

*Evaluate by first*

cause of inflation in Singapore.

- **[Situation]** As Singapore has a very open economy, it is likely that inflation is caused by external factors rather than domestic factors. In this case, ER MP should be focused primarily in addressing this source of inflation. Suppose inflation is caused by strong foreign demand for Singapore's exports or higher import prices, the appreciation of SGD will be effective in moderating the demand for exports and lower the prices of imports, thereby easing the extent of inflation.

*providing a stand*

*Substantiate the stand by explaining how inflation could be likely caused by external factors.*

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that: <ul style="list-style-type: none"> <li>• provide thorough and structured discussion on the benefits of achieving low and stable rate of inflation and other macro-economic objectives as well as unintended consequences. There is strong application to the Singapore context.</li> </ul>	8 – 10
L2	For an underdeveloped answer that: <ul style="list-style-type: none"> <li>• For essays that offered a one-sided and/or mere theoretical treatment on whether exchange rate centred monetary policy should be focused primarily on achieving a low and stable rate of inflation in</li> </ul>	5 – 7
L1	For an undeveloped answer that has limited/no application of relevant economic concepts, and/or contains conceptual errors and misinterpretations of the given context	1 – 4
Evaluation		
E3	For essays that substantiate the final stand with a clear criterion for weighing, taking into consideration the situation of Singapore.	4 – 5
E2	For essays that <i>attempt</i> to substantiate the final stand. However, the supporting reasoning are questionable or lacking in logical links.	2 – 3
E1	For unsubstantiated evaluative comments.	1

**5** In Budget 2017 and 2018, Finance Minister Heng Swee Keat announced increases in diesel tax, Goods and Services Tax (GST) and a new carbon tax. These measures reflect a global shift from

direct to indirect taxes as a source of government revenue.

Source: *The Business Times*, 23 February 2017

Assess how a shift from direct to indirect taxes affects the microeconomic and macroeconomic goals of the Singapore government. [25]

Question Interpretation

Command word/phrase	Assess how	Consider various arguments and come to a reasoned conclusion
<b>Content</b>	Shift from direct to indirect taxes	Reduce direct tax rates, such as personal income tax and corporate income tax,  Increase indirect tax rates, such as diesel tax, Goods and Services Tax (GST) and carbon tax
	Microeconomic goals	Efficiency and equity
	Macroeconomic goals	Economic growth, price stability, full employment, favourable balance of payments
<b>Context</b>	Singapore government	Consider the context/characteristics of the Singapore economy

Suggested Answer

**Introduction**

Many countries around the world are moving away from direct taxes to indirect taxes as a source of government revenue. The Singapore government's shift from direct to indirect taxes can either have positive or negative effects on the Singapore government's microeconomic goals (namely efficiency and equity) and macroeconomic goals (namely economic growth, price stability, full employment and favourable balance of payments).

*Brief statement of the microeconomic and macroeconomic goals of the Singapore government.*

**Development 1a: The shift from direct to indirect taxes can be beneficial to the Singapore economy because of the positive effects on the Singapore government's microeconomic goals.**

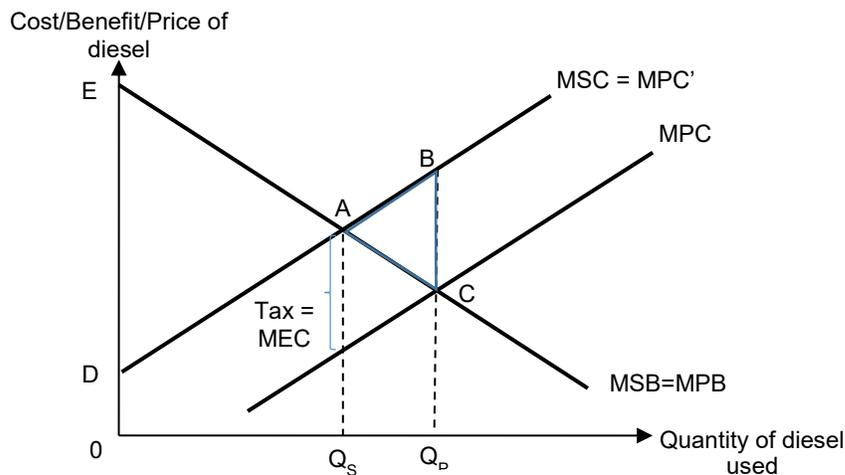
- **Efficiency:** The use of diesel could generate negative externalities, which

*Impact of the shift on efficiency, using*

are costs incurred by third parties who are not directly involved in the economic activity as producers or consumers.

- For example, diesel powered production equipment could lead to the formation and discharge of pollutive waste gases into the environment during the production process.
- This adversely affects residents living near the production plant, who are the third parties in this context. As a result of such external costs on third parties, there is over-consumption of diesel i.e. the socially optimum level of diesel usage ( $Q_s$ , determined by  $MSB=MSC$ ) is higher than the private optimal level ( $Q_p$ , determined by  $MPB=MPC$ ). This results in a deadweight loss as shown in the shaded area in Figure 8, indicating allocative inefficiency in the market for diesel.
- The shift to indirect taxes could help to correct the market failure resulting from such negative externalities. When the Singapore government increased the diesel tax (as highlighted in the preamble), the MPC of using diesel as a source of fuel increases for firms. This increase in MPC from  $MPC$  to  $MPC'$  results in a fall in the amount of diesel used towards the socially optimum level,  $Q_s$ , which in turn reduces the extent of allocative inefficiency. Furthermore, producers could be incentivised to improve their production methods in order to reduce or even avoid having to pay diesel taxes in future. The government would thus be able to address market failure and achieve allocative efficiency when shifting from direct to indirect taxes.

*negative externalities in the use of diesel as an example*



**Figure 8: Negative Externalities in the Use of Diesel**

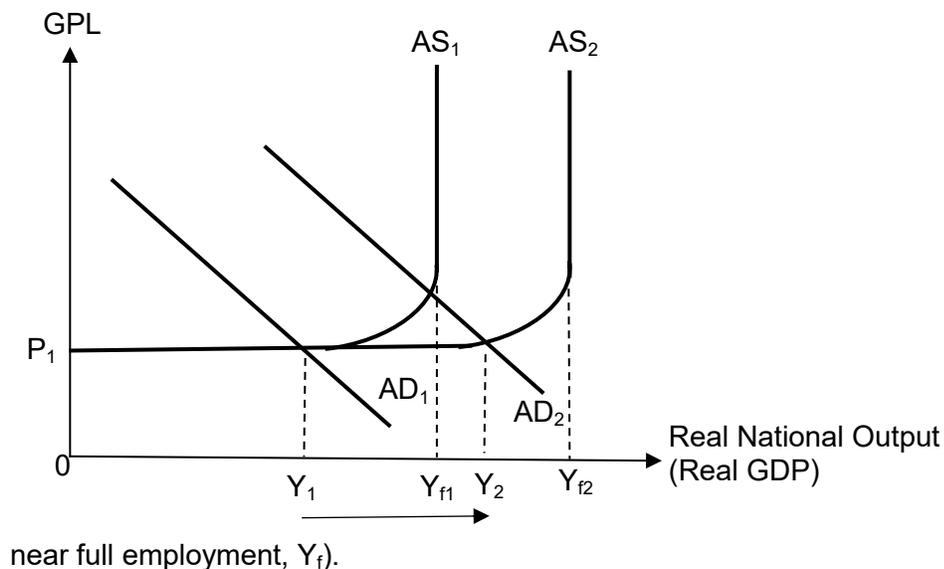
- However, there is a possibility of government failure if the taxes, which are imposed to offset the loss in income tax revenue, are too high, resulting in under-consumption of diesel and a larger deadweight loss instead.

**Development 1b: The shift from direct to indirect taxes can be beneficial**

**to the Singapore economy because of the positive effects on the Singapore government's macroeconomic goals.**

- **Sustained Economic Growth:** The shift away from direct taxes as a source of government revenue can be achieved through reducing the personal income tax rates and/or corporate income tax rates.
  - For instance, when the Singapore government reduces corporate income tax rates, firms will have more after-tax profits and this incentivises firms to increase the level of investment expenditure. In the short run, this increase in investment expenditure results in an increase in aggregate demand since investment expenditure is a component of aggregate demand.
- This increase is illustrated in Figure 9 by the rightward shift of the aggregate demand curve from  $AD_1$  to  $AD_2$ . Assuming the Singapore economy has sufficient spare capacity, this increase in aggregate demand contributes to the achievement of actual growth via the multiplier effect.
- In addition, in the long run when firms increase the level of investment such as expanding their production plant, the quantity and/or quality of resources can increase and this leads to an increase in the productive capacity of the Singapore economy. This is illustrated in Figure 9 by a rightward shift of the vertical range of the aggregate supply curve from  $AS_1$  to  $AS_2$ .
- When both aggregate demand and aggregate supply increase in tandem, the Singapore government can achieve sustained economic growth. This is illustrated by the increase in real national output from  $Y_1$  to  $Y_2$  without resulting in inflationary pressures (since general price levels remain fairly stable at  $P_1$ ) or unemployment (since the economy continues to operate

*Impact of the shift on sustained growth, using the change in level of investment expenditure as an example*



**Figure 9: Impact of shift from direct to indirect taxes on Economic Growth**

- **Sustainable growth:** In addition, the increase in indirect taxes such as the diesel tax and the new carbon tax reduces the level of pollution and environmental degradation in Singapore, which contributes to the achievement of sustainable growth.

**Development 2a: The shift from direct to indirect taxes can, however, be a problem for the Singapore government due to the negative effects on the microeconomic goals.**

- **Equity:** When the Singapore government shifts from direct to indirect taxes, such as raising GST, this leads to higher prices of goods and services in general. Given that the lower-income and higher-income groups are subject to the same GST rate, indirect taxes such as GST are essentially regressive in nature. The increase in indirect taxes takes up a larger proportion of the income for the lower-income group than the higher-income group. Lower-income households may thus be priced out of the market for certain necessities such as rice and oil, which results in an inequitable distribution of resources.

**Development 2b: The shift from direct to indirect taxes can, however, be a problem for the Singapore government due to the negative effects on the macroeconomic goals.**

- **Cost-push inflation:** When the Singapore government shifts from direct to indirect taxes, such as introducing the new carbon tax, firms that contribute to carbon emissions in Singapore will incur higher cost of production. As such taxes are likely to impact a significant number of industries in Singapore (e.g. transport, construction, oil refining), there could be a general increase in the cost of production in the Singapore economy. As a result, there is a fall in the aggregate supply (upward shift of the AS curve) indicating cost-push inflation over time.
- **Worsening of the balance of payments:** The price competitiveness of Singapore's exports could also be eroded due to cost-push inflation. Considering that the demand for Singapore's exports tends to be price elastic since there are many substitutes in the global economy, this increase in the price of exports could lead to a more than proportionate fall in the quantity demanded for exports. As such, Singapore's export revenue could fall. The current account worsens due to the worsening balance of trade, which in turn results in a worsening of Singapore's balance of payments, ceteris paribus.
- **Lack of inclusive growth:** The shift from direct taxes to indirect taxes may limit the Singapore government's ability to achieve inclusive growth. By reducing the reliance on direct taxes that are progressive in nature and raising the reliance on indirect taxes that are regressive in nature

*Impact of the shift on sustainable growth*

*Impact of the shift on equity, using GST as the example of indirect tax*

exacerbates the issue of income inequality since the shift is likely to benefit the higher-income groups at the expense of the lower-income groups.

**Evaluative Conclusion:**

- **[Stand]:** Whether the overall impact of a shift from direct to indirect taxes benefits the Singapore economy depends on the ability of the government to harness the positive outcomes while alleviating the negative impacts.
- **[Alternatives]:** On top of the shift from direct to indirect taxes, the Singapore government could complement it with other economic policies to help the lower-income groups cope with the negative effects (such as inflation). These include transfer payments and subsidies to ensure the lower-income groups are not priced out of the market for basic necessities. The worsening income inequality situation as a result of this shift from direct to indirect taxes has also given rise to calls for universal basic income through legislating minimum wage schemes and free healthcare provision by the government.

*Impact of the shift on price stability, using cost-push inflation as an example*

*Impact of the shift on BOP, using the current account as an example*

*Impact of the shift on inclusive growth*

- **[Situation]** The impact of this shift from direct to indirect taxes eventually depends on the relative tax rates in Singapore and other countries, especially since the shift from direct to indirect taxes is a global phenomenon. In the event that Singapore's direct and indirect tax rates are lower than her international competitors for skilled labour and foreign direct investment, the impact of this shift is more likely to be beneficial than if Singapore's tax rates are relatively higher.
- **[Magnitude]** The impact on various microeconomic and macroeconomic goals also depends on the magnitude and pace of the shift from direct to indirect taxes. While a gradual change will mitigate any negative impact of the shift, Singapore's direct tax rates are already among the lowest in the world and any further direct tax cuts are likely to be minimal, thus limiting the positive benefits of this shift away from direct taxes.

*A reasoned stand plus 2 of the following ATMS angles would suffice.*

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	<p>For a well-developed answer that:</p> <ul style="list-style-type: none"> <li>• gives a rigorous, balanced and analytical explanation of the effects of the shift from direct to indirect taxes on the microeconomic <u>and</u> macroeconomic goals of the Singapore government; and</li> <li>• utilises the Singapore context well.</li> </ul>	15 – 20

L2	<p>For an under-developed answer that:</p> <ul style="list-style-type: none"> <li>• gives a largely descriptive explanation of the effects of the shift from direct to indirect taxes on the microeconomic <u>and</u> macroeconomic goals of the Singapore government.</li> </ul> <p><u>OR</u></p> <ul style="list-style-type: none"> <li>• gives an analytical explanation of the effects of the shift from direct to indirect taxes on the microeconomic <u>or</u> macroeconomic goals of the Singapore government.</li> </ul> <p><u>OR</u></p> <ul style="list-style-type: none"> <li>• gives an analytical explanation of the effects of the shift from direct to indirect taxes on the microeconomic <u>and</u> macroeconomic goals without reference to the Singapore context.</li> </ul>	9 – 14
L1	For an undeveloped answer that shows some basic knowledge of the effects of the shift from direct to indirect taxes on the microeconomic <u>and/or</u> macroeconomic goals of a government, with or without reference to the Singapore context.	1 – 8

<b>Evaluation</b>		
E3	For a well-reasoned attempt at substantiating the final stand with a clear criterion for weighing the impact of the shift from direct to indirect taxes on the microeconomic and macroeconomic goals of the Singapore government.	4 – 5
E2	For a limited attempt at substantiating the final stand with a clear criterion for weighing the impact of the shift from direct to indirect taxes on the microeconomic and macroeconomic goals of the Singapore government.	2 – 3
E1	For unsubstantiated evaluative comments.	1

**6** Four decades of breakneck economic growth turned China into the world’s biggest carbon emitter. But the government is trying to change that without damaging the economy—and perhaps even use its green policies to become a leader in technological innovation.

Adapted from *Bloomberg*, 9 March 2018

**(a)** Explain the factors that contribute to sustainable growth in a country. [10]

**(b)** Discuss how China’s pursuit of sustainable economic growth can impact its balance of payments. [15]

Part (a)

Question Interpretation

<b>Command word/phrase</b>	<i>Explain the factors</i>	Make clear how sustainable growth can be achieved by detailing the process through which the cause-and-effect relationship occurs, and elaborate with economic reasoning.
<b>Content</b>	<i>sustainable growth</i>	Sustainable growth indicates a rate of growth that can be sustained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations.
<b>Context</b>	<i>in a country</i>	Can be any country but can also refer to China, a country mentioned in the preamble.

Suggested Answer

**Introduction**

- Sustainable growth indicates a rate of growth that can be sustained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations.
- For sustained growth, which is a pre-requisite for sustainable growth to be achieved, there must be a positive and stable growth rate through a rise in both AD and AS, without significant upward pressure on the general price level (GPL), over an extended period of time. Therefore, for sustainable growth to be achieved, there must be a rise in AD, a rise in AS and prudent management of a country’s environment.

*Unpack terms and scope essay*

**Body 1: Factor affecting AD**

- Firstly, any factor that causes the AD to increase enables the country to achieve sustainable growth. As  $AD = C + I + G + (X-M)$ , an increase in any component of AD would increase the AD. For example, if there is strong economic growth in trading partners, this would cause a rise in the disposable incomes and purchasing power of consumers in these foreign countries, and therefore an increase in the demand for the domestic country's exports. The domestic country will experience an increase in  $(X-M)$  and its AD will increase.
- Another factor that causes AD to increase would be domestic policies such as a fall in corporate and income taxes. This would raise firms' expected post-tax profits and therefore increase the level of  $I$  in the economy.
  - For example, given China's much slower economic growth rate, its government is currently trying to buttress its growth rate by lowering corporate taxes in order to stimulate investments. China's government has also lowered income taxes to raise the purchasing power of domestic consumers to stimulate consumption.
- As  $(X-M)$ ,  $C$  and  $I$  increase, AD would increase, ceteris paribus. There would be a multiplied effect on  $Y$  via the multiplier effect, thus achieving actual growth.

*Explain a factor that increases the AD*

**Body 2: Factor affecting AS**

- Secondly, any factor that causes the AS to increase contributes to sustainable growth. This could be due to increases in quantity or quality of factors of production, which are land, labour, capital and entrepreneurship. If the country experiences an increase in the size of the population, there would be an increase in the quantity of labour, causing the productive capacity of the economy to increase. This would mean that the economy is able to produce more goods and services.
  - An example is Singapore where our population has recently hit a record of 5.7 million this June. Another reason why could be due to the government policy of increased government expenditure on subsidising R&D by firms. This means that there is an increase in the quality of capital goods in the economy, causing productive capacity to increase.
- The AS of the economy would increase due to both of these factors and the AS curve shifts to the right. The full employment level of output increases and potential growth is achieved. At the same time, GPL falls and this helps to reduce inflationary pressure.
- When both AD and AS rise in tandem, real national income increases over a sustained period of time and inflationary pressure is not significant. Therefore, sustained growth, which is a pre-requisite for sustainable growth, is achieved.

*Explain a factor that increases the AS*

**Body 3: Factor affecting environmental or resource conservation**

- Lastly, another factor that contributes to sustainable growth is the government's pursuit of pro-environmental policies. Starting from 2017, mainland factories in China have been taxed for producing air, water, solid waste and noise pollution.
  - For example, a tax on goods that generate air pollution in their production process would mean a rise in the cost of production for firms, forcing them to internalize the external costs of production.
  - This in turn would raise their marginal private costs to the same level as the marginal social costs of production, reducing the  $Q_p$  to the same level as the  $Q_s$ , eliminating the deadweight loss to society. With a reduction in the production of goods that generate air pollution, there would be improved air quality.
- This improvement in air quality might help to improve the health and productivity of China's workforce, increasing the quality of labour and cause the AS to increase. The AS curve shifts to the right. This increases the full employment level of output, achieving potential growth.
- This also results in a healthier workforce and preservation of air, water and land quality, indicating that China's growth can be extended into the long run without any serious depletion of resources, thus making it sustainable.

*Explain a factor that contributes to the protection of the environment (use economic analysis)*

**Conclusion**

- In conclusion, the factors above can help a country achieve sustainable growth. A successful pursuit of sustainable growth can possibly help a country achieve its various macroeconomic goals, such as a healthy balance of payments.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For an answer that: <ul style="list-style-type: none"> <li>• Provides a rigorous analysis of factors that help to achieve sustained growth and the environment factor.</li> <li>• Uses relevant examples</li> </ul>	8 – 10
L2	For an answer that: <ul style="list-style-type: none"> <li>• Provides a rigorous analysis of factors that help to achieve sustained growth or the environment factor</li> <li>• Analysis of factors that help to achieve sustained growth and the environment factor lacks rigour</li> <li>• Shows limited/no use of relevant examples</li> </ul>	5 – 7
L1	For an answer that: <ul style="list-style-type: none"> <li>• Has limited/no application of relevant economic concepts, and/or</li> <li>• Contains conceptual errors and misinterpretations of the given context</li> </ul>	1 – 4

Part (b)

Question Interpretation

<b>Command word/phrase</b>	<i>Discuss</i>	Present key points for both sides of the argument (for and against) in detail and come to a conclusion. There should be some evidence of balance, though not necessarily of equal weighting.
<b>Content</b>	<i>Sustainable growth</i>	Refer to (a)
	<i>Balance of payments</i>	The different accounts of the balance of payments
<b>Context</b>	<i>China</i>	Reference has to be made to China

Suggested Answer

**Introduction**

- China's pursuit of sustainable growth will affect both the current account as well as the capital and financial account of the balance of payments. Under its current account, one can consider the effect on the trade balance, the income balance as well as the net current transfers of the country. Furthermore, one can consider both short term and long term capital flows when explaining the effect of pursuing sustainable growth on the capital and financial account.

*State the framework that can be used for the balance of payments*

**Body 1: Explain the impact of China pursuing sustainable growth on its current account (pick one benefit and one cost)**

**Body 1a: Explain the impact of China's pursuit of sustainable growth on its trade balance**

- (Benefit)** With sustainable growth, the reduction in air pollution would have a beneficial effect on the health of workers in the economy, which can improve the current account.
  - For example, the smog in Beijing, which has been reduced to some extent in recent years, is still affecting the health of the country's population.
  - This pursuit of sustainable growth, if successful, will result in an increase in the productivity and therefore the quality of labour. Increased productivity would translate to a drop in the unit cost of production for firms, allowing firms to lower prices to increase export competitiveness.
  - Given that demand for Chinese products tend to be price elastic as

*Explain costs and/or benefits of pursuing sustainable growth on the trade balance*

many of their products are manufactured goods such as electronics that have close substitutes from firms in other countries, a lowering in prices of exports will increase quantity demanded by more than proportionately.

- Export revenue will increase and therefore net export revenue will rise. The current account will improve via the trade balance and therefore the balance of payments will improve too.
- **(Benefit)** Next, limiting firms from pollution and cleaning up the already tainted soil can help to improve the quality of the soil in China which can affect agricultural output. This can improve the current account over time.
  - Chemical and fertilizer industries have been poorly regulated in China, resulting in large amounts of toxic chemicals entering the soil and therefore reduced agricultural yields as toxic soil is less productive.
  - For example, the Chinese have experimented with growing willow trees to clean up contaminated soil. Demand for its crops will increase if they are now deemed to be of better quality in the world market. At the same time, an increase in crop yields lowers the unit costs of production for crops.
  - This helps to raise export competitiveness for the agricultural sector as well as firms are able to lower export prices. Assuming that demand for Chinese crops are price elastic, which is likely as many of these crops like corn are also produced in other countries, quantity demanded for these crops will increase by more than proportionately and export revenue will rise.
  - Import expenditure could also fall as China's increased ability to sustain itself agriculturally is improved.
  - The rise in export revenue and fall in import expenditure both contribute to a rise in the value of the net exports. The current account is improved via the trade balance and therefore the balance of payments improves as well.
- **(Benefit)** As mentioned in the preamble, China's focus on sustainable growth would mean a search for technologically and economically viable green technology that could help the country improve its current account.
  - Such green technology, if developed domestically, could be exported to other countries as sustainable growth is an increasingly recurring theme across many countries which face similar environmental issues. Products like advanced solar panels and electric cars using cutting-edge technology produced in China could raise demand for China's exports if it develops a reputation and a branding for green technology. Its export revenue increases, raising the value of its net exports and therefore improve its current account too.
- **(Cost)** However, in order to pursue sustainable growth, there must also be reduced mining of natural resources, which can potentially worsen the current account.

- For example, China is a key supplier of the world's iron and copper, resources which are limited and will eventually run out.
- If the Chinese government is able to limit mining output, the current account may deteriorate in the short run as less of these resources will be exported.
- **[Time-Frame]** However, it can also help to maintain China's current account balance in the long-run because such resources can continue to be exported for a longer period of time, just at a slower rate. It also means that China would not have to depend on foreign imports for such materials in the future as well.

*Notice that this is evaluation in the form of a counterbalance to play down the cost using Time Frame*

**Body 1b: Explain the impact of China's pursuit of sustainable growth on its income balance**

- **(Cost)** If more foreign firms are attracted into China due to the improved health and productivity of labour and better quality land in the country, although they might be an increase in FDI in the short run, they might repatriate their profits made back to their home countries in the long run. This would result in an outflow of currency from the income balance of the current account, worsening the balance of payments in the country

*Explain costs and/or benefits of pursuing sustainable growth on the income balance of the current account*

**Body 1b: Explain the impact of China's pursuit of sustainable growth on its net current transfers**

- **(Cost)** With sustainable growth, there would be less pollution in the environment, making China a more attractive place for foreigners to live in. With more labour inflows, there will be an increase in the outflows of currency in the form of remittances from China as these workers send part of their wages back to their home countries. This will cause the current account to worsen via the net current transfers and therefore cause the balance of payments to worsen.

*Explain costs and/or benefits of pursuing sustainable growth on the net current transfers of the current account*

**Body 2: Explain the impact of China pursuing sustainable growth on its capital and financial account (one benefit and one cost would suffice)**

**Body 2a: Explain the impact of China's pursuit of sustainable growth on**

***its long term capital flows***

- **(Cost)** A greater focus on achieving sustainable growth most probably means that environmental regulations will become relatively stricter as compared to before, causing the capital and financial account to worsen.
  - For example, it could mean that laws are imposed to stop firms from air, soil and water pollution, with the punishment of a heavy fine. This is a regulatory burden to the firms because adhering to these regulations most likely means that they would have to find other less polluting methods of production which often tends to raise their costs of production.
  - This rise in costs of production might cause foreign firms operating in China to leave the country, and instead, migrate to other countries with lower overall costs of production so that they can maintain their profits.
  - This increase in long-term capital outflows would worsen the capital and financial account of the country and thus cause the balance of payments of the country to deteriorate. There could also be a fall in the inflow of FDI as the country becomes less attractive to foreign investors who are considering setting up manufacturing bases in China.

*Explain costs and/or benefits of pursuing sustainable growth on long-term capital flows*

***Body 2b: Explain the impact of China's pursuit of sustainable growth on its short term capital flows***

- **(Benefit)** China's focus on sustainable growth may attract more property speculators who predict that a more attractive place for living and working would cause the demand for housing to rise as more immigrants enter the country. There may be a rise in short-term capital inflows to the country as more property speculators from overseas buy property and land in China. This can cause the capital and financial account to improve.

*Explain costs and/or benefits of pursuing sustainable growth on short-term capital flows*

***Evaluative Conclusion***

- **[Stand]** Overall, China's balance of payments is likely to improve with its pursuit of sustainable growth.
- **[Time Frame]** Even though it could result in an increase in FDI outflows as foreign firms leave due to much stricter regulations, this is likely to be a short-run effect as these firms may return to the Chinese market when the improvements in the productivity of its land and labour are attained in the long-run via environmental policies which generally require time to work.
- **[Situation]** Whether the balance of payments actually improves is also dependent on China's ability to enforce its policies for sustainable growth. For example, it is facing some difficulties in enacting soil-improvement plans because they depend on enforcement by local officials, who might be working hand-in-glove with local polluters. However, so far, efforts to

*A reasoned stand plus 2 of the following ATMS angles would suffice.*

achieve sustainable growth which often included draconian measures, have achieved huge gains with air quality in China recording significant improvements.

- **[Situation]** Furthermore, developing green technology and therefore improve its current account is highly achievable for China, given its vast quantity of local talent with high technical expertise. However, its ability to market these technology in the world market also depends on the country's ability to develop a strong branding and reputation for sustainability, and this might be more difficult to create as compared to mere products.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that: <ul style="list-style-type: none"> <li>• contains rigorous explanations of how China's pursuit of sustainable growth can affect both its current and capital and financial account; and</li> <li>• shows balance with consideration of both the positive and negative impacts on the balance of payments</li> </ul>	8 – 10
L2	For an under-developed answer that: <ul style="list-style-type: none"> <li>• has insufficient scope in answer (only the current OR capital and financial account covered); and/or</li> <li>• shows a lack of balance; and/or</li> <li>• has insufficient rigour in answer</li> </ul>	5 – 7
L1	For an undeveloped answer that is very limited in scope and has serious conceptual errors and gaps in explanations.	1 – 4
Evaluation		
E3	For an answer that uses competent economic analysis to support an evaluative judgement on the impact on China's balance of payments.	4 – 5
E2	For an answer with some economic analysis (either incomplete or with some inaccuracies) to support an evaluative judgement on the impact on China's balance of payments.	2 – 3
E1	For an answer that provides an unsupported evaluative statement on the impact on China's balance of payments.	1



TAMPINES MERIDIAN JUNIOR COLLEGE  
**JC2 PRELIMINARY EXAMINATION**

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**H2 ECONOMICS**

**9757/01**

Paper 1

**16 September 2019**

**2 hours 15 minutes**

Additional materials

Answer booklet

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**READ THESE INSTRUCTIONS FIRST**

Write your name and Civics Group on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

Answer **all** questions.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of 8 printed pages and no blank pages.

Answer **all** questions.

### Question 1: The market for steel in China and US

#### Extract 1: The importance of steel

As nations around the world seek to improve their standard of living and lift populations out of poverty, it is inevitable that the demand for steel will increase. Steel is critical simply because no other material has the same unique combination of strength, formability and versatility. In addition, steel plays a critical role in virtually every phase in our lives. The rails, roads and vehicles that make up our transport systems use steel. Steel provides a strong framework and connections in the buildings where we work, learn and live. It protects and delivers our water and food supply. It is a basic component in technologies that generate and transmit energy.

Source: [www.worldsteel.org](http://www.worldsteel.org), 15 January 2017

**Table 1: Price of iron ore (USD per metric tonne)**

	<b>Mar 2015</b>	<b>Jun 2015</b>	<b>Sep 2015</b>	<b>Dec 2015</b>	<b>Mar 2016</b>	<b>Jun 2016</b>	<b>Sep 2016</b>	<b>Dec 2016</b>	<b>Mar 2017</b>
Price	64	58	55	47	48	56	59	71	86

Source: Deloitte CIS Research Centre, 2017

#### Extract 2: Changes in the iron ore and steel markets

Prices for commodities such as crude oil, gold and copper are falling. But iron ore, a key raw material needed for steel production, is bucking the trend thanks to China, the world's largest consumer of iron ore. Prices for iron ore are near \$80 per tonne, a 30 percent rise from late October. So far this month, prices are up 6 percent.

In 2017, China's economy grew at a faster pace for the first time in seven years, expanding by an inflation-adjusted 6.9 percent. That is partly thanks to higher exports. Heavy spending on infrastructure late last year provided an additional lift. This contributed to greater consumption of steel in China.

Rising prices of raw materials such as iron ore could dent profits at the world's major steel companies, which have been on the mend. Shinichi Okada, executive vice president at Japanese steelmaker JFE Holdings, expects the company's profit margin to shrink as prices for raw materials rise faster than the price of steel.

Many analysts, however, believe the Chinese economy will slow again in 2018, as debt-laden companies and individuals move to reduce their borrowing. In addition, China is pushing to curb steel production. In mid-November 2017, the government ordered steel companies to cut production in an effort to clean up the air in 28



northern cities. That also prevented a large surplus of steel and kept the price from falling.

Source: Nikkei Asian Review, 20 February 2018

### Extract 3: The steel market in the US

The United States is the world's largest steel importer (2017 ranking). In 2018, the US imported 30.8 million metric tonnes of steel, an 11 percent decrease from 34.5 million metric tonnes in 2017. US imports in 2017 represented about 9 percent of all steel imported globally, based on available data. The volume of US steel imports in 2017 was more than 25 percent larger than that of the world's second-largest importer, Germany in 2017.

Source: www.trade.gov, March 2019

**Table 2: Domestic production, apparent consumption and imports of steel in the US (million metric tonnes)**

	2014	2015	2016	2017
Domestic Production	88.2	78.8	78.6	81.6
Apparent Consumption <sup>1</sup>	117.0	104.7	99.7	106.1
Imports	40.3	35.4	30.0	34.5

<sup>1</sup>Apparent Consumption refers to domestic production plus imports minus exports

Source: www.trade.gov, March 2019

### Extract 4: US tariffs on steel could backfire

US President Trump has finally done it. After nearly a year of threatening to upend global trade, he has announced sweeping tariffs on steel. What this means is steel made in another country and shipped to the United States will be subject to a 25 percent tax. This is a hefty fee because Trump's goal is to incentivise US companies to buy steel from US producers so the domestic metal industry gets stronger. Trump argues that he needs to do this to save jobs and protect national security. His Commerce Department put out two lengthy reports recently arguing that the United States needs larger steel industries to have enough metal for F-18 and F-35 fighter jets and armoured military vehicles. Economically, this is a risky move for Trump. There will be consequences, and some are likely to be unpleasant.

Firstly, the prices of many products, including cars, are likely to rise. If you drive a car or truck, it probably has some steel in it. The whole goal of Trump's tariff is to get prices of this metal to rise domestically so it is profitable enough for US producers to make more steel and employ more people.

Secondly, the price increase of steel is likely to be passed on to consumers. There is a big debate about how hefty the price jumps are going to be. American steel producers argue that the price of a typical passenger car would rise by just \$35. But the auto industry laughs at that figure, saying it will be much higher, as there are



costs associated with finding new suppliers and potentially having to alter the manufacturing process, as not all metal is perfectly interchangeable.

Thirdly, China, Russia and even Canada are likely to strike back. Trump likes to talk about how China is dumping a lot of cheap steel into the United States, killing America's domestic metal industry. But the reality is that Canada - a close ally - sends by far the biggest volume of these metals to the United States. These are powerful nations that are likely to fight back. China, Canada and others could decide to retaliate right away by putting tariffs on some US goods coming into their countries. The most likely target is US agriculture products and airplanes. These are top US exports to other countries. A global trade war could easily unfold.

Fourthly, the economy's goal of 3 percent growth - and some jobs - could be in jeopardy. The economy has been on an upswing lately, and some experts predicted the United States could even hit Trump's goal of 3 percent growth this year because of the tax cuts. But a trade war, even a small one, threatens growth. If other countries hit core US industries such as aerospace, that would affect growth. American consumers, the driving force of the US economy, could also get angry if prices of many items jump.

The Trump administration argues that it is doing this to save good jobs. Steel jobs have declined by the thousands in the past decade. But the jobs saved in one industry could be offset by jobs lost in other industries if prices rise and buyers reduce spending on items such as cars. Former president Barack Obama put a tariff on Chinese tyres in 2009, but it backfired, many economists say. Obama touted the 1,000 jobs saved, but the Peterson Institute says that more than 3,000 jobs were lost in other industries.

Source: Washington Post, 1 March 2018



### Questions

- (a) (i) State the change in the price of iron ore between March 2015 and March 2017. [1]
- (ii) With the aid of a diagram, explain how the change in price of iron ore will change the profit of a steel producing firm. [3]
- (b) (i) With reference to Extract 1, explain the likely value of the price elasticity of demand for steel. [2]
- (ii) Using demand and supply analysis, discuss how the events in Extract 2 are likely to affect the total revenue for steel producers. [8]
- (c) Given the information contained in Table 2, identify whether the US is a net exporter or net importer of steel. Justify your answer. [2]
- (d) Rising steel prices have led to car prices rising (Extract 4). Explain **two** possible factors that determine the extent to which car prices will rise due to rising steel prices. [4]
- (e) Extract 4 mentions that the US has implemented tariffs on imported steel. In view of the possible impact of US steel tariffs on consumers, employees and producers, assess whether, on balance, protectionism can ever be justified.

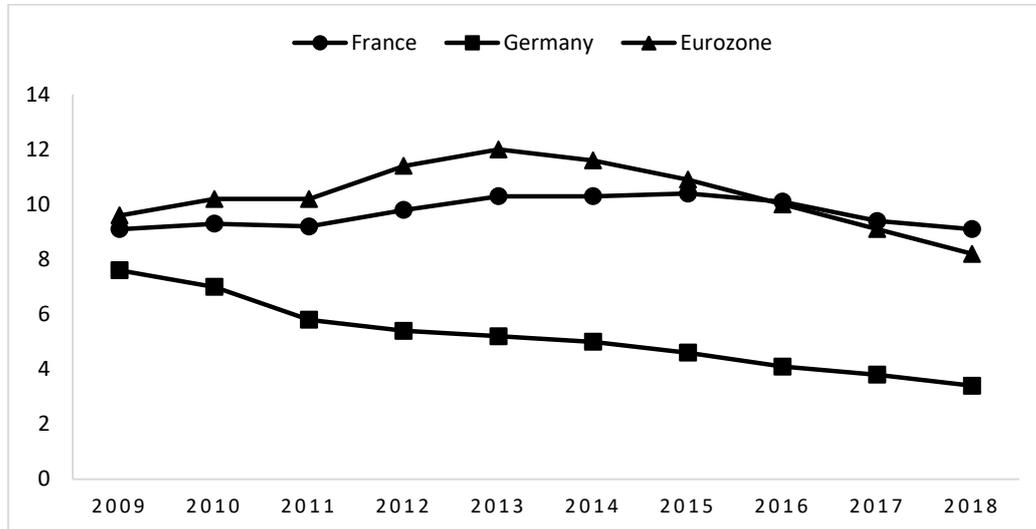
[10]

[Total: 30 marks]



## Question 2: Deflation and unemployment in the Eurozone

**Figure 1: Annual unemployment rate (%) in the Eurozone<sup>2</sup> and selected member states**



<sup>2</sup>The Eurozone consists of 19 countries in the European Union: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Source: Eurostat

### Extract 5: Anxiety rises over the Eurozone's falling prices and rising unemployment

Economists do not generally worry too much about short periods of deflation. However there have long been concerns that in the Eurozone, where growth is weak and a number of countries remain in recession, falling prices can become widespread and entrenched. Average unemployment across the Eurozone has also reached 11.5 percent. Across the Eurozone, youth unemployment is still running at just over 21 percent.

Harsh austerity measures introduced during the sovereign debt crisis, where several Eurozone countries experienced economic pain due to high government debt, persistent economic slack and the recent decline in energy prices were largely to blame for the decline in prices. Additionally, structural reforms to boost competition and regain competitiveness in the Eurozone countries also contributed to the decline in prices.

Such developments are likely to intensify the pressure on Mario Draghi, president of the European Central Bank (ECB), to press on with quantitative easing (QE). The ECB is the central bank responsible for monetary policy for the Eurozone member countries which have adopted the euro currency. Consequentially, these countries

are forbidden from deploying independent monetary policies to help battle economic downturns.

But some experts have little confidence that even a large-scale intervention will do much good. While QE could buy the Eurozone time, driving down long-term interest rates, it would not solve the longer-term challenges of restoring growth.

Source: Guardian, January 2015

### **Extract 6: Rise of Eurozone underemployment underlines jobs crisis**

High unemployment has scarred the Eurozone in the wake of the sovereign debt crisis and has been most acute in the bloc's weaker, southern economies such as Spain, Greece, Portugal and also France. Still, in recent months, the average Eurozone unemployment rate has fallen steadily to an eight-year low of 9.5 percent. "The improvement in the quantity of jobs has been offset by a significant deterioration in their quality", said Gilles Moec, European economist at Bank of America Merrill Lynch.

While the combination of cheap oil, a weak euro and more aggressive fiscal and monetary policies from the European Central Bank have spurred hopes of a stronger economic recovery, growth remains too slow and confidence too fragile for companies to add jobs in substantial numbers.

More than a fifth of Europe's part-time workers are underemployed, while the number who have given up looking for work altogether has increased. Across the Eurozone, 9.8 million part-time workers - or 22 percent - worked fewer hours than they would have liked to last year, according to Eurostat's annual poll of the EU labour market. In Greece the proportion rose to 72 percent, and 66 percent and 57 percent in Cyprus and Spain respectively. More than two-thirds of all underemployed workers were women.

Rising part-time employment, at the expense of full time work, is generally a mark of early stage recoveries, noted Bert Colijn at ING Group. "Employers give out temporary contracts before regular contracts and that shows during a job recovery", said Mr Colijn.

Source: Financial Times, April 2017

### **Extract 7: France may scrap high unemployment benefits**

France wants to trim back jobless benefits that can reach 7,700 euros (6,631 pounds) per month for those who lose high-paying positions. Unemployment benefits, which are a type of automatic stabiliser, in France constitute on average 68 percent of a worker's previous wages, compared with 56 percent in other nations of the Organisation for Economic Cooperation and Development (OECD) group. Employers regularly point to the unemployment benefit system, seen as among Europe's most generous, as one of the main reasons for France's chronically high joblessness.



Source: Reuters, February 2019

### **Extract 8: Technological progress and its policy responses**

Should robots pay taxes? As fears about the impact of automation grow, calls for a “robot tax” are gaining momentum. Earlier this month, the European parliament considered one for the Eurozone.

Automation is not new. In the late 16th century, an English inventor developed a knitting machine known as the stocking frame. By hand, workers averaged 100 stitches per minute; with the stocking frame, they averaged 1,000. As technology improves, it reduces the amount of labour required to produce a certain number of goods. Not only did wages rise in line with productivity, firms also reported higher profit margins. A tax on robots could be bad policy. Robot taxes could dissuade firms from investing in robots, which would lower economic growth and lead to less hiring and lower wage growth.

Technological improvement has also not produced extreme unemployment yet. That’s because automation can create jobs as well as destroy them. One recent example is bank tellers: Automated Teller Machines (ATMs) began to appear in the 1970s, but the total number of tellers has actually grown since then. However what is different this time is the possibility that technology will become so sophisticated that there would not be anything left for humans to do. What if your ATM could not only give you a hundred bucks, but sell you financial services?

As machines and algorithms get smarter, they will replace a widening share of the workforce, worsening income inequality. A robot tax could raise revenue to retrain those displaced workers, or supply them with a basic income.

Source: Reuters, March 2017

### **Questions**

- (a) With reference to Figure 1, compare the changes in unemployment rate for the Eurozone and the selected member states. **[2]**
- (b) Use aggregate demand and supply analysis to explain the causes of deflation in the Eurozone, as suggested in Extract 5. **[6]**
- (c) Using Extract 7, explain how automatic stabilisers work to offset fluctuations in economic activity. **[4]**
- (d) Discuss the main difficulties faced by a government from the Eurozone when attempting to resolve its unemployment problem. **[8]**
- (e) As fears about the impact of automation grow, calls for a “robot tax” are gaining momentum (Extract 8).  
Discuss the opportunities and challenges presented by technological progress to an economy. **[10]**



**[Total: 30 marks]**





# TAMPINES MERIDIAN JUNIOR COLLEGE

## JC2 PRELIMINARY EXAMINATION

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**H2 ECONOMICS**

**9757/02**

Paper 2

**23 September 2019**

**2 hours 15 minutes**

Additional materials

Answer booklet

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### READ THESE INSTRUCTIONS FIRST

Write your name and Civics Group on all the work you hand in.

Write in dark blue or black pen.

You may use an HB pencil for any diagrams, graphs or rough working.

Do not use staples, paper clips, glue or correction fluid.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of 3 printed pages and 1 blank pages.

Answer **three** questions in total.

### Section A

**One or two** of your three chosen questions must be from this section.

- 1** There is a growth of speciality coffee shops in Singapore as incomes rise and coffee lovers develop more discerning tastes. Rising costs, including manpower, workers' training, equipment and rent, contributed to rising prices of coffee. While the price of a cup of coffee at a neighbourhood coffee shop increased by about \$0.30, the price of a cup of coffee at a speciality coffee shop increased by a larger extent.
- (a) Explain what might cause price elasticity of supply and income elasticity of demand to be different for different products. **[10]**
- (b) Discuss the different supply and demand factors and their likely importance in determining the change in the price of coffee beverages. **[15]**
- 2** It can be argued that markets fail when knowledge is imperfect or is not evenly shared by all parties in a transaction. This can be observed in various markets such as healthcare and used cars.
- Assess the extent to which the Singapore government should solely depend on the provision of information in overcoming the above sources of market failure. **[25]**
- 3** In the market for online grocery services, established large firms such as Fairprice compete via non-price strategies such as offering same day delivery. In addition, they face a high level of contestability with businesses looking to enter.
- (a) Explain the factors that are likely to influence a firm's decision to implement non-price strategies in the market for online grocery services. **[10]**
- (b) Discuss how the threat of potential competition will affect different economic agents. **[15]**



## Section B

**One or two** of your three chosen questions must be from this section.

- 4** In 2017, Singapore's GDP at 2010 prices grew by 3.6%, the total population grew by 0.1%, inflation (as measured by the consumer price index) was 0.6% and overall unemployment stood at 3.1%.

Source: [www.singstat.gov.sg](http://www.singstat.gov.sg), accessed 26 July 2019

- (a) Explain how these statistics can be used to measure the change in the standard of living in Singapore. **[10]**
- (b) Discuss the limitations of these statistics in both assessing the change in the standard of living in the Singapore economy in 2017 and comparing it with other countries. **[15]**
- 5** Explain the benefits of sustainable economic growth and discuss if demand management policies are more effective than supply-side policies in achieving sustainable growth. **[25]**
- 6** Globalisation has changed the volume, composition and direction of trade between Singapore and the rest of the world. Countries continue to look for ways to harness the benefits of globalisation.
- (a) Explain how globalisation affects Singapore's pattern of trade. **[10]**
- (b) Discuss the appropriateness of increasing productivity in order to harness the benefits of globalisation. **[15]**



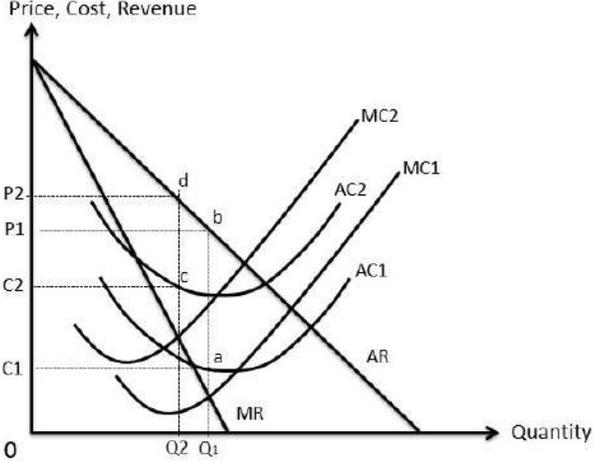
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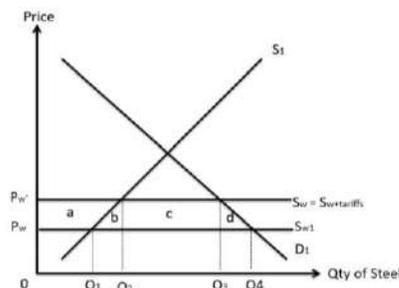
**TMJC Economics Unit 2019**  
**JC2 H2 Economics 9757**  
**JC2 Prelim Suggested Answer Package**

**Suggested answers for CSQ1**

(a)	(i)	<p>State the change in the price of iron ore from March 2015 to March 2017.</p> <ul style="list-style-type: none"> <li>Increased. [1]</li> </ul>	[1]
	(ii)	<p>With the aid of a diagram, explain how the change in price of iron ore will change the profit of a steel producing firm. ‘</p>  <ul style="list-style-type: none"> <li>[1] correctly labelled diagram illustrating <math>\uparrow AC</math> and <math>\uparrow MC</math></li> <li>Profit max output occurs at <math>MC=MR \rightarrow</math> profit maximizing output initially at <math>Q_1</math></li> <li>[1] <math>\uparrow</math> price of iron ore from (ai) <math>\rightarrow \uparrow MC</math> &amp; <math>\uparrow AC</math> as iron ore is a <u>variable factor</u> <math>\rightarrow</math> leftward/upward shifts of both MC and AC curves</li> <li>[1] <math>\downarrow</math> profits from <math>C1abP1</math> to <math>C2cdP2</math></li> </ul>	[3]
(b)	(i)	<p>With reference to Extract 1, explain the likely value of the price elasticity of demand for steel.</p> <ul style="list-style-type: none"> <li>Steel has few close substitutes “no other material has the same unique combination of strength, formability and versatility.” <math>\rightarrow</math> difficult to find a metal with such unique properties.</li> <li>OR Steel is a necessity as it “plays a critical role in virtually every phase in our lives” <math>\rightarrow</math> key resource used in many essential goods/services. [1m for a reason supported by case evidence]</li> <li>PED is likely to be <math>&lt;1 \rightarrow \uparrow P \rightarrow LTP \downarrow</math> qty dd [1m]</li> </ul>	[2]
	(ii)	<p>Using demand and supply analysis, discuss how the events in Extract 2 are likely to affect the total revenue for steel producers.</p> <p><u><math>\uparrow</math> Demand</u></p> <ul style="list-style-type: none"> <li>Economic growth in China + heavy spending on infrastructure <math>\rightarrow \uparrow</math> derived demand for steel, a key FOP for construction and infrastructure <math>\rightarrow \uparrow</math> Demand</li> <li><b>TR Analysis:</b> <math>\uparrow DD \rightarrow</math> <u>adjustment process</u> <math>\rightarrow \uparrow P + \uparrow Q \rightarrow</math> since <math>TR=P \times Q \rightarrow TR \uparrow</math></li> </ul> <p><u><math>\downarrow</math> Supply</u></p> <ul style="list-style-type: none"> <li>Production cuts by Chinese govt <math>\rightarrow \downarrow</math> supply</li> </ul>	[8]

	<ul style="list-style-type: none"> <li>• <b>TR Analysis:</b> <math>\downarrow</math>Supply <math>\rightarrow \uparrow</math>P + <math>\downarrow</math>Q <math>\rightarrow</math> As <math>PED &lt; 1</math> (explained in part (i)) <math>\rightarrow \uparrow</math>P <math>\rightarrow</math> LTP <math>\downarrow</math>Q <math>\rightarrow \uparrow</math>TR due to <math>\uparrow</math>P &gt; <math>\downarrow</math>TR due to LTP <math>\downarrow</math>Q <math>\rightarrow \uparrow</math>TR</li> </ul> <p><b>Combined Effect</b></p> <ul style="list-style-type: none"> <li>• <math>\uparrow</math>DD + <math>\downarrow</math>SS have both led to a reinforced increase in TR <math>\rightarrow</math> overall TR <math>\uparrow</math></li> </ul> <p><b>Evaluation</b></p> <ul style="list-style-type: none"> <li>• Long run: <math>\uparrow</math>TR due to <math>\uparrow</math>DD may be to a smaller extent due to slowing growth in China</li> <li>• Long run: Chinese steel producers aims to <math>\uparrow</math>productivity through using iron ore with a higher iron content <math>\rightarrow \downarrow</math>unit COP <math>\rightarrow \uparrow</math>SS <math>\rightarrow \downarrow</math>TR (assume <math>PED &lt; 1</math>)</li> <li>• Long run: <math>PED &gt; 1</math> as other alternatives can be used due to development of new material <math>\rightarrow \uparrow</math>avail of close substitutes <math>\rightarrow</math> TR <math>\downarrow</math> due to <math>\downarrow</math>SS</li> </ul> <p><b>Level 2: (4-6 marks)</b> Answers in this range will provide rigorous economic analysis of the overall change in total revenue as a result of a rise in demand <u>and</u> a fall in supply. Case material should be referenced from Extract 2.</p> <p><b>Level 1: (1-3 marks)</b> Answers in this range may only explain the changes in demand &amp; supply without analysis of total revenue OR may only analyse the effect of either a demand or supply factor on total revenue.</p> <p><b>For Evaluative Comment (1-2 marks)</b> For an evaluative comment that considers the extent of the overall change in total revenue via the use of a relevant elasticity concept or the extent of the shifts in demand and/or supply.</p>																										
<b>(c)</b>	<p>Given the information contained in Table 2, identify if the US was a net exporter or net importer of steel. Justify your answer.</p> <ul style="list-style-type: none"> <li>• US is a net importer of steel. <b>[1]</b></li> <li>• In all the years in Table 2, the amount of imported steel is greater than that of exported steel. <b>[1]</b></li> </ul> <p>Reference to data:</p> <table border="1"> <thead> <tr> <th></th> <th>2014</th> <th>2015</th> <th>2016</th> <th>2017</th> </tr> </thead> <tbody> <tr> <td>Domestic Production</td> <td>88.2</td> <td>78.8</td> <td>78.6</td> <td>81.6</td> </tr> <tr> <td>Apparent Consumption*</td> <td>117.0</td> <td>104.7</td> <td>99.7</td> <td>106.1</td> </tr> <tr> <td>Imports</td> <td>40.3</td> <td>35.4</td> <td>30.0</td> <td>34.5</td> </tr> <tr> <td>Exports</td> <td>11.5</td> <td>9.5</td> <td>8.9</td> <td>10.0</td> </tr> </tbody> </table>		2014	2015	2016	2017	Domestic Production	88.2	78.8	78.6	81.6	Apparent Consumption*	117.0	104.7	99.7	106.1	Imports	40.3	35.4	30.0	34.5	Exports	11.5	9.5	8.9	10.0	<b>[2]</b>
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<b>(d)</b>	<p>Rising steel prices have led to car prices rising (Extract 4).</p> <p>Explain <b>two</b> possible factors that determine the extent to which car prices will rise due to rising steel prices.</p>	<b>[4]</b>																									

	<p><u>Possible points</u></p> <ol style="list-style-type: none"> <li><b>Proportion of costs due to costs of steel:</b> If a large proportion of the total cost of production is due to steel, the extent of the fall in supply will be large. This will result in a larger increase in steel prices.</li> <li><b>Impact on other costs due to switch to different type of steel:</b> Extract 4 highlights that with higher steel prices, this may result in higher costs for car producers as they may have to alter the manufacturing process to cater to the use of cheaper alternatives. If these costs are significant, the fall in supply may be larger. This will result in a larger increase in steel prices.</li> <li><b>PED:</b> The PED will determine the extent to which price will increase given the fall in supply due to rising steel prices. For example, if <math>PED &lt; 1</math> as cars in general may be considered a necessity due to its use as an essential means of transport, the fall in SS will result in a rise in price and a less than proportionate fall in qty dd. Price will rise to a large extent.</li> <li><b>Ceteris paribus may not hold:</b> Assuming c.p. does not hold, the rise in price of cars due to rising steel prices may be mitigated by other factors that cause car prices to fall such as a <math>\downarrow</math> demand for cars.</li> </ol> <p>Other possible factors that explain the extent of the change in car prices can be considered.</p>	
(e)	<p>Extract 4 mentions that the US has implemented tariffs on imported steel.</p> <p>In view of the possible impact of US steel tariffs on consumers, employees and producers, assess whether, on balance, protectionism can ever be justified.</p> <p>Overview: Students to present 2-3 points spread across thesis and anti-thesis and including a range of impacts on consumers, employees and producers. A final reasoned judgement that responds to the question is required.</p> <p><b>Introduction:</b></p> <ul style="list-style-type: none"> <li><b>[Define Protectionism]</b> Deliberate govt policy to erect trade barriers to shield domestic industries from foreign competition. It aims to switch expenditure, both domestic and foreign, to the domestic industries' goods and services.</li> </ul> <p><b>Thesis: There are positive impacts (advantages) of protectionism</b></p> <ul style="list-style-type: none"> <li><b>Argument 1: Protecting Employment</b> <ul style="list-style-type: none"> <li><b>Evidence:</b> <i>"he needs to do this to save jobs"</i> and <i>"Steel jobs have declined by the thousands in the past decade"</i> (Extract 4)</li> </ul> </li> </ul>	[10]



### Market for Steel in the US

- There may have been job losses in the US steel industry as other countries may have been able to produce steel at a lower cost e.g. China. → resulting in structural unemployment as employees retrenched from US Steel industry cannot find jobs elsewhere due to skills mismatch.
  - **Analysis:** Without protectionism, domestic production would be at  $Q_1$  at the world price,  $P_w$ . By derived demand, there would a low level of employment in the steel industry.
  - With an implementation of a tariff equal to  $P_w' - P_w$  per unit of steel → ↑unit COP of foreign steel producers → ↓world supply to  $S_w + \text{tariff}$  → ↑P to  $P_w'$  → domestic consumers switch to relatively cheaper domestic steel → ↑domestic production to  $Q_2$  → by derived demand → ↑employment → “saving jobs”
  - **[Employees]** This ensures that employees in the steel industry are employed and earn an income. **Evidence:** “*The whole goal of Trump’s tariff is to get prices of this metal to rise domestically so it’s profitable enough for US producers to make more steel and employ more people*”.
  - **[Producers]** Producers also benefit from both higher selling price,  $P_w'$ , as well as high quantity demanded of domestic steel,  $Q_2$ . This increases the total revenue of US steel producers resulting in a rise in profits, c.p.
  - **Evaluation:** The extent to which employment may rise is dependent on the PES of steel. If  $PES > 1$  due to the availability of spare capacity (due to the loss of jobs in the industry), the tariffs will result in a rise in price which leads to a more than proportionate ↑qty ss of domestic steel → larger ↑derived demand for labour → ↑employment to a larger extent.
- **Argument 2: Prevent dumping**
    - **Evidence:** “*China is dumping a lot of cheap steel into the United States, killing America’s domestic metal industry*” (Ext 4)
    - (Using same diagram as above) As China is alleged to have been dumping cheap steel into the US, this may have caused a loss of jobs in the US steel industry.
    - Assuming subsidies given to Chinese producers of steel → ↑SS for Chinese steel producers → ↓P of Chinese steel → ↓world price and ↑world supply → ↓domestic production in the US.
    - **[Employees, Producers]** By using tariffs → (don’t have to repeat tariff analysis from argument 1) → US is able to save jobs and the US steel industry by ↑domestic production. US steel producers

will enjoy higher profits.

Students can also consider any other plausible arguments for protectionism.

**Anti-thesis: There are negative impacts (disadvantages/costs) of protectionism**

• **Impacts related markets e.g. automobile industry**

- **Evidence:** *“the prices of many products, including cars, are likely to rise”*
- With tariffs imposed on the steel market → as seen in above diagram, prices will rise to  $P_w'$
- **[Consumers/Producers] Consumers** of steel, who are **producers** of goods requiring steel e.g. automobiles producers will face higher price of steel. There is also a fall in consumer surplus of area  $A+B+C+D$ .
- $\uparrow P$  steel →  $\uparrow P$  of cars (already analysed in part (d)) and  $\downarrow$  output of cars
- **[Consumers]** Consumers of cars will face higher prices.
- **[Employees/Producers]** With a  $\downarrow$  output of cars, automobile producers' profits will  $\downarrow$ . In addition, falling output results in a  $\downarrow$  derived demand for labour in the automobile industry →  $\downarrow$  employment and wages.

• **Retaliation will cause unintended consequences which affects other US export industries**

- **Evidence:** *“China, Canada and others could decide to retaliate right away by putting tariffs on some U.S. goods coming into their countries.”*
- With China retaliating to US protectionism →  $\uparrow$  unit COP for US firms exporting to China → Chinese consumers switch to relatively cheaper Chinese goods →  $\downarrow X$
- **[Producers/Employees]** This will result in a fall in revenue of US exporting firms which will  $\downarrow$  their profits. By derived demand, there will be fall in employment in these export industries.
- **Evaluation:** If key US export industries such as the “aerospace” or “agriculture” industry (Ext 4) are affected by retaliation, this can lead to a more severe impact on producers/employees.

**Synthesis: Is protectionism justified in light of the impacts on consumers, employees and producers?**

- **[Criterion: Severity of problem → speed of policy]** If the extent of the loss of jobs in industries such as the US steel industry is significant as suggested by Extract 4, a short term, quick solution will be required and thus protectionism is justified. Not dealing with the resulting unemployment may be more costly for the government and may outweigh the negative impacts. Other options such as supply-side policies to either regain back the competitiveness in the steel industry or provide training to reskill workers to take up jobs in expanding industries may take too long.

	<ul style="list-style-type: none"> <li>• <b>[Criterion: context → using the context to determine size of benefits/costs]</b> As there is indication that any protectionism by US is likely to be met with retaliation by China and other economies, this suggests the negative impact of retaliation is quite certain and likely to be large. Furthermore, based on the size of the tariffs which is large (25%, Ext 4) retaliation is even more likely. In addition, the impact of related industries may be significant as steel is used by many industries for many products and infrastructure (Extract 1). The unintended negative consequences on related industries may be very significant. In relative terms, the size of the benefits may be smaller as the benefits are only to the producers and employees in the steel industry.</li> </ul> <p><b>Level 2: (5-7 marks)</b> Answers in this range will provide rigorous economic analysis of the justifications for and against the use of protectionism. The effects of protectionism on consumers, employees and producers should be explained.</p> <p><b>Level 1: (1-4 marks)</b> Answers in this range may only described the justification for and against protectionism OR may only provide an analytical response that is one-sided i.e. only considering either the reasons for or against protectionism.</p> <p><b>For Evaluative Comment (1-3 marks)</b> For an evaluative comment that considers whether protectionism can be justified using a clear set of criteria to come to a reasoned judgement. Candidates should weigh the advantages and disadvantages of protectionism.</p>	
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Suggested answers for CSQ2

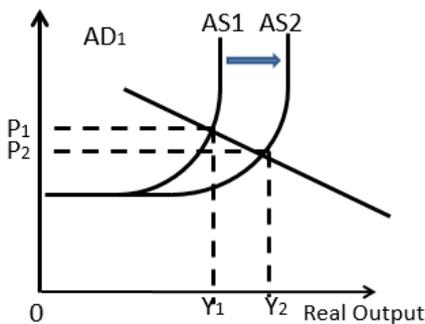
(a)	<p><b>With reference to Figure 1, compare the changes in unemployment rate for Eurozone and the selected countries.</b></p>	[2]
	<ul style="list-style-type: none"> <li>• Difference 1: Overall trend [1] Unemployment rate for France has been relatively stable (or has a small increase), while Germany's and Eurozone's unemployment rate were generally falling.</li> <li>• Difference 2: rate of change [1] While the unemployment rate for Germany was falling throughout, the unemployment rates for Eurozone and France was increasing before falling.</li> </ul>	
(b)	<p><b>Use aggregate demand and supply analysis to explain the causes of deflation in the Eurozone, as suggested in Extract 5.</b></p>	[6]
	<p>1) "Austerity measures introduced during the sovereign debt crisis" → Malign Deflation</p> <ul style="list-style-type: none"> <li>○ AD ↓ due to a ↓ AD component</li> <li>○ ↓ Government expenditure - austerity measures</li> </ul> <p><b>Explain with diagram showing how ↓AD → ↓GPL.</b></p> <div style="text-align: center;"> <p>Fig 6a: 'Malign' Deflation</p> </div> <p><b>Elaborate with deflationary spiral (Ext 5: persistent slack).</b></p> <ul style="list-style-type: none"> <li>• At P1, AD2 &lt; AS → surplus</li> <li>• Firms face ↑ in inventories → ↓ production to meet increased AD → hire lesser factors of production i.e. workers &amp; raw materials</li> <li>• As more resources are available due to ↓ <b>competition for FOP</b> → firms are able to offer lower factor prices to hire lesser FOP → ↓GPL as profit-max firms produce lesser output.</li> <li>• New equilibrium @ E2 where total spending = total output → P1 falls to P2, Y1 falls to Y2</li> <li>• A fall in prices will cause <b>debt burdens to rise</b> for both households and firms who have borrowed in the past since many consumer and corporate debts are fixed → Repayments do not fall as prices fall →</li> </ul>	

real debt ↑

- This makes it harder to meet repayments and companies are more at risk of going bankrupt.
- As bankruptcies increase, layoffs ( $AD_2 \rightarrow AD_3$ ) could occur as firms aim to maximise profits. Workers who retain their jobs could also suffer from wage reductions  $\rightarrow$  delay consumption  $\rightarrow \downarrow Cd \rightarrow \downarrow AD$ .
- With persistent weak consumer & business confidence, **this can lead** further  $\downarrow Cd$  &  $\downarrow I \rightarrow AD$  **continues to fall**  $\rightarrow AD_2$  falls to  $AD_3$  then to  $AD_4$
- **Persistent fall in AD**  $\rightarrow$  creates a situation of **sustained excess supply** in the economy
- $\rightarrow$  **Sustained** fall in GPL  $\rightarrow$  “widespread & entrenched falling prices”, as suggested in Ext 5
- $\rightarrow$  **malign deflation**

- 2) “structural reforms to boost competition and regain competitiveness” & “declining oil prices”  $\rightarrow$  Benign Deflation
- Structural reforms:  $\uparrow$  Labour productivity  $>$   $\uparrow$  wages  
OR
  - Declining oil prices :  $\downarrow$  Prices of imported FOPs like oil
  - SRAS  $\uparrow$  due to  $\downarrow$  unit cost of production
  - $\uparrow$  Quantity or quality of FOP  $\rightarrow \uparrow$  LRAS

Explain with diagram showing how  $\uparrow$ SRAS or  $\uparrow$ LRAS  $\rightarrow \downarrow$ GPL



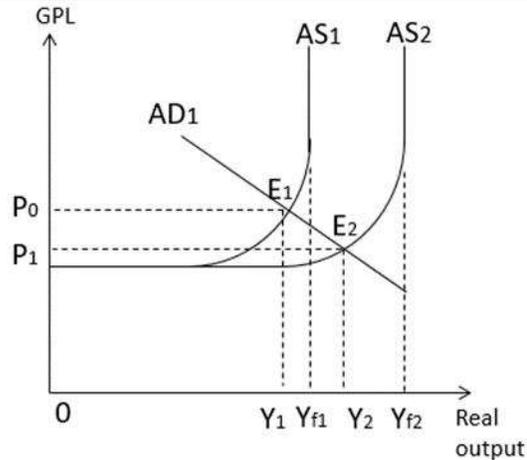
- falling prices of natural resources such as oil  $\rightarrow$  fall in imported inflation  $\rightarrow$  fall in unit COP  $\rightarrow \uparrow$  willingness & ability to produce more  $\rightarrow \uparrow$  productivity
- Structural reforms such as education/training  $\rightarrow \uparrow$  labour productivity as workers gain new competencies
  - $\uparrow$  productive capacity  $\rightarrow \uparrow$  AS from  $AS_1$  to  $AS_2$
  - $\uparrow$  AS  $>$   $\uparrow$  AD  $\rightarrow$  total output  $>$  total spending
  - surplus  $\rightarrow \uparrow$  inventories  $\rightarrow \downarrow$  production
  - $\downarrow$  GPL & real output  $\uparrow$
  - As  $\uparrow$  AS  $>$   $\uparrow$  AD persists  $\rightarrow$  persistent  $\downarrow$  GPL  $\rightarrow$  benign deflation occurs.

	<ul style="list-style-type: none"> <li>Given that Ext 5 suggested that the Eurozone is experiencing both falling prices and high levels of unemployment, it is likely that the main source of deflation in the Eurozone is Malign deflation, rather than benign deflation.</li> </ul>	
(c)	<b>Using Extract 7, explain how automatic stabilisers work to offset fluctuations in economic activity.</b>	<b>[4]</b>
	<ul style="list-style-type: none"> <li><b>Identification</b> of automatic stabilisers from extract 7: Unemployment benefits [1m]</li> <li><b>Explanation</b> with reference to Extract 7: (Explanation: 2mks &amp; Link to Qn: 1mk) <ul style="list-style-type: none"> <li>When the economy is experiencing negative growth <math>\rightarrow</math> NI <math>\downarrow</math> <math>\rightarrow</math> <math>\downarrow</math> real GDP per capita [1]</li> <li><math>\uparrow</math> entitlement of unemployment benefits <math>\rightarrow</math> <b>overall disposable income <math>\downarrow</math> to a smaller extent</b> compared to the case if there was no unemployment benefits [1]</li> <li><math>\downarrow</math> C is smaller <math>\rightarrow</math> multiplied <math>\downarrow</math> NI is smaller <math>\rightarrow</math> <math>\downarrow</math> volatility in growth <math>\rightarrow</math> <u>offset fluctuations in economic activity</u> (Link) [1]</li> </ul> </li> </ul>	
(d)	<b>Discuss the main difficulties faced by a government from the Eurozone when attempting to resolve its unemployment problem.</b>	<b>[8]</b>
	<p><b>1) Policy options to resolve unemployment problem:</b></p> <ul style="list-style-type: none"> <li>Expansionary Demand Management policies to address demand deficit unemployment <ul style="list-style-type: none"> <li>Fiscal Policy: <math>\uparrow</math> govt spending and/or <math>\downarrow</math> tax rates</li> <li>Monetary Policy aka Quantitative Easing <b>by ECB</b>: <math>\downarrow</math> interest rates</li> </ul> </li> <li>Supply side policies to address structural unemployment: <math>\uparrow</math> training and education subsidies</li> </ul> <p><b>2) Difficulties faced for demand management policies</b></p> <ul style="list-style-type: none"> <li>Expansionary DD management Policies: <b>low level of business confidence</b> (Ext 5) <ul style="list-style-type: none"> <li>Poor economic outlook <math>\rightarrow</math> <math>\downarrow</math> tax rates &amp; <math>\downarrow</math> i/r lead to Limited <math>\uparrow</math> C &amp; I since consumers rather save than spend, firms prefer not to invest in uncertain conditions</li> <li>Limited <math>\uparrow</math> AD <math>\rightarrow</math> limited <math>\uparrow</math> real output &amp; jobs created <math>\rightarrow</math> limited <math>\downarrow</math> in unemployment rate <math>\rightarrow</math> demand management policies are less effective.</li> <li>Extract 2: <math>\downarrow</math> in unemployment rate but <math>\uparrow</math> poor quality jobs <math>\rightarrow</math> <math>\uparrow</math> underemployment <ul style="list-style-type: none"> <li>EV: extent of underemployment varies across Eurozone. Extract 2: Underemployment rate in</li> </ul> </li> </ul> </li> </ul>	

		<p>Eurozone is 22%, while the rates in Greece, Cyprus &amp; Spain are 72%, 66% and 57% respectively. This signifies the different degrees in pace of economic recovery, which could be due to the different levels of business confidence experienced in the different Eurozone economies.</p> <ul style="list-style-type: none"> <li>○ Expansionary Fiscal Policy: <b>budget constraints</b>, as experienced during the sovereign debt crisis (Ext 5) <ul style="list-style-type: none"> <li>▪ Fiscal debt → limited ability to carry out expansionary fiscal policy to boost AD to increase demand for labour.</li> <li>▪ Fiscal debt → ↓confidence → ↑ outflow of FDI → ↓AD → worsen demand deficient unemployment <ul style="list-style-type: none"> <li>▪ EV: depends on fiscal health of the various Eurozone economy.</li> <li>▪ Extract 5: “sovereign debt crisis has been most acute in the bloc’s weaker, southern economies such as Spain, Greece, Portugal and also France”</li> <li>▪ Table 1: Germany’s unemployment rate is consistently lower than France and Eurozone. And the unemployment rate has always been falling.</li> <li>▪ Germany was not as deeply embroiled in the sovereign debt crisis as compared to the “southern economies”. This gives the country more fiscal ammunition to fight against the demand deficient unemployment which it could have been facing.</li> </ul> </li> </ul> </li> <li>○ Expansionary monetary policy: <b>Lack of independent monetary policy for Eurozone governments.</b> <ul style="list-style-type: none"> <li>▪ Individual Eurozone is not able to implement an expansionary monetary policy even if they are facing severe rates of demand deficient unemployment.</li> </ul> </li> </ul> <p><b>Difficulties faced for demand management policies</b></p> <ul style="list-style-type: none"> <li>○ SS-side policies: <b>depends on receptivity of workers</b>, made complicated by generous unemployment benefits (Ext 3)/ <b>opportunity cost argument / disincentive effect on work &amp; investment</b>, due to tight fiscal position faced, especially at the height of the sovereign debt crisis. (Ext 6)</li> <li>○ <b>Uncertainty</b> due to poor receptivity of workers complicated by high unemployment benefits offered (Ext 7) <ul style="list-style-type: none"> <li>▪ Education &amp; training all require a long time before they are completed</li> <li>▪ Workers might not be receptive or are unable to arrive at the competency required → ss-side policies less effective.</li> </ul> </li> <li>○ <b>Opportunity cost argument</b></li> </ul>	
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		<ul style="list-style-type: none"> <li>▪ If ↑ spending is financed by channeling funds from other uses</li> <li>▪ This may incur a high opportunity cost due to amount of resources that have to be switched. (E.g., trade-offs in healthcare, especially in an aging Eurozone)</li> <li>▪ If the loss of benefits from reduced spending in other areas is greater than the benefits gained from the supply-side policy →</li> <li>○ <b>Disincentive effect on work &amp; investment</b> <ul style="list-style-type: none"> <li>▪ If ↑ spending is financed by raising tax rates → create disincentives</li> <li>▪ If the cost of the disincentives is greater than the benefits gained from the supply-side policy → misallocation of resources.</li> </ul> </li> <li>○ <b>Information Failure: govt is not able to identify root cause of unemployment → unsure of what policy to implement</b></li> </ul> <p><b>3) Conclusion—Ranking</b></p> <ul style="list-style-type: none"> <li>○ Depends on context of economy in the different Eurozone countries → different Eurozone countries have different difficulties <ul style="list-style-type: none"> <li>▪ Figure 1: rate of recovery is different for different Eurozone economies. While the unemployment rate in France continued to worsen before recovering slightly, Germany’s unemployment rate has been improving since the Global Financial Crisis.</li> </ul> </li> <li>○ Depends on root cause of unemployment <ul style="list-style-type: none"> <li>▪ Some Eurozone countries could be facing multiple causes of unemployment. E.g., Spain is more likely to also face structural unemployment compared to Germany.</li> </ul> </li> </ul>						
<b>Knowledge, Application, Understanding, Analysis</b>		<table border="1"> <tr> <td><b>L1</b></td> <td> <ul style="list-style-type: none"> <li>• Answers are largely descriptive or contain errors in the explanation on the possible difficulties that could be experienced by a government from the Eurozone.</li> <li>• Limited scope.</li> <li>• Limited or no use of relevant economic framework, including diagram and answers has limited or no reference to case material</li> </ul> </td> <td style="text-align: center;"><b>1 – 3</b></td> </tr> <tr> <td><b>L2</b></td> <td> <ul style="list-style-type: none"> <li>• Answers provide correct identification and explanation on the <b>various difficulties</b> that can be experienced by a government from the Eurozone via a range of possible</li> </ul> </td> <td style="text-align: center;"><b>4 - 6</b></td> </tr> </table>	<b>L1</b>	<ul style="list-style-type: none"> <li>• Answers are largely descriptive or contain errors in the explanation on the possible difficulties that could be experienced by a government from the Eurozone.</li> <li>• Limited scope.</li> <li>• Limited or no use of relevant economic framework, including diagram and answers has limited or no reference to case material</li> </ul>	<b>1 – 3</b>	<b>L2</b>	<ul style="list-style-type: none"> <li>• Answers provide correct identification and explanation on the <b>various difficulties</b> that can be experienced by a government from the Eurozone via a range of possible</li> </ul>	<b>4 - 6</b>
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**EV:** Outcomes on potential growth can only be materialized in the long run, given the uncertainties involved in technological progress  
**EV:** Actual growth may not be materialized in the Eurozone, given the slow rates of economic recovery suggested → AD may not be high enough to support actual growth

- b. **Inflation:** Fall in GPL ( $P_0$  to  $P_1$ ) → ensures that prices remain low and stable → ↑ business confidence → further ↑ in investment due to increase in expected returns, based on MEI theory → higher levels of potential growth  
**EV:** May aggravate extent of benign deflation experienced in Eurozone
- c. **Unemployment:** Creation of new jobs (Ext 8: emergence of ATMs created jobs for bank tellers) since demand for labour is a derived demand → ↓ demand deficient unemployment rate
- **Employees:** ↑ income for households → ↑ purchasing power → ↑ ability of one to consume more goods and services to satisfy more wants → ↑ material SOL
- d. **Balance of payment:** Improvement in X competitiveness → improvement in current account, assuming that demand for export is price elastic → Improvement in BOP

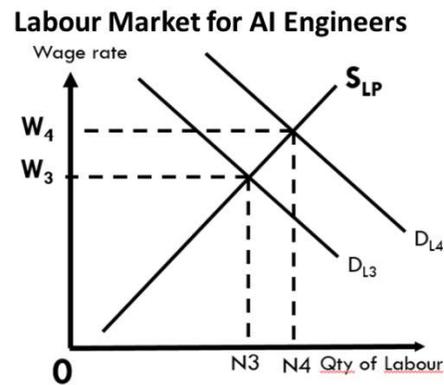
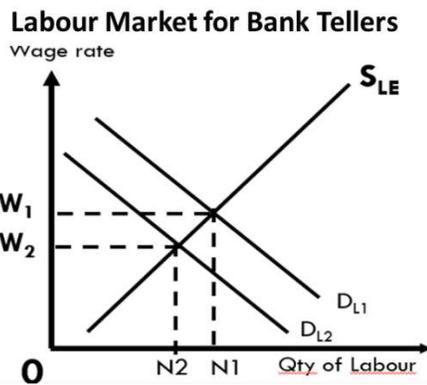
**(Note: must link opportunities to its consequences)**

## 2. Challenges/negative impacts presented by technological progress to an economy

- **Unemployment:** Sunset vs sunrise industries → ↑ structural unemployment
  - Improvement in production techniques (use of automation) → For example, Ext 8: “use of ATMs to offer a range of

financial services → replacing the workforce” → ↓ in demand for labour such as Bank Tellers, in Banking industry ( since labour is a derived demand)

- At the same time, development of new comparative advantage in production of automation services → ↑ in demand for automation services → ↑ in demand for labour (such as the engineers) in automation industry
- N2N1 low skilled workers (Bank Tellers) from Banking industry do not have relevant skills to take up the jobs in the automation industry → structurally unemployed



**EV on extent of structural unemployment experienced:**

- Extent of structural unemployment experienced in the economy depends on receptivity of workers to pick up new skills & competencies that are relevant in the face of technological progress. E.g., Germany, an engineering powerhouse might be less vulnerable to structural unemployment
- Extent of structural unemployment also depends on availability of tax revenue to subsidize training, especially if the govt implements a “Robot Tax”
- Extent of structural unemployment could also depend on the nature of the economy. If the bulk of the economy is driven by Services, where the nature of the job is not as easily replaced by technology, as compared to Manufacturing, the extent of structural unemployment experienced could be much lower.
- **Households:** ↑ income inequality → ↓ non-material SOL
  - workers who are not structurally unemployed → loss of income → ↓ wage rate from  $W_1$  to  $W_2$
  - High skilled labour who are able to take up new job → ↑ wage rate from  $W_3$  to  $W_4$
  - ↑ income inequality, from  $W_1W_3$  to  $W_2W_4$  → ↓ non-material SOL as stress levels and crime-rates ↑

### 3. Conclusion

- Extract 8: “As machines and algorithms get smarter, they’ll replace a widening share of the workforce” → Challenges > opportunities
- → some degree of state intervention is necessary to help workers to maximize benefits of technological progress
- For example, based on extract 8
  - “Robot Tax” → tax revenue to subsidize training for displaced workers → ↓ structural unemployment & extent of challenges without creating disincentives for firms to invest into automation to reap benefits of technological progress
  - “Minimum income/ wage” to protect low income earners → to buy them some time as they take time and effort to undergo training to gain new competencies which will enable them to take up new jobs as automation becomes more pervasive in the society

<b>Knowledge, Application, Understanding, Analysis</b>		
<b>L1</b>	<ul style="list-style-type: none"> <li>• Answers are largely descriptive or contain errors in the explanation on the possible opportunities &amp; challenges presented by technological progress</li> <li>• Limited scope.</li> <li>• No use of relevant economic framework, including diagram and answers has limited or no reference to case material</li> </ul>	<b>1 – 4</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>• For a well-developed and balanced answer that discusses the <b>opportunities &amp; challenges</b> presented by <b>technological progress</b></li> <li>• Provides sufficient <b>scope</b> on the <b>macroeconomic impact</b> on an economy.</li> <li>• Reference to <b>case material</b> is clearly applied.</li> <li>• Use of relevant <b>theory, framework and economic analysis</b></li> </ul>	<b>5 - 7</b>
<b>E</b>	<ul style="list-style-type: none"> <li>• Provides a clear evaluative conclusion/judgement on the <b>extent of</b> and <b>overall impact</b> that could be experienced by an economy</li> </ul>	<b>2-3</b>

			<ul style="list-style-type: none"><li>• An unsubstantiated judgement without a clear stand or reasoning</li></ul>	<b>1</b>	
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## Suggested answers for Essay 1

### Part (a)

#### Introduction: Set direction of essay

Changes in price of a good can affect the responsiveness of quantity supplied for a good and changes in income can affect the responsiveness of demand for a good. The concepts of price elasticity of supply (PES) and income elasticity of demand (YED) measure the responsiveness and these concepts will also affect the changes in price of different products. These elasticity values differ for different products and we will examine the factors that affect these elasticity concepts.

#### Devt 1: Define PES and identify factors affecting PES

##### [Definition & formula]:

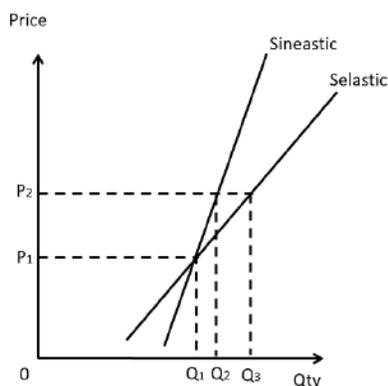
Price elasticity of supply measures the degree of responsiveness of quantity supplied to a change in the price of good, ceteris paribus. It is measured by the percentage change in quantity supplied of a good divided by the percentage change in price of the good.

##### [Sign & magnitude]:

According to the law of supply, there is always a direct relationship between price and quantity supplied, hence PES is positive. If  $PES > 1$ , this implies that a rise in price of a good will lead to a more than proportionate increase in quantity supplied for the good, while  $PES < 1$  implies that a rise in price of a good will lead to a less than proportionate increase in quantity supplied for the good.

##### [Factor 1: Ease of factor mobility]:

PES is affected by the ease of factor mobility. The greater the ease of factor mobility, the greater the magnitude of PES. Take for example, the PES of neighbourhood coffeeshop coffee is likely to be greater than 1 as due to relatively simple skillset, it is relatively easier for labour to move into the industry. As labour are more mobile, firms will be able to increase output more easily when price of the good increase as they would be able to summon labour easily away from other markets. However, for speciality coffee shop, it is harder to find a good latte artist or barista as it takes a lot to develop the skills. Hence, it is harder for labour to move into this industry from another. Thus, the PES of speciality coffee shop coffee is likely to be smaller than 1.



##### [Factor 2: Existence of spare capacity]:

In the short run, PES for speciality coffee shop coffee is likely to be smaller than 1 due to lack of spare capacity with shortages of both skilled workers and roasted coffee beans which will restrict firms' ability to expand production when price increases. This is because coffee beans for speciality coffee are

sourced from all over the world and are sometimes roasted on-site. However, PES for coffee shop coffee is likely to be greater than 1 due to the existence of spare capacity as coffee are made from pre-roasted coffee powder which are readily available.

**Devt 2: Define YED and identify factors affecting YED**

Income elasticity of demand measures the degree of responsiveness of demand of a good to a change in income, ceteris paribus. It involves a shift in the demand curve in response to changes in income. It is measured by the percentage change in demand of a good A divided by the percentage change in income.

**[Factors affecting sign/magnitude of XED]:**

**Sign:**

The sign of income elasticity of demand may be positive or negative.

Negative income elasticity of demand means that as income increases the demand for the good falls, ceteris paribus. Goods with negative income elasticity of demand are called inferior goods. Hence, an increase in income will cause the demand curve for inferior goods to shift to the left.

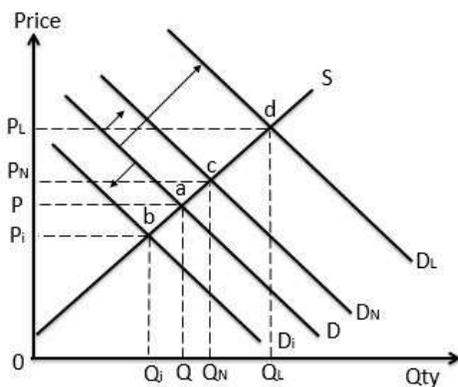
Positive income elasticity of demand means that as income increases the demand for the good increases, ceteris paribus. Goods with positive income elasticity of demand are called normal goods. Hence, an increase in income will cause the demand curve for normal goods to shift to the right.

**Magnitude:**

If the magnitude of YED is greater than one, this means that for a given increase in income, there will be a more than proportionate increase in the demand of the good. Demand is income elastic. The demand for luxury goods is income elastic. A given rise in the income will lead to more than proportionate increase in demand, causing a rightward shift in the demand curve from D to DL.

If the magnitude of YED is greater than zero but less than one, this means that for a given increase in income there will be a less than proportionate increase in the demand of the good. Demand is income inelastic. The demand for necessities is income inelastic. A given rise in the income will lead to less than proportionate increase in demand, causing a rightward shift in the demand curve from D to D<sub>N</sub>.

If the magnitude of YED is negative, it is an inferior good. A given rise in the income will lead to a fall in demand, causing a leftward shift in the demand curve from D to D<sub>i</sub>.



Speciality coffee shop coffee tend be have more unique coffee flavours and are more aesthetically pleasing with the use of latte art. Hence, the YED of speciality coffee shop is likely to be positive and more than 1 or we say that demand is income elastic. This is because speciality coffee shop coffee is a luxury product as it is a more luxurious coffee with higher quality coffee beans sourced from all over the world that is served at a venue with good ambience. It is a non-essential product. A decrease in income brings about a more than proportionate decrease in demand for speciality coffee shop coffee as people with lower purchasing power would forgo the quality and ambience. The YED of neighbourhood coffee shop coffee is positive and less than 1 or we say that demand is income inelastic. This is because neighbourhood coffee shop coffee is more likely a necessity to most people as their daily beverage. A decrease in income brings about a less than proportionate decrease in demand neighbourhood coffee shop coffee as not many people are able and willing to forgo coffee.

Hence, luxury items generally have a higher income elasticity of demand while essential items have a lower YED value.

**Conclusion: Link to (b)**

Such considerations of PES and YED of different products will be important in determining the change in coffee beverages which will be discussed further in (b).

Knowledge, Application, Understanding and Analysis		
L3	Clear economic analysis that explains the factors that explain the difference in price elasticity of supply and income elasticity of demand for different products.	8-10
L2	Underdeveloped answer or an inadequate attempt to explain the difference in price elasticity of supply and income elasticity of demand for different products.  Underdeveloped answer that only explains the difference in price elasticity of supply or income elasticity of demand for different products.	5-7
L1	Answer mostly irrelevant or inaccurate. Only contains a few valid points made incidentally.	1-4

**Part(b)**

**Introduction**

- Market for different coffee beverages – coffee in neighbourhood coffee shop and coffee in hipster coffee shop
- Coffee prices are determined by demand and supply for coffee. Demand refers to the quantities of a product that consumers are willing and able to buy at various prices per period of time, ceteris paribus. Supply refers to the quantities of a product that suppliers are willing and able to sell at various prices per period of time, ceteris paribus.
- Apply DD, SS, PED, PES and YED to explain why specialty coffee increased by a larger extent compared to a cup of coffee in a neighbourhood coffee shop.

**Thesis: Demand factors are more important in determining the change in the price of coffee beverages.**

**Explain 2 factors leading to an increase in demand for coffee**

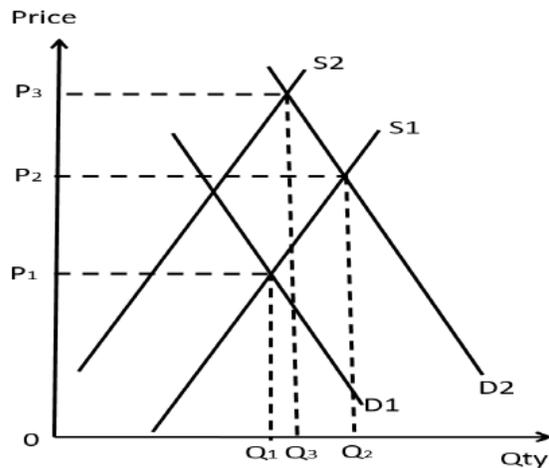
**a. Increase in income**

- Increase in disposable income due to rising income in Singapore → increase in consumers' purchasing power → consumers more willing and able to purchase coffee → increase demand for both neighbourhood coffee shop coffee and speciality coffee, assuming both coffee beverages are normal goods
- However, the extent of the increase in demand due to the increase in income would be dependent on the value of YED.
  - Larger increase in speciality coffee as  $YED > 1$ , compared to neighbourhood coffee shop coffee which is regarded as necessity & with  $YED < 1$ . Demand will increase less than proportionately as a result of an increase in income. Demand will shift rightwards by a smaller extent resulting in a smaller increase in price. On the other hand, for speciality coffee, they are likely to be considered luxury goods with  $YED > 1$ . Given an increase in income, it will lead to a more than proportionate increase in demand, shifting demand rightwards by a larger extent resulting in a larger increase in price.

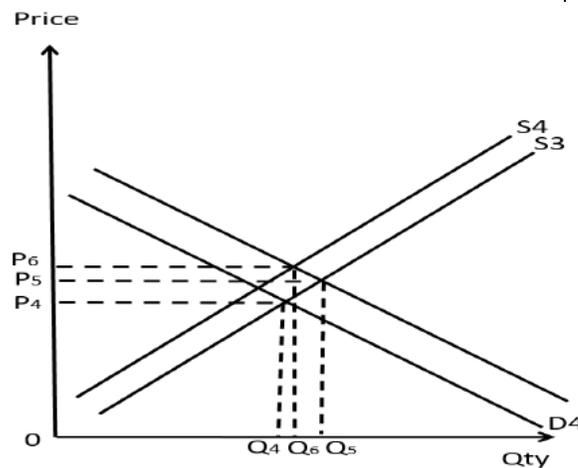
**b. Change in taste and preference**

As coffee lovers in Singapore develop more discerning tastes, there is a change in taste and preference away from neighbourhood coffee shop coffee towards speciality coffee. Hence, demand for speciality coffee will increase and shift right by a greater extent, resulting in a large increase in price.

**Explain the impact of the increase in demand for different coffee beverages on their prices**



Market for specialty coffee



Market for coffee shop coffee

**[adjustment process]** The increase in demand for coffee to  $D_2$  → creates a shortage at  $P_1$  → upward pressure on price → new equilibrium is achieved where equilibrium price and quantity has increased to  $P_2$  and  $Q_2$  respectively.

**[extent of increase in price is dependent on PES]**

However, the extent of the increase in price would be dependent on the PES of the different coffee beverages. As explained above, supply for speciality coffee is price inelastic. Hence, with the larger

extent of the increase in demand, this explains the larger increase in the price of speciality coffee. On the other hand, supply for neighbourhood coffee shop coffee is price elastic. Hence, with the smaller extent of the increase in demand, this explains the smaller increase in the price of neighbourhood coffee shop coffee.

#### **Reasons for why demand factors are more important**

- Country experience strong economic growth hence large increase in income and hence large rise in demand contributing to large ↑ price.
- Over the past few years, a series of studies have come out showing that drinking coffee has significant health benefits. Hence, a significant change in taste and preference towards coffee contributing to large ↑ price.

#### **Anti-Thesis: Supply factors are more important in determining the change in the price of coffee beverages.**

#### **Explain factors leading to a fall in SS of different coffee beverages**

Rising costs including manpower, workers' training, equipment and rent lead to higher unit cost of production. Holding the price of the good constant, a higher unit cost of production would result in a lower potential profit. Hence, at each possible price fewer units will be supplied as producers consider alternative goods to produce. There will be a leftward shift in the supply curve from S to S1.

#### **Explain the impact of the fall in supply on the market for different coffee beverages**

Hipster coffee shops are likely to face larger increase in unit cost of production as many are located in prime locations, require more skilled labour and uses more specialized equipment which are more costly. Thus, supply for hipster coffee shop coffee will fall and shift left by a greater extent, resulting in a larger increase in price of speciality coffee.

The extent of the fall in price would be also be dependent on the PED for the coffee beverages. Speciality coffee requires the use of special coffee blends and hence there is a lower availability of substitutes compared to neighbourhood coffee shop coffee that uses similar coffee powder. Hence, demand for speciality coffee is likely to be more price inelastic, which explains the larger increase in price of speciality coffee.

#### **Reasons for why supply factors are more important**

- Supply factor is more important than demand factor in determining the change in price of coffee as supply falls by a larger extent due to the substantial rise in cost of labour and rental cost due to Singapore's limited land and labour shortages.
- Arabica coffee bean prices will rise nearly 20 percent by the end of 2019 as Brazil's shift to an off-year in its biennial production cycle which swing the world into a global deficit. The overall outlook is somewhat similar for robusta beans, primarily used for instant coffee or added to blends as a cheaper ingredient. Robusta prices are expected to rise to \$1,775 per tonne by the end of 2019, a 16 percent increase. Supply falls by a larger extent due to the significant rise in price of coffee beans, a significant factor input in the production of coffee.

#### **Synthesis: Responding to key word: 'likely importance'.**

- **[Depends on the state of the economy]** Demand increase by a smaller extent due as economic growth is slowing down in Singapore. Supply factor is due to structural problems in the economy and hence the fall in supply will be larger and more persistent whereas demand factor is a cyclical factor. Hence, supply factors are more important than demand factors in determining the change in price of coffee in Singapore.
- **[Depends on the nature of the good and extent of the increase in the COP]** In some countries, speciality coffee beverages have become a necessity. Hence  $YED < 1$ , where a rise in income will lead to a less than proportionate increase in demand. Moreover, for speciality coffee, the production process requires more skilled labour and coffee beans. Hence, supply factors are more important than demand factors in explaining the change in price of coffee for speciality coffee.
- **[Question ceteris paribus assumption/Time period]** However, the above analyses only hold if the assumptions about the various elasticity values and extent of shifts in demand and supply are true. In the long run, such assumptions may not hold and price of coffee may even fall. For example, there could be a fall in price of coffee beans due to improvement in technology to harvest coffee beans that result in an increase in supply of coffee and hence a fall in coffee prices.

Knowledge, Application, Understanding and Analysis		
L3	A well-developed answer that demonstrates: <ul style="list-style-type: none"> <li>• Appropriate analysis on the change in price of coffee beverages using relevant demand, supply and elasticity concepts (e.g. PED, PES and YED)</li> <li>• Application to 2 markets – (e.g. neighbourhood coffee shop coffee and speciality coffee shop coffee)</li> </ul>	8-10
L2	For an answer that gives a descriptive explanation of impact on the price of coffee beverages. For an answer that only address the change in price of neighbourhood coffee shop coffee or specialty coffee shop coffee.	5-7
L1	For an answer that shows knowledge of demand, supply and elasticity concepts on market for coffee.	1-4
Evaluation		
E3	For a well-reasoned judgement on the extent of the importance of demand and supply factor in determining the change in the price of coffee beverages.	4-5
E2	For largely unexplained judgements	2-3
E1	For unsupported evaluative statements or judgement.	1

## Suggested answers for Essay 2

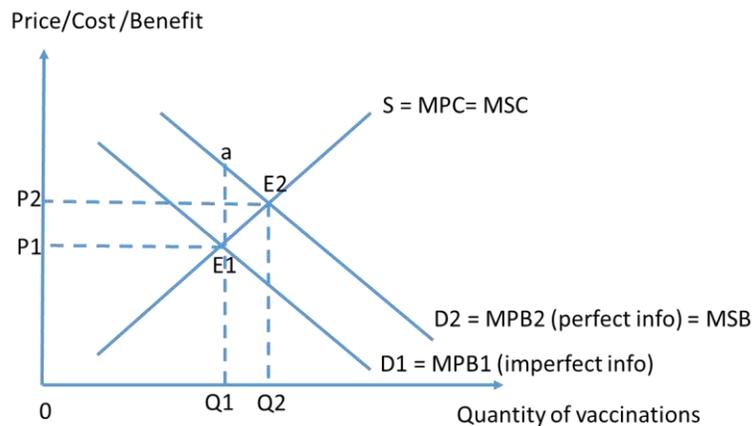
### Introduction:

- **Define key terms:** Market failure occurs whenever the price mechanism fails to allocate resources efficiently and equitably. Economic efficiency refers to both productive and
- **Set direction of essay:** Under the conditions of perfect competition, perfect knowledge and the absence of externalities, markets operate efficiently. However, these conditions do not hold in the real world, as there is often imperfect knowledge, therefore market inefficiency arises.

### Dev't 1: Identify & explain the above sources of market failure

**Point 1:** Info failure (or imperfect info) leads to market failure as consumers fail to recognise the true benefit/cost of consuming a good to themselves and therefore under or overconsume it leading to allocative inefficiency.

- An example in the **healthcare market include vaccinations** against diseases.
- Consumers underestimate the true private benefit of being vaccinated due to inaccurate information regarding their effectiveness or underestimate the likelihood of them contracting illnesses over time. As such, consumer's MPB (perfect info) > MPB (info failure).



- Market eqm occurs where MPB (imperfect info) = MPC, with output Q1.
- Assuming no externality, socially optimal eqm occurs where MSB=MSC, with output Q2.
- There is an underconsumption of Q1Q2 units of vaccinations and underallocation of resources into the market of vaccinations, hence there is allocative inefficiency.
- Deadweight loss due to underconsumption is represented by area aE1E2.
- Hence, market failure arises due to imperfect knowledge.

**Point 2:** Another subset of imperfect info is asymmetric info, where one party has more information than the other. This will cause an inappropriate amount of goods to be consumed and produced, leading to allocative inefficiency.

- An example would be the **used car markets**, where the used car sellers have more information about the condition of the used cars than potential buyers. Used car sellers

might hide some of this info in order to profit from the sale of used cars.

- Potential buyers take this into consideration and tend to lower the price they are willing to pay for used cars in view of the possibility that they would be purchasing used cars of a lower quality (lemon).
- At this lower price, sellers with good condition used cars (plum) are unwilling to offer the cars for sale, resulting in a used car market where only lemons are sold.
- Asymmetric information thus results in the used car market adversely selecting against higher quality used cars in favour of used cars of a lower quality. There is thus an **underproduction of plums** as none are sold. This results in an allocative inefficient outcome.

Hence, the government intervenes in the case of imperfect knowledge and asymmetric information to correct the above sources of market failure.

**Devt 2: Explain and assess provision of information as a policy tool to overcome above sources of market failure.**

**Point 3:** One of the policies govt can consider is providing more information to consumers through public education and campaigns to allow them to make more informed choices.

- In order to overcome the market failure associated with imperfect information, the Singapore government can provide more information about the benefits of vaccinations through campaigns.
- Greater awareness of the health benefits amongst consumers will raise the demand for vaccinations from  $D_1$  to  $D_2$  (actual MPB), correcting the underestimation of private benefits. Output for vaccinations will increase from  $Q_1$  to  $Q_2$  (socially optimal output level), correcting the underconsumption of vaccinations and eliminating deadweight loss of  $aE_1E_2$ . Hence, allocative efficiency is achieved.
- Another example to overcome the asymmetry of info in the market for healthcare would educating consumers about the pricing of various medical treatments in clinics and hospitals. Statistics of common procedures have been published and made known to the public. This reduces the asymmetry of information where doctors may have more information than their patients.

**Strengths and limitations of provision of information:**

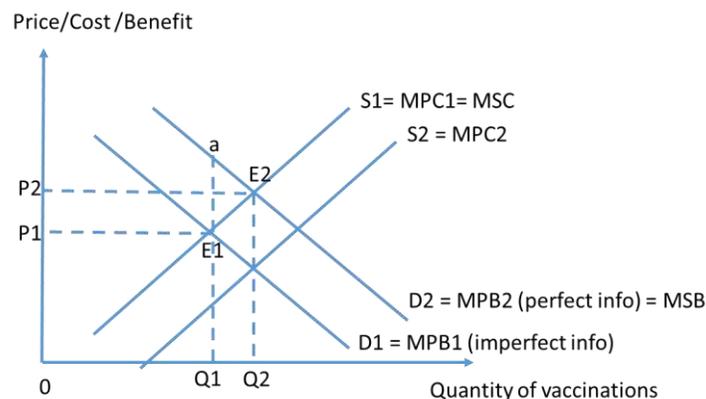
- While the sole use of this policy directly addresses the root cause of the problem (imperfect information), it largely depends on the receptivity of the target audience. Due to ingrained habits or stubbornness, people may not be receptive to the information given, reducing the effectiveness of the policy. The use of campaigns and public education also involve significant costs and should the cost of such policies outweigh the benefits gain, there will be a misallocation of resources.
- **EV:** Since Singapore has a relatively educated population, the people will likely be more receptive to useful health campaign messages.
- **EV:** Also, given Singapore's relatively high adoption of technology and electronic devices, dissemination of campaign messages through electronic mediums will likely be less costly.

- To complement this policy, Singapore government can also consider other policies such as subsidies and legislation.

**Devt 3: Explain and assess other policies to overcome above sources of market failure.**

**Point 4:** SG govt should not solely depend on provision of info. Subsidies can also be used to overcome market failure arising from information failure.

- For instance Singapore government implements various subsidy schemes to increase the consumption of healthcare. An example would be MediFund.
- A subsidy for healthcare will lower the unit cost of producing vaccinations, hence increasing the potential profit per unit and willingness of producers to supply vaccinations. Supply of vaccinations increase from  $S_1$  to  $S_2$ . Output increases from  $Q_1$  to  $Q_2$  (which is the socially optimal output level), eliminating underconsumption of vaccinations and deadweight loss  $aE_1E_2$ . Hence allocative efficiency is achieved.



**Strengths and limitations of subsidies:**

- Subsidies have an additional benefit of lower prices of healthcare, improving the accessibility and affordability of healthcare to lower income groups.
- However, government may not be able to accurately estimate the right amount to subsidise due to information failure. An oversubsidy will lead to an overconsumption of healthcare and possibly larger deadweight loss, leading to government failure.
- Subsidies are also costly and opportunity costs could be incurred where subsidy for vaccinations would lead to less government resources channelled to other developmental areas such as education and infrastructure.
- EV: While this policy requires substantial funding, Singapore has greater ability to finance this considering its accumulated budget surpluses from past years.
- EV: Government failure is a less likely outcome in Singapore given its small geographical size and use of technology for data collection to determine the right amount of subsidy more accurately.

**Point 5:** In order to address asymmetric info, SG govt should not just solely depend on provision of info, legislation may also be used to address adverse selection.

- An example would be the implementation of the Lemon Law in Singapore.
- It requires retailers to replace, exchange or give refunds for defective goods to the

consumer within 6 months of delivery date when they unknowingly purchase a faulty or low-quality product.

- When such a law has been implemented, used car sellers have greater incentive to repair used cars before transaction or scrap lemon cars.
- As such, consumers are now willing to pay a higher price once they learn that the market is no longer made up of lemon cars. This would ensure that prices are kept high enough that the sellers of high-quality cars do not exit the market and thus preventing the problem of adverse selection.

**Strengths and limitations of legislation:**

- This may lead to unintended consequences on consumers if higher cost of repairs are passed down in the form of higher prices or lower quality of service.
- There are high administrative costs involved in legislation, and difficulty in enforcement and ensuring compliance. High costs are incurred in sending government officials to check and monitor that laws are being followed. Legislation such as the Lemon Law also requires that consumers and producers are aware of the rules and regulation for it to be effective. There will be cost involved in communicating the legislation to the public.
- EV: Effectiveness of legislation depends heavily on government's ability to successfully enforce and monitor it to prevent abuse. Greater education of the law is needed to increase awareness and reduce abuse and misinterpretation. For Singapore with a well-educated population who can understand the law and a transparent legal system with effective monitoring, this policy is likely to be more effective.

**Conclusion/ Synthesis**

The extent to which the Singapore government **should solely depend on the provision of information** in overcoming the above sources of market failure will depend on:

- **Root cause of problem:** If the root cause of market failure is just solely imperfect information, sole use of provision of info address this is likely to be effective. However for healthcare market, there is usually a combination of other issues including externality and inequity (accessibility of healthcare for lower income groups) besides imperfect info. Hence, provision of information can be supplemented with a flexible, means-tested subsidy that varies according to income can help address these other sources of market failure.
- **Severity of problem/ time period:** While provision of info directly address the problem, its outcomes take time to develop and are less certain. If the market failure is large and requires an urgent solution, the use of subsidies and legislation can deliver more certain outcomes in a shorter time period.
- **Depends on type of market failure/ nature of good:** The extent of information failure is likely to be greater for complex products (e.g. complicated healthcare procedures), hence there might be greater need for more powerful, mandatory measures such as legislation to correct the market failure.

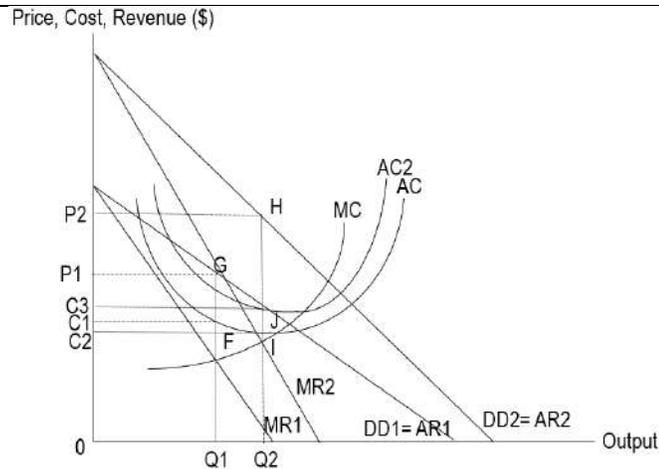
Knowledge, Application, Understanding and Analysis		
L3	A well-developed answer that demonstrates: <ul style="list-style-type: none"> <li>• Appropriate analysis for BOTH sources of market failure (info failure &amp; asymmetric info) with good application of examples as mentioned in the signpost.</li> <li>• Balanced argument on whether Singapore government should solely depend on provision of info to overcome BOTH market failures mentioned. Answers should also consider the degree of effectiveness of government intervention.</li> </ul>	15-20
L2	For an answer that gives a descriptive explanation of two sources of market failure (info failure & asymmetric info) and balanced argument on whether Singapore government should solely depend on provision of info to overcome market failures mentioned. OR Analytical one-sided answer in explaining one source of market failure & one-sided argument for government intervention.	9-14
L1	For an answer that shows some knowledge of the various sources of market failure and policies to address them.	1-8
Evaluation		
E3	For a well-reasoned judgement on the extent to which Singapore government should solely depend on provision of information.	4-5
E2	For largely unexplained judgements.	2-3
E1	For unsupported evaluative statements or judgement.	1

### Suggested answers for Essay 3

**Intro:** Firms are profit motivated → max profit by maximise TR and minimise TC.

**[Students just need to choose 3 of the following factors for elaboration.]**

Factor	Explanation
Benefit of implementing non-price strategies)	<p>Non-price strategies if effective will lead to higher demand/able to capture a larger market share and demand will become more price inelastic as it helps differentiate the firm's service to make it less substitutable. This will shift AR curve from AR1 to AR2 as shown in Figure 1. Also, as the demand is more price-inelastic, it will result in a steeper curve AR2.</p> <p><b>Explain with a diagram to change in profit-maximizing price &amp; output and hence the change in profits:</b>            The firm aims to maximise profit and will produce output at <math>MC=MR</math>.</p> <p><b>Elaborate on marginalist principle:</b>            If <math>MR&gt;MC</math>, producing 1 more unit adds more to revenue than to cost, firm should continue production to gain additional profits.</p> <p>Original equilibrium was at output Q1, price P1. Supernormal profit was P1C1FG. With the increase in demand and with demand becoming more price inelastic, the profit will increase to P2C2HI with the increase in price and fall in AC at a larger output.</p>
Cost of implementing non-price strategies	<p>Incur higher cost from non-price strategies.            For example, cost of setting up/improving the online platform → increase FC → increase AC → AC shifts upwards to AC2 → profits fall from P2C2HI to P2C3JH.</p>



(Students can just draw the impact on 1 diagram)

Figure 2

OR

For example, if firm hire more labour to improve the delivery network → increase VC → increase MC and AC → both MC and AC curves will shift upwards to MC2 and AC2 respectively. With the increase in MC, the new equilibrium price is P3 and the new equilibrium price is Q3. Moreover, with the increase in AC, the new profit will be indicated by P3C3JH in Figure 3.

Price, Cost, Revenue (\$)

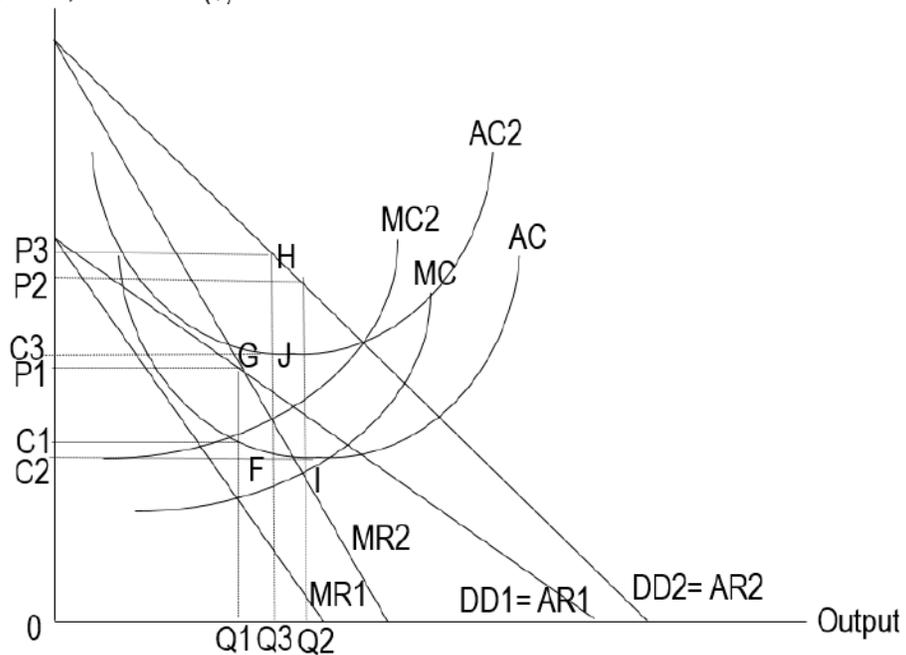


Figure 3

Constraint of firm

Online grocery firms operate in an oligopolistic market structure. In markets which are dominated by a few large firms, the firms are mutually interdependent. This results in price rigidity. Hence, there is a need to employ non-price strategies.

**Assumptions made about the behaviour of its competitors:**

	<p>Each oligopolist conjectured that its rival would match any price decreases it makes but not follow it in any price increase. Hence, the oligopolist faces a kinked demand curve. The upper portion of the demand curve is relatively more price elastic (quantity demanded will change more than proportionately, given a change in price) than the lower portion of the curve.</p> <p>If the firm were to decrease the price, it is likely that his rivals will react by cutting their prices by an equivalent amount. He therefore expects demand to be relatively price inelastic (change in quantity demanded increases less than proportionately) in response to a price fall, since he cannot hope to lure many customers away from his rivals. With price cuts all around, though each firm retains his market share, all gain lower sales revenue than before.</p> <p>On the other hand, if the firm were to increase the price, he expects his rivals to react to the price rise by keeping their prices stable. Hence he will lose customers to the other firms, and suffer a considerable decline in sales and revenue (more than proportionate fall in quantity demanded, hence the demand curve is more price elastic). Associated with each demand curve (AR) is its MR. This explains why at the kink of the demand curve, the MR is discontinuous.</p> <p><b>Linking the kinked demand curve theory to price rigidity and hence the best policy is to leave the price unchanged and employ non-price strategies</b></p> <p>There is no incentive for any firm to initiate price reductions since other firms will follow suit, thereby resulting in no gain in its market share. Conversely, if the firm increases its price, the rivals will not follow. Hence the first firm to raise its price will face a fall in its sales and market share. If the oligopolist's expectation is correct, sales revenue will be lost whether the price is raised or cut. Thus the best policy may be to leave the <b>price unchanged</b> at price OP1 and to <b>employ non-price strategies</b>.</p> <p><i>Students can also explain about the level of supernormal profits or resources that a firm has.</i></p>
Information	<p>The firms will need to gather information about the taste and preferences of their consumers so they can employ non-price strategies to cater to tastes and preferences of their customers. If effective, the non-price strategies will enable the firms to gain a larger market share and experienced a larger increase in DD and AR and demand will be more inelastic to earn larger supernormal profits as explained above. For example, if consumers value convenience and service → online grocers can offer same day delivery service. Hence firms will employ non-price strategies to increase profit further.</p> <p><i>Students can also explain that firms will gather information about rivals' decisions and strategies to decide whether they will employ non-price strategies.</i></p>

**Conclusion:**

The above factors are likely to influence a firm's decision to implement non-price strategies in the market for online grocery services. Firms will only employ non-price strategies if it increases profits.

The above factors show certain costs and benefits that will be incurred by firm in implementing non-price strategies. Whether to implement non-price strategies would therefore be influenced by the

marginal cost and benefit approach, given that all economic agents are assumed to be rational decision makers. The firm will only implement the non-price strategies if the marginal benefit is greater than the marginal cost. However, it is important to note that in reality, the marginal costs and benefits may be difficult to measure due to time lag, insufficient information and violation of the ceteris paribus condition.

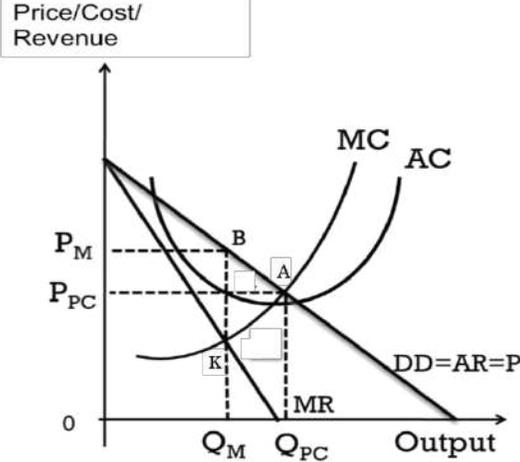
Knowledge, Application, Understanding and Analysis		
L3	Clear economic analysis that explains the factors that influence a firm's decisions to engage in non-price strategies with consideration on the impact of firm's profitability and good application to the market for online grocery services.	8-10
L2	Underdeveloped answer that explains factors that influence a firm's decisions to engage in non-price strategies.	5-7
L1	Some knowledge of factors that influence a firm's decisions.	1-4

**Suggested answer for (b)**

Contestable markets are markets with a few dominant firms that behave in a competitive manner due to the threat of potential competition. The threat of potential competition in the market for online grocery services is made possible with lower barriers to entry such as lower start-up cost as there is no need to pay high rents for large physical shops. Degree of contestability has increased with digital app and technologies lowering market entry barriers across many industries.

Impact on producers (profits)	<p><b>The threat of potential competition will keep existing online grocery firms operating at lower prices and higher output levels, lowering profitability.</b></p> <ul style="list-style-type: none"> <li>(-) Existing firms will suffer a loss of profits if they limit prices below profit maximising level (for instance setting prices at P2 lower than P1 which is profit max price of P1), hence lowering supernormal profits of area P1P2AB and deterring potential entrants from entering industry.</li> </ul> <ul style="list-style-type: none"> <li>(+) However, existing firms may benefit from higher profits over the long term with successful R&amp;D. Existing firms have a greater incentive to channel supernormal profits</li> </ul>
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	<p>into R&amp;D, in both process and product innovation in order to stay ahead of competitors (both existing and potential).</p> <ul style="list-style-type: none"> <li>○ By engaging in process innovation, existing firms may develop better processes to improve the efficiency of their grocery delivery services firms (e.g. use big data to optimise delivery routes to save time and transport costs). Successful process innovation will increase efficiency of grocery deliveries and lead to cost savings. Assuming there is no change in total revenue, fall in total cost will increase profitability of existing firms.</li> <li>○ <b>[EV]:</b> However, it is likely that firms will pass the cost savings to customers in terms of lower prices in order to retain market share due to the presence of actual and potential competition present in the online grocery industry. This also increases the possibility of price wars between existing firms to retain market share. Assuming the service is price inelastic (due to brand loyalty and time needed for consumers to alter purchasing habits), a fall in price will lead to a less than proportionate rise in quantity demanded and fall in total revenue. If the fall in total revenue outweighs the fall in total cost, profits will fall instead.</li> <li>○ By engaging in product innovation, existing firms may develop better service offerings (e.g. 2 hour delivery, more user-friendly online platforms). This will increase the demand for firm's online grocery services and make it more price inelastic. Assuming no change in total cost, this will boost total revenue and profitability of existing firms.</li> <li>○ <b>[EV]:</b> The outcomes of R&amp;D are uncertain and may only develop over a long period of time. Moreover, the extent of supernormal profits retained by existing firms are reduced by limit pricing, so the extent of benefits as analysed above may not be as significant.</li> </ul>
<p>Impact on govt (efficiency, equity)</p>	<p><b>The threat of potential competition may reduce allocative inefficiency, dynamic inefficiency and inequity.</b></p> <ul style="list-style-type: none"> <li>• (+) With potential competition, firms are more incentivised to lower prices nearer to competitive levels (set price closer to MC) to deter new entrants. <ul style="list-style-type: none"> <li>○ Suppose the industry is dominated by a single firm (monopoly) with high level of market power. As a price setter, the profit maximising monopolist will produce where <math>MC=MR</math> with output <math>Q_m</math>. At this output, <math>P &gt; MC</math>. Consumers value the last unit of good more than the additional cost to produce it. Hence the goods is underproduced (<math>Q_m &lt; Q_{pc}</math>) and there is an underallocation of resources, leading to allocative inefficiency and a deadweight loss area of BAK.</li> </ul> </li> </ul>

	 <ul style="list-style-type: none"> <li>○ With actual and potential competition faced by firms in the online grocery market, existing firms will set price below <math>P_M</math>, closer to <math>P_{PC}</math>. This reduces the extent of underproduction and underallocation of resources, hence reducing allocative inefficiency.</li> <li>○ Hence, there is less need for the government to intervene to correct market failure arising from market dominance (e.g. AC pricing, MC pricing). The resources needed for intervention could have been allocated to other developmental areas such as education and healthcare to benefit society.</li> </ul> <ul style="list-style-type: none"> <li>• (+) Moreover, since prices on online grocery services are lower, they become more affordable and accessible to lower income groups, hence helping to promote equity.</li> <li>• (+) Also, given that existing firms are more incentivised to engage in R&amp;D to improve their product offerings, there will be reduced dynamic inefficiency. Society will benefit from a higher rate of innovation and greater choice.</li> <li>• [EV]: However, this depends on firms' actions, whether firms truly improve product offerings (shorter delivery times, better shopping experience) or just focus on superficial "imaginary" differences such as branding and advertising.</li> </ul>
<p>Impact on consumers (price, variety, choice)</p>	<p><b>The threat of potential competition will keep ensure consumers enjoy lower prices and greater variety and choice.</b></p> <ul style="list-style-type: none"> <li>• (+) Consumers will benefit when firms pass down cost savings to consumers in terms of lower prices. Moreover, firms have an incentive to innovate to differentiate themselves leading to greater choice and variety of grocery services.</li> <li>• [EV]: However, firms may also choose to keep the profits and disuse them to shareholders instead.</li> <li>• If more resources are spent on engaging in superficial product differentiation, benefits to consumers are likely to be limited.</li> </ul>

**Conclusion:**

While the theory of contestable markets argues that the threat of potential competition is enough to keep incumbent firms 'on their toes', creating more competition for many large firms, **the overall impact on economic agents largely depends on:**

- **[Extent of potential competition]:** The greater the threat of contestability or potential competition, the more likely firms will behave in a competitive manner in terms of lower prices and reducing inefficiency, which largely benefits consumers and society. On the other hand, firms facing lower threat of potential competition will likely be more complacent and have less incentive to improve their product offerings.
- **[Determinants of contestability]:** While the development of technology has reduced the sunk costs and lowered barriers to entry in the online grocery market, it has not completely removed the sunk cost. Firms will still need to invest in a delivery fleet and warehouse storage, and there are substantial internal economies of scale to be reaped for large scale incumbent grocery operators, which may deter potential entrance of smaller players. Moreover, asymmetric information may also be another barrier to entry, as incumbents are likely to know more about the industry than potential entrants and will be unwilling to share their knowledge.
- **[Depends on firms' reactions]:** If incumbent firms collude and/or engage in anti-competitive behavior such as signing exclusive contracts with app developers and grocery suppliers to only exclusively provide them with the necessary technology know-how and essential raw materials (groceries), they can effectively keep out potential entrants and reduce the benefits of potential competition.
- **[Govt intervention]:** Effective government monitoring and intervention to ensure that the market works freely and efficiently and deter anti-competitive behaviour will help improve the impacts of potential competition. For example, government regulators may force incumbents to share their infrastructure or technology with potential entrants (as seen in telecommunications industry).

Knowledge, Application, Understanding and Analysis		
L3	A well-developed answer that demonstrates appropriate analysis to explain both positive and negative impacts of contestability on at least 2 different economic agents (consumers, firms , government).	8-10
L2	For an answer that gives a descriptive explanation of how contestability impacts economic agents. OR Analytical one-sided answer in explaining impacts of contestability on a limited scope of economic agents.	5-7
L1	For an answer that shows knowledge of contestability.	1-4
Evaluation		
E3	For a well-reasoned judgement on the extent to which threat of potential competition will impact various economic agents.	4-5
E2	For largely unexplained judgements.	2-3
E1	For unsupported evaluative statements or judgement.	1

## Suggested answers for Essay 4

### Part (a)

#### INTRODUCTION – Define Standard of Living

- Standard of Living
  - Standard of living of people in a country refers to their well-being. There are two aspects of standard of living, namely the material well-being and non-material well-being. The material well-being of an individual is determined by the quantity of goods and services enjoyed by an individual. The non-material well-being is the quality of life and is influenced by environmental factors such as degree of urban crowding and crime rates, as well as by socio-economic factors such as life expectancy, availability of health care and quantity of leisure.

#### BODY – Use of these statistics to measure change in SOL in Singapore (over time)

→ 'GDP at 2010 prices grew by 3.6%, the population grew by 0.1%'

- Explain 'GDP at 2010 prices'
  - Value of final goods and services produced within Singapore in a year measured at constant 2010 (base year) prices. Since GDP has been adjusted for price changes, it refers to the real value of GDP (where changes to its value reflect changes to the volume of goods and services produced and not changes in the price level, since it is kept constant at 2010's).
- Explain what it means by 3.6% and 0.1% (year-on-year stats)
  - $[\text{Real GDP}_{2017} - \text{Real GDP}_{2016}] / \text{Real GDP}_{2016} \times 100\% = 3.6\% \rightarrow \text{Real GDP}_{2017}$  is 3.6% higher than  $\text{Real GDP}_{2016}$
  - $[\text{Population}_{2017} - \text{Population}_{2016}] / \text{Population}_{2016} \times 100\% = 0.1\% \rightarrow \text{Population}_{2017}$  is 0.1% larger than  $\text{Population}_{2016}$
- Explain implications for SOL of population growth rate < Real GDP growth rate → ↑ real GDP per capita (Real GDP per capita grew at 3.6% - 0.1% ≈ 3.5%) → each person on average enjoys 3.5% increase in the volume of goods and services in 2017 compared to 2016 → improvement in material SOL + more opportunities and financial resources available to improve the quality of life for self and others either through private means or through the government via higher tax revenue contributions allowing the government to clean the environment & help the poor & disadvantaged by subsidising housing & healthcare → improvement in M & NMSOL
- Importance of per capita measure → if population increases faster than real GDP, MSOL on a per person basis MSOL is actually lower → hence real GDP not an accurate measure.

→ 'inflation (as measured by the consumer price index) was 0.6%'

- Explain CPI
  - The price of a fixed basket of goods and services commonly purchased by resident households expressed as an index number with respect to the price of the same basket in chosen base year → shows the change in price of the basket with respect to the base year
- Explain what is meant by 0.6% (year-on-year stats)
  - $[\text{CPI}_{2017} - \text{CPI}_{2016}] / \text{CPI}_{2016} \times 100\% = 0.6\% \rightarrow \text{CPI}_{2017}$  is 0.6% higher than  $\text{CPI}_{2016}$
- Explain implications for SOL of low inflation
  - Singapore goods becoming more internationally competitive increasing exports and growth; preserves real value of savings & real rates of return for savers + Improved confidence, encouraging firms to invest and boost long-term economic growth; Increased real incomes (if nominal wage growth > 0.6%) → link to improvement in SOL over time

→ 'overall unemployment stood at 3.1%'

- Explain what is meant by 3.1%
  - Unemployed / labour force (or employed + unemployed) X 100% = 3.1% → 3.1% of the people who are available for work and looking for a job i.e. the labour force, cannot find a job
  - Data is a proportion → static (at a point in time) → Cannot be used in itself to measure material SOL. Need info for 2016 to measure change in SOL
- Explain implications of high unemployment
  - more people without livelihood → ↓material SOL + Difficulties in making ends meet → ↑crime rates / social unrest and ↑social-emotional problems such as depression and stress → ↓NM SOL

	<b>Knowledge, Application/Understanding and Analysis</b>	
L3	For an answer that explains how statistics can be used to measure the change in both material & non-material standard of living over time	8-10 (9)
L2	For an answer that explains how statistics can be used to measure the change in either material (up to 7) or non-material standard of living (low L2) over time	5-7 (6)
L1	For an answer that shows knowledge of economic indicators and/or how they are measured.	1-4 (3)

**Part (b)**

**INTRODUCTION – Summarise approach to question**

- *Limitations of these statistics in assessing the change in SOL in 2017 (difficulties with comparisons over time) → smooth transition from (a)*
- *Uses of these statistics to make international comparisons of changes in SOL (over space)*
- *Limitations of these statistics in making international comparisons of changes in SOL (difficulties with comparisons over space)*

**BODY I – Limitations of these statistics in assessing the change in SOL in 2017**

**→ Real GDP per capita growth rate**

<b>Limitation</b>	<b>Solution</b>
<ul style="list-style-type: none"> <li>▪ <i>Does not take into account income distribution → increase in wealth concentrated in the hands of the wealthy few → rising income inequality not captured in data → Real GDP growth <b>may not be equally enjoyed</b> by all. If the greater availability of goods and services was extended mainly to the higher-income/higher-skilled, then there will be greater income inequality and material living standards can only be said to have improved for the higher-income/higher-skilled with little or no improvements (or even a worsening) for the lower-skilled.</i></li> </ul>	<ul style="list-style-type: none"> <li>▪ <i>GINI coefficient to measure income inequality → Hence data on <b>income distribution such as Gini coefficient</b> would have allowed a more informed assessment. <b>The closer the coefficient is to 0, the greater income equality there is, and the more accurate it is to say that real GDP per capita growth led to greater material well-being for everyone.</b></i></li> <li>▪ <i>Composite indicators such as <b>Human Development Index (HDI)</b> which takes into account real GDP per capita, literacy rate, life expectancy and infant mortality rate will allow a more informed assessment of</i></li> </ul>

<ul style="list-style-type: none"> <li>Does not adequately capture non-material SOL → The production of more goods and services could have led to <b>greater pollution and stress levels from longer working hours especially if the larger output was not because of higher productivity</b> → worsen quality of life through health and leisure of people → <b>improvement of M SOL at the expense of NM SOL</b> → <b>Overall SOL cannot be said to have improved</b></li> </ul>	<p>living standards. The numerical value varies from 0 to 1 where 1 is best possible score and zero is lowest possible score. These are included because people's welfare is influenced not only by the goods and services available to them but also by their ability to lead a long and healthy life and to acquire knowledge. However, still incomplete measure of SOL → not all encompassing because it does not take into account human rights, protection against violence and discrimination and opportunities for creativity, and issues like political, social and economic freedom</p>
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→ Inflation Rate

Limitation	Solution
<ul style="list-style-type: none"> <li>Low inflation (mildly increasing GPL) may not necessarily mean a higher SOL → Explain <b>possible</b> implications for SOL of <u>below-target inflation</u> <ul style="list-style-type: none"> <li>Sluggish growth + loss of confidence in CB + threat of deflation → link to rising real debt &amp; worsening of M. SOL &amp; NM SOL due to higher stress levels &amp; pessimistic economic outlook. Delaying of purchases in anticipation of lower future prices → adversely affects current M SOL</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Determine the cause of mild below-target inflation → If due to ↑AS alongside ↑AD (↑AD &gt; ↑AS) → less of a concern because slow increase in GPL is attributed to increases in productivity (possibly due to capital accumulation (I) &amp; developmental government spending (G)).</li> <li>Data on 2015 &amp; 2016 Inflation Rate → if inflation rate on downward trend + below inflation target of 2-3% → high possibility of deflation &amp; corresponding negative impact on SOL</li> </ul>

→ Unemployment Rate

Limitation	Solution
<ul style="list-style-type: none"> <li>A low unemployment rate does not necessarily mean a higher SOL → short-term displacement costs of high structural unemployment may be more than compensated by improvements in the supply side potential of the economy due to technological progress and increasing focus on newer/emerging comparative adv → ↑AD as goods become more competitive → economic growth and greater wealth in long run → higher overall SOL (although SOL for lower socio-economic rungs may be lower)</li> <li>Given unemployment data is static → cannot assess change in SOL</li> </ul>	<ul style="list-style-type: none"> <li>Determine the <b>cause</b> of unemployment – structural (tends to affect certain sectors) or cyclical (tends to affect all sectors) → provides better cross-sectional assessment of SOL</li> <li>Provide 2016 unemployment data to assess <u>change</u> in SOL</li> </ul>

**BODY II – Uses and limitations of using these statistics for international comparisons of changes in SOL**

**→ Real GDP per capita growth rate**

Use	Limitation	Solution
<p>Real GDP per capita growth rate <math>_{Singapore} &gt;</math> Real GDP per capita growth rate <math>_{US} \rightarrow</math> faster rate of increase in material SOL in Singapore compared to US (can be any other country)</p> <p>&amp; (arguably) faster rate of increase in non-material SOL in Singapore compared to US</p>	<ul style="list-style-type: none"> <li>• Limitations that apply across time also make it difficult to use as an accurate comparison of SOL across countries</li> <li>▪ Different composition <math>\rightarrow</math> If the greater volumes of output <b>mainly consisted of capital goods or artillery or goods meant for export and not of consumer goods and services</b>, then a faster <b>real GDP growth could not have been said to raise current material living standards</b> (although greater production of capital goods would lead to greater future material well-being) at a faster rate for Singapore compared to the US</li> <li>▪ Different size of non-marketed incomes <math>\rightarrow</math> [more for comparing SOL of Singapore with developing country] The existence of a relatively large non-monetary sector in developing economies such as subsistence agriculture where production is not traded but meant for personal consumption means that the official income figures will underestimate the country's output and similarly mis-report the real GDP growth rates per capita, giving rise to an inaccurate comparison of changes in SOL bet countries.</li> <li>▪ Reliability of data [more for comparing SOL of Singapore with developing country] <math>\rightarrow</math> less sophisticated data collection &amp; analysis <math>\rightarrow</math> overstate/understate real GDP per capital growth rate. Under-</li> </ul>	<ul style="list-style-type: none"> <li>▪ HDI &amp; GINI (explained earlier)</li> <li>▪ <b>For limitations arising from different composition: Data on GDP composition <math>\rightarrow</math> if similar across both countries <math>\rightarrow</math> fairer and more accurate comparison</b></li> <li>▪ <b>For limitations arising from different size of non-marketed incomes: estimate the non-market activities of developing countries and include them in the countries' national income statistics.</b> (However, it is difficult to impute a value for each non-market activity)</li> <li>▪ <b>For limitations arising from real GDP per capita growth rates merely allowing for international comparison of rates of change of MSOL: PPP-adjusted real GDP per capita</b> <ul style="list-style-type: none"> <li>- Conversion to the same currency using PPP exch rate is necessary because the nominal exchange rates may not take into account relative costs of living. If the nominal exchange rate undervalues the SGD relative to USD compared to the PPP exchange rate, Singapore's MSOL will be understated compared to US' because the nominal exchange rate understated the purchasing power of the SGD within the Singapore (or overstated the costs of living/typical basket of goods &amp; svc in Singapore)</li> </ul> </li> </ul>

	<p>reporting population growth rates → over-reporting of real GDP per capita growth rate → inaccurate comparison of changes in SOL bet countries</p> <ul style="list-style-type: none"> <li>▪ Only allows comparison of the rate of change of MSOL between countries → absolute comparison of MSOL difficult</li> </ul> <p>Other limitations include differences in size of black market economy, different base years in the computation of real GDP across countries, different quality of goods and services (which tend to be reflected in price but is made constant in real values)</p>	<p>rel to the US. (can highlight difficulties of identifying the typical basket of goods consumed across countries for PPP exch rate due to differences in culture, geography, lifestyle etc → even if it is possible to identify similar (ideally it should be identical!) goods, the quality of the goods differ, their weights in the basket differ)</p>
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→ Inflation rate

Use	Limitation	Solution
<p>Inflation rate<sub>Singapore</sub> &lt; Inflation rate<sub>US</sub> → Faster rate of increase in material SOL in Singapore compared to US bec <math>COL_{SG}</math> rising more slowly than <math>COL_{US}</math></p>	<ul style="list-style-type: none"> <li>• Limitations that apply across time also make it difficult to use as an accurate comparison of SOL across countries</li> <li>• Choice of base year / reliability of data → regular rebasing necessary to reflect the latest consumption patterns and composition of goods and services consumed by resident households. Base year basket needs to be representative of norms &amp; patterns. If basket chosen is not representative, inflation rates could be over or underestimated → inaccurate comparison of SOL across countries.</li> </ul>	<ul style="list-style-type: none"> <li>• Determine cause of inflation in each country (see above for overcoming limitations of using inflation rate to assess change in SOL over time)</li> </ul>

→ Unemployment Rate

Use	Limitation	Solution
<p>Unemployment rate<sub>Singapore</sub> &lt; Unemployment rate<sub>US</sub> → Higher material and non-material SOL &amp; in Singapore compared to US</p>	<ul style="list-style-type: none"> <li>• Limitations that apply across time also make it difficult to use as an accurate comparison of SOL across countries</li> <li>• Size of non-marketed</li> </ul>	<ul style="list-style-type: none"> <li>• Determine cause of Unemployment (see above for overcoming limitations of using unemployment rate to assess change in SOL over</li> </ul>

	<p><i>economy/black economy [more for comparing SOL of Singapore with developing country] → unemployment overstated for developing country &amp; SOL correspondingly understated → inaccurate comparison</i></p> <ul style="list-style-type: none"> <li>• <i>disguised unemployment where there are redundant workers who would not reduce total output if they are fired i.e. their MP = 0 and underemployment where workers are over-qualified → understate unemployment &amp; correspondingly overstate SOL → inaccurate comparison</i></li> <li>• <i>Different ways of computing unemployment rates → claimant count vs labour force surveys → inaccurate comparison</i></li> <li>• <i>Reliability of data → inaccuracies due to illegal claiming of unemployment benefits, sampling error → inaccurate comparison</i></li> </ul>	<p><i>time)</i></p> <ul style="list-style-type: none"> <li>• <i>For limitations arising from different size of non-marketed incomes: estimate the non-market activities of developing countries &amp; its corresponding employment (However, it is difficult to impute a value for each non-market activity)</i></li> <li>• <i>For limitations arising from underemployment → supplement with data that approximates productive employment such as job satisfaction, whether qualifications/experience match job requirements, whether remuneration matches qualifications/experience → if score is low → unemployment has been understated &amp; hence such supplementary data will allow a more accurate comparison of SOL between countries</i></li> <li>• <i>For limitations arising from disguised unemployment → supplement with data such as the MP of the last unit of labour → if MP = 0 or exceeds wages → unemployment has been understated &amp; hence such supplementary data will allow a more accurate comparison of SOL between countries</i></li> </ul>
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<b>Limitations Overview: Condensed</b>			
	Temporal only	Spatial only	Spatial & Temporal
Real GDP Growth Rate		<ul style="list-style-type: none"> <li>• Measures only rate of growth of M SOL [Soln: PPP-adjusted real GDP capita]</li> </ul>	<ul style="list-style-type: none"> <li>• NM SOL unaccounted for [Soln: HDI]</li> <li>• Income distribution unaccounted for [Soln:</li> </ul>

		<p>absolute data]</p> <ul style="list-style-type: none"> <li>• Different base year makes comparison of rate of change of MSOL inaccurate</li> <li>• Different composition</li> <li>• Different size of non-marketed economy [Soln: Input estimated value of non-marketed output]</li> <li>• Different size of black market economy [Soln: Input estimated value of black market economy]</li> <li>• Data reliability</li> </ul>	Gini]
Inflation Rate	<ul style="list-style-type: none"> <li>• Persistence of below-target inflation [Soln: Trend data]</li> </ul>	<ul style="list-style-type: none"> <li>• Data reliability – choice of base year</li> </ul>	<ul style="list-style-type: none"> <li>• Depends on cause [Soln: examine the cause]</li> </ul>
Unemployment Rate	<ul style="list-style-type: none"> <li>• Static data (proportion) → cannot do temporal comparison [Soln: Data for 2016]</li> </ul>	<p>Data reliability – sampling error &amp; different extent of disguised unemployment &amp; underemployment, different extent of non-market and black economy</p> <p>[Soln: Disguised UnM: supplement with marginal productivity data; Underemployment: supplement with data on job satisfaction, whether job requirements match experience/qualification, whether remuneration matches experience/qualification]</p> <ul style="list-style-type: none"> <li>• Different ways of computation</li> </ul>	<ul style="list-style-type: none"> <li>• Depends on cause [Soln: examine the cause]</li> </ul>

[EV: Judging

- the extent to which limitations of the statistics could be overcome by the solutions. This can be done by pointing out the difficulties in computing or using the solutions themselves, or whether there are even solutions.
- &/or the extent of the severity or significance of the limitations. For example: limitations with respect to data reliability will be less severe if comparing SOL between Developed Countries or between years that are relatively close ]

## **CONCLUSION**

**Stand:** *These stats cannot provide a complete assessment of both the standard of living in Singapore and in comparison with other countries.*

**Justification:** *computation & usage problems, lack of context, and they do not capture NMSOL*

### **Recommendation:**

- *Supplement with other indicators for a fuller, more informed picture. Most important indicators to include:*
  1. *Real GDP per capita (temporal i.e. over time) & PPP-adjusted Real GDP per capita (spatial i.e. between countries) → not the growth rates, but the absolute data*
  2. *Gini coefficient to capture income distribution*
  3. *HDI → composite index of life expectancy index, education index & GNI index*

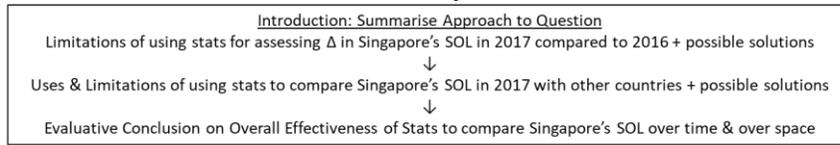
### **Reason for recommendation:**

- *Why real GDP per capita absolute data is highly recommended to be included:*
  - *One of the most commonly and accurately computed data*
  - *Provides direct information about the purchasing power of the citizens and hence the quantity of goods and services citizens can enjoy → single most powerful indicator of material SOL*
  - *Allows more opportunities to access improved NMSOL for private individuals*
  - *Allows more opportunities to access improved SOL both material and non material for the public through increased government expenditures financed by larger tax revenues on keeping the environment clean, establishing green belts/parks, subsidies for healthcare and education, subsidies for the poor to defray their cost of living. Larger budgets for infrastructural development and other forms of developmental spending such as that on skills training allows the low skilled to earn higher incomes → improvements in productive capacity → potential growth → improve SOL in the future*
- *BUT PPP-adjusted real GDP per capita does not take into account income distribution → hence complement with Gini coefficient*
- *It also creates more opportunities/potential for improvement in NMSOL BUT is not a direct measure of NMSOL → hence complement with HDI which could shed some light on why countries with the same PPP-adjusted real GDP per capita might have different HDI outcomes*

### **Further insights (optional):**

- *Recognise that a complete assessment of SOL might not be possible due to its normative nature → is material wellbeing adequately measured by volume of goods and services or should quality matter as well? HDI has been critiqued by many as an insufficient measure of SOL because it does not take account other factors such as opportunities for creativity, economic, social and political freedom etc*
- *Supplementary indicators are for the purpose of more accurate diagnosis of situation and problems which will then allow a targeted and accurate prescription of policies to address the problem of falling / lower SOL for the purpose of welfare maximisation & economic performance (since lower SOL can induce brain drain → unattractive to investments & hamper productivity & growth).*

### Schematic Plan / Overview



<p><u>Body 1: Limitations of using stats for assessing <math>\Delta</math> in Singapore's SOL in 2017 compared to 2016 + possible solutions</u></p> <ul style="list-style-type: none"> <li>▪ <b>Real GDP per capita growth rate:</b> <ul style="list-style-type: none"> <li>○ NM SOL not captured. Soln: HDI</li> <li>○ Y Distributn not captured. Soln: Gini Coefficient</li> </ul> </li> <li>▪ <b>Inflation rate &amp; Unemployment rate:</b> <ul style="list-style-type: none"> <li>○ Depends on Cause. Soln: Identify Cause</li> </ul> </li> <li>▪ <b>[Optional] Unemployment rate*</b> <ul style="list-style-type: none"> <li>○ Soln to overcome the limitation of 2017 UnM data being unable to assess <math>\Delta</math> in SOL between 2017 &amp; 2016: 2016 UnM data</li> </ul> </li> </ul> <p>*That UnM data is static and therefore itself cannot be used for assessing change in SOL over time should be highlighted in part (a).</p>	<p><u>Body 2: Uses + Limitations of using stats to compare Singapore's SOL in 2017 with other countries + possible solutions</u></p> <ul style="list-style-type: none"> <li>▪ <b>Real GDP per capita growth rate:</b> <ul style="list-style-type: none"> <li>○ Unable to make absolute comparison of MSOL. Soln: PPP-adjusted real GDP per capita</li> </ul> </li> <li>▪ <b>All 3 indicators:</b> <ul style="list-style-type: none"> <li>○ Data unreliability particularly when comparing with developing countries.</li> </ul> </li> <li>▪ <b>[Optional] Unemployment rate</b> <ul style="list-style-type: none"> <li>○ Different ways of computation</li> </ul> </li> </ul>
<p><u>Evaluative Conclusion</u></p> <p><b>[Stand]</b> Unable to provide complete assessment of Singapore's SOL over time and over space</p> <p><b>[Justification]</b> Computation &amp; Usage problems, lack of context &amp; do not capture NMSOL</p> <p><b>[Recommendations]</b> PPP-adjusted Real GDP per capita + Gini + HDI needed as well + reasons why</p> <p><b>[Further insights]</b> Recognise that a complete assessment of SOL is impossible due to its normative nature &amp;/or that more data allows a more informed diagnosis that helps inform policy</p>	

	<b>Knowledge, Application/Understanding and Analysis</b>	
L3	L2 + consideration of the severity of the limitations depending on different contexts such as length of time (for temporal comparison) & country (for spatial comparison) &/or possible solutions to overcome the limitations.	8-10 (9)
L2	For an answer that explains the limitations of using the statistics in assessing the change in the standard of living in the Singapore economy over time and over space.	5-7 (6)
L1	For answer that shows knowledge of how the statistics can be used to measure either material or non-material standard of living over space.	1-4 (3)

E3	<p>For an answer that uses analysis (such as the extent to which the limitations could be overcome) to support an evaluative appraisal about the usefulness of the statistics in assessing the change in the standard of living in the Singapore economy over time and over space.</p> <p>→ recognition that a complete and comprehensive assessment of SOL over time &amp; space is impossible because what quality of life/wellbeing constitutes is <b>normative</b></p> <p>→ recognition that the purpose of such comparisons is to <b>inform policy</b> for the purpose of welfare maximisation (social) &amp; economic performance</p>	4-5
E2	For answer that makes some attempt at an evaluative appraisal about the usefulness of the statistics in assessing the change in the standard of living in the Singapore economy over time and over space.	2-3
E1	For an answer that gives an unsupported concluding statement or appraisal about the usefulness of the statistics in assessing the change in the standard of living in the Singapore economy over time and over space.	1

## Suggested answers for Essay 5

### Introduction

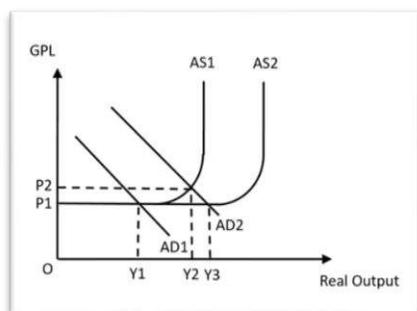
[Define sustainable growth] A rate of growth that can be maintained without creating significant economic problems, particularly for future generations. There is clearly a trade-off between rapid economic growth today, and growth in the future. Rapid growth today may exhaust resources and create environmental problems for future generations, including the depletion of oil and fish stocks, and global warming. It therefore implies a positive and stable rate of growth over an extended period of time.

### [Benefits of having achieved sustainable growth]

#### 1. [Improves material SoL]

An increase in AD causes spending to be more than output. A shortage results and there is a drawdown on inventories. As a result, firms will increase production by hiring more workers. As a result, there is a multiple increase in production, output and national income.

Due to an increase in AD and LRAS, there is an increase in real GDP (from Y1 to Y2 to Y3) → assuming population is constant → real GDP per capita rises → each person can enjoy a higher quantity of goods and services → material standard of living rises.



[Diagram 1]

[reduce cost of living] The increase in LRAS also reduces the risk of demand-pull inflation and therefore keeps the cost of living relatively lower, with GPL at P1 instead of at P2 → there will be greater purchasing power and a higher material standard of living.

[achieves other macroeconomic goals such as low unemployment] Increase in AD → increase derived demand for labour → reduces demand-deficient unemployment → increase in material standard of living

#### 2. [reducing the usage of finite energy resources would reduce the fall in LRAS]

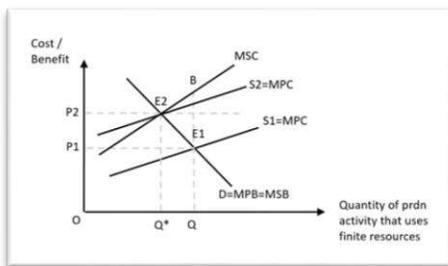
Sustainable growth may involve R&D in order to rely less on finite energy resources and rely more on sustainable sources of energy such as wind or solar energy.

- if finite resources were being depleted, LRAS would fall due to the fall in quantity of resources available
- however, with the turning toward the use of sustainable energy sources, LRAS would not fall, or may even rise

3. [Addresses negative externalities and improves non-material SoL]

Achieving sustainable growth could include the reduction of usage of finite resources such as fossil fuels (for example, through the implementation of policies such as carbon taxes)

Government can impose a tax equal to the marginal external cost at  $Q^*$ . This will lead to an increase in cost of production, reducing profit and therefore reducing the incentive to supply. Supply falls and supply curve shifts left from  $S_1$  to  $S_2$ , which reduces the overproduction, thereby addressing market failure and reducing the deadweight loss ( $BE_1E_2$ ) to society.



[Diagram 2]

- improvement in quality of the environment eg in terms of air quality

Achieving sustainable growth will include achieving both actual and potential growth.

**[Explain how DD-mngt policies work (Exp MP) and how they achieve actual economic growth]**

A government may implement expansionary monetary policy. A reduction of interest rate will reduce cost of borrowing. Consumers will increase purchases of big-ticket items that are bought on credit. Consumption expenditure ( $C$ ) increases. The fall in cost of borrowing also reduces the cost of production for firms, increasing profit and increasing the incentive to invest. There is an increase in the Marginal Efficiency of Investment. Investment expenditure ( $I$ ) increases.

$C$  and  $I$  increases →  $AD$  increases. Assuming spare capacity, there is an increase in actual economic growth. [refer to diagram 1]

**Strength:** A fall in interest rate can cause an increase in 3 components of  $AD$ , namely  $C$ ,  $I$  and  $X-M$ . Therefore this could lead to a more significant increase in  $AD$ , thus causing a greater increase in actual economic growth, assuming there is spare capacity in the economy.

**Limitation:** there is a lack of certainty as a reduction in interest rate may not cause  $C$  and  $I$  to increase. There are other factors that influence the level of  $C$  and  $I$  other than interest rate.

[EV] If there is a negative business outlook, for example due to the trade war between US and China as well as the prospect of Brexit, the fall in interest rates may cause the policy to be ineffective.

**[Explain how DD-mngt policies work (Exp FP) and how they achieve actual economic growth]**

Govt can increase govt spending or lower taxes in order to increase AD and increase actual economic growth. If the govt lowers, personal income tax, disposable income and purchasing power rises, causing a rise in C. The rise in G and C will cause AD to increase and AD curve to shift to the right.

**Strength:** In terms of an increase in govt spending, there is a greater level of certainty as the ability to increase G is determined mainly by the govt's decision and its ability to finance the spending.

**Limitation:** the effectiveness of the policy to increase actual economic growth depends on the size of the multiplier. A smaller multiplier will only bring about a limited increase in national income. For example, the multiplier size in Singapore is small because of its high marginal propensity to save (mps) and high marginal propensity to import (mpm). The high mps is due to the Central Provident Fund Scheme, a compulsory national savings programme. The high mpm is due to Singapore's lack of its own natural resources.

**[Explain SS-side policies (subsidies for R&D in green technology) and how they help to achieve potential growth]**

A government can provide subsidies for R&D in green technology. The R&D will increase the level of technology as well as increase the quality of capital. Productive capacity increases and there is an increase in the long run aggregate supply curve, resulting in an increase in potential economic growth. [refer to diagram 1]

R&D in green technology such as in the use of solar energy will reduce the use of finite energy resources such as oil or coal. Therefore economic growth today would not exhaust resources and create environmental problems for future generations. There would be a reduction in the trade-off between rapid economic growth today, and growth in the future.

**Strength:** Besides achieving potential economic growth, R&D in green technology can also lower energy cost and therefore lower cost of production, shifting SRAS to the right and lowering cost-push inflation.

**Limitation:** The benefits of R&D may only be seen in the long run and the result may be uncertain. The R&D may not be successful and therefore the LRAS may not increase.

**[DD-mngt policies may not be more effective than SS-side policies in achieving sustainable growth]**

[EV]

-Explain limitations of DD-mngt policies (to show why they may not be more effective)

- (1) DD-mngt policies may not help to achieve potential economic growth. (This occurs for example when an increase in govt spending consists of spending on transfer payments, rather than on infrastructure) If only DD-mngt policies are used, demand-pull inflation would eventually result.
- (2) DD-mngt policies do not help to reduce the depletion of finite natural resources.

**[SS-side policies may not be more effective than DD-mngt policies in achieving sustainable growth]**

[EV]

-R&D takes a long time to be successful and subsidies for R&D would therefore involve large amounts of government spending over long periods. This could worsen budget deficits and the government may have to borrow funds in order to finance the R&D subsidies. This could cause high levels of public debt. The public debt may have to be paid for by future generations of taxpayers. Tax rates may have to be

increased in the future, thereby limiting the amount of economic growth that can be enjoyed by future generations. Whereas monetary policy in terms of reducing interest rates may require less funds for the policy to be implemented.

Conclusion

[EV]

[STAND] DD-mngt policies **may not be** more effective than SS-side policies in achieving sustainable growth. [JUSTIFICATION] Increasing the LRAS through subsidies of R&D in green technology can lead to actual growth (if economy is initially operating at the classical range), potential growth, as well as a reduction in the depletion of finite natural resources, thereby achieving all 3 aspects of sustainable growth. DD-mngt policies, however, may only be able to achieve actual growth.

[EV]

However, the increase in LRAS will only lead to actual growth to a limited extent. Therefore there is a need for a **combination** of both DD-mngt and long run SS-side policies to be implemented in order to achieve all aspects of sustainable growth.

[SUGGEST OTHER POLICIES] Also, besides macroeconomic policies, govt can use microeconomic policies such as carbon taxes to reduce the use of natural resources such as oil. → This would be complement the use of SS-side policies such as subsidies in R&D, as R&D is a long run policy and therefore there is a need to implement carbon taxes which can be used in the short run.

<b>Knowledge, Understanding, Application, Analysis &amp; Evaluation</b>		
<i>Level</i>	<i>Descriptors</i>	<i>Marks</i>
L3	Well-developed analysis in BOTH the benefits and policies in relation to sustainable growth	15-20
L2	Sufficient analysis is provided but there may be limited scope in the answers	9-14
L1	For a descriptive answer that addresses the benefits and policies in relation to sustainable growth	1-8
E3	For an answer that provides analytical and well-reasoned judgements	4-5
E2	Some attempt at justification of the stand given	2-3
E1	For an unexplained statement about which type of policy is more effective	1

## Suggested answers for Essay 6

### Part (a)

#### Introduction

[Define Globalisation]

Globalisation refers to an increased flow of trade, capital and labour and these aspects will impact Singapore's pattern of trade, which include volume of trade, commodity composition of trade, and geographical composition of trade

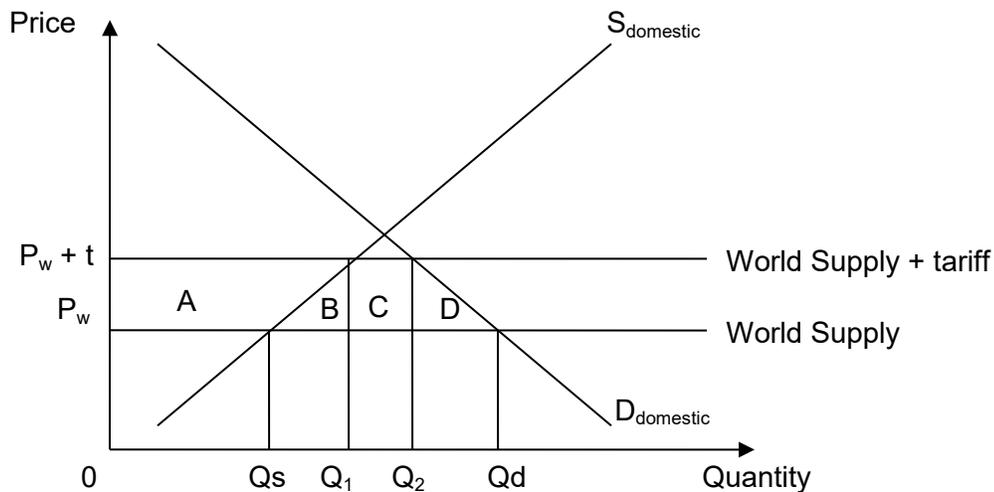
#### Changes in volume of trade

[Exports] One aspect of globalization could be the signing of more FTAs, where tariff and non-tariff barriers to trade have been reduced or removed. There is therefore greater access to more export markets (enlarged global market), leading to an increased volume of exports from Singapore

[Imports] Tariff barriers removed as economies become increasingly integrated → ↑ volume of trade as well as change geographical composition of trade if change trade partners as a result

[tariff diagram to illustrate ↑ in imports]

- With trade a small country like Singapore becomes a price-taker of the world price  $P_w$  of the product due to its negligible market power amongst the infinitely large number of sellers of the homogenous product worldwide. As such world supply  $S_w$  is perfectly price-elastic at  $P_w$ .



- With removal of the tariff, the market price falls by the full amount of the tariff to  $P_w$ . At the new price, domestic production reduces to  $Q_s$  and imports into Singapore are increased to  $Q_s Q_d$  → ↑ volume of trade.

-With globalization, firms are more able to engage in offshoring and outsourcing of their production processes, resulting in an increased volume of trade

## Changes in Composition of trade

[Define the theory of CA]

The Theory of Comparative Advantage states that even when one country has absolute advantage over other countries in producing both commodities, both countries can gain from trade if each country specializes in producing and exporting those goods that have a relatively lower opportunity cost compared with the other country and the terms of trade should lie between the domestic opp cost ratios.

-Globalisation has led to the inflow of skilled labour and FDI into Singapore, which changes its factor endowment and hence its composition of exports.

-Eg Singapore thus gains CA in industries such as biomedical sciences and aerospace, partly due to the inflow of skilled labour and FDI. This is due to the relatively lower opportunity cost that Singapore has of producing in such industries due to our factor endowment

- [Analysis] Globalisation era has seen a higher degree of exchange in capital, particularly in FDI in Singapore. Such FDI brought about technological progress, partly through the capital goods used by foreign firms in Singapore and the high skilled labour in Singapore (foreign talents or expatriates). This has led to an increase in the quality and quantity of capital and labour in Singapore. A congregation of highly productive capital and labour in Singapore sees Singapore gaining comparative advantage in high-tech, high skilled level products such as financial services and bio-medical services.

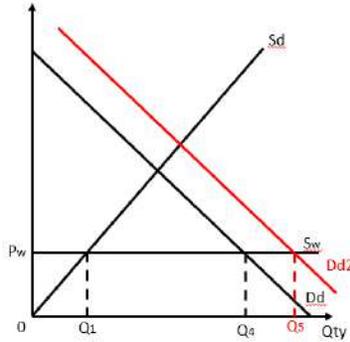
On the other hand, for example, the opening up of China allows this country with a high availability of labour to specialize in the production of labour-intensive low-end manufacturing goods. Such developments as a result of globalization bring about the shift in comparative advantage for Singapore from low tech to high tech products. The theory of CA predicts that countries that trade according to their CA will benefit (analyse with PPC/TPC diagram).

Thus, Singapore will export goods it has CA in and import goods that it does not have CA in e.g. low value manufacturing goods from China.

## Changes in direction of trade

With globalization, there is an increase in flows of FDI, causing investment expenditure and aggregate demand to increase, bringing about actual economic growth.

- When other countries experience an increase in national income, purchasing power rises and demand for normal goods rise, ceteris paribus. Assuming Singapore's exports are normal goods ( $YED > 0$ ), there will be a rise in demand for Singapore's exports by countries which have experienced economic growth. → there will be a rise in domestic  $D_d$  to  $D_{d2}$  in other countries
- ↑ volume of  $M$  into other countries (from  $Q_{1Q4}$  to  $Q_{1Q5}$ ) (diagram below)
- ↑ volume of Singapore's  $X$  to countries that experience economic growth

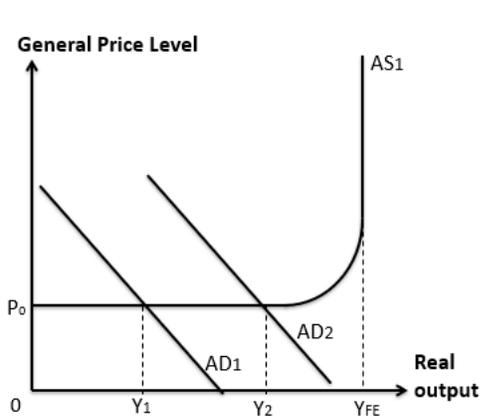


<b>Knowledge, Application/Understanding and Analysis</b>		
L3	L2 + consistent application to Singapore context + addresses all 3 aspects of pattern of trade – direction, composition, volume	8-10 (9)
L2	For an answer that explains how globalisation affects pattern of trade.	5-7 (6)
L1	For an answer that shows knowledge of globalisation and/or pattern of trade.	1-4 (3)

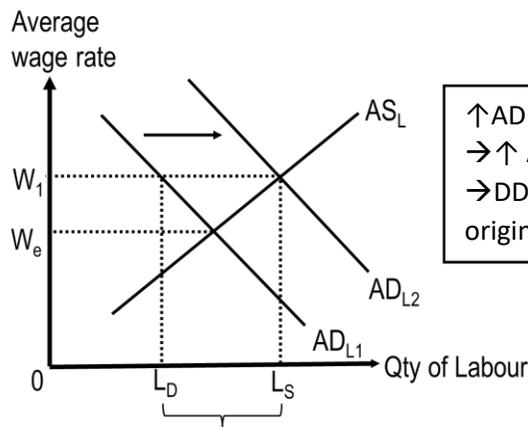
### Part (b)

#### Introduction

- Define productivity: relationship between output & factor inputs/efficient use of factor inputs.  
Measured by output per unit of input. Higher productivity  $\rightarrow$  higher output per unit of input  $\rightarrow$   $\downarrow$  unit COP  $\rightarrow$   $\uparrow$  SRAS &/or  $\uparrow$  productive capacity  $\rightarrow$   $\uparrow$  LRAS
- Methods of increasing productivity: Technological advancement to increase labour productivity (capital deepening), human capital development to increase labour productivity etc
- Benefits of globalisation:
  - increase in trade flows  $\rightarrow$   $\uparrow$  (X – M)
    - Improvement in BOT
    - Increase growth ( $\uparrow$ X  $\rightarrow$   $\uparrow$ AD  $\rightarrow$  AG)
    - Lower unemployment ( $\uparrow$ AD<sub>L</sub>  $\rightarrow$   $\uparrow$ DD-deficient UnM)
  - increase in capital flows  $\rightarrow$  FDI
    - skills and technology transfers bringing about both actual and potential growth ( $\uparrow$ I  $\rightarrow$   $\uparrow$ AD  $\rightarrow$  AG;  $\uparrow$ LRAS  $\rightarrow$  PG)
    - Higher incomes for skilled workers due to higher DD for FOPs by TNCs  $\rightarrow$  reduce Y inequality  $\rightarrow$   $\uparrow$ SOL
  - increase in labour flows  $\rightarrow$  inflow of labour
    - $\uparrow$ Quantity + Quality of labour  $\rightarrow$   $\uparrow$ Productive capacity  $\rightarrow$   $\uparrow$ LRAS  $\rightarrow$  PG

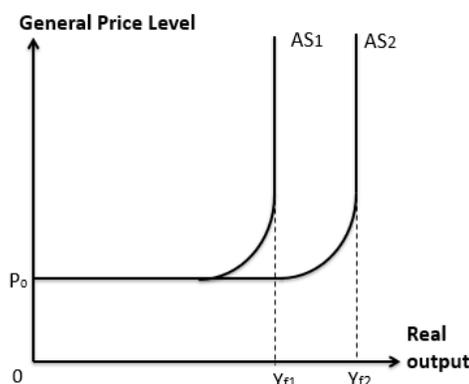


↑AD from AD1 to AD2 → ↑ Real o/p from Y1 to Y2 → AG



Demand-deficient unemployment

↑AD from AD1 to AD2  
 → ↑ AD<sub>L</sub> for AD<sub>L1</sub> to AD<sub>L2</sub>  
 → DD-deficient UnM  
 originally @ W1 eliminated



↑LRAS from AS1 to AS2 → ↑ Full employment level of o/p from Y<sub>f1</sub> to Y<sub>f2</sub> → PG

**Thesis: Increasing productivity is appropriate in order to harness the benefits of globalization**

- Higher output per unit input
  - Lower cost of production → ↑SRAS → ↓GPL → price stability
  - Lower firms' cost of production & increase profitability → ↑MEI → attract FDI → more K & technological inflows: ↑I → ↑AD → AG; ↑LRAS → PG. Higher incomes for skilled workers due to higher DD for FOPs by TNCs → reduce Y inequality + UnM → ↑SOL
  - Lower cost of production → exports priced more competitively → PED<sub>x</sub> > 1 → ↑X → Improve BOT
  - High quality human capital → competitive remuneration + more opportunities for upskilling & higher SOL → attract skilled labour → ↑Quantity + Quality of labour → ↑Productive capacity → ↑LRAS → PG
- Better quality products arising from higher productivity as the lowering of COP frees up more resources to be devoted to R & D into product development
  - More price-inelastic demand → Possible to charge higher prices and earn higher revenue → Generate higher VA → faster rate of EG

**Antithesis: Increasing productivity is not appropriate in order to harness the benefits of globalisation**

- Costs of increasing productivity i.e. increasing productivity in itself harnesses the benefits of globalization but at the expense of low-skilled manpower & less productive/efficient industries → the growth brought about by increasing productivity **may not be inclusive**
  - Higher structural unM as technology/capital/high skilled labour displaces low-skilled labour
  - Less productive/efficient industries unable to compete with conglomerates/TNCs → losses → shut down → certain sectors suffer higher UnM

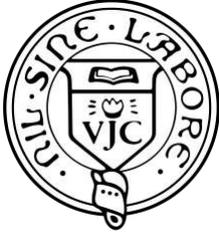
- High cost → govt might lack resources to finance policies that improve productivity → ↑ borrowing → worsen budget deficit → ↑ direct taxes in future → dis-incentivises work and investment → fail to attract FDI and skilled labour → makes policy ineffective
- If wages cannot keep pace with productivity increases because of corruption &/or unregulated labour market/labour exploitation / lack of fair wage policies → cross-country income disparity i.e. skilled labour is unfairly rewarded → eventual brain drain of skilled labour
- Other factors influencing FDI other than productivity include – pro-business environment, political stability, clean governance, low legal and regulatory risk → if these conditions are not met then capital inflows will be inhibited despite increasing productivity.

### **Conclusion**

- **[Key consideration for appropriateness: Budget]** Whether the government budget can finance the costs of increasing productivity is a key consideration when assessing the appropriateness of increasing productivity to harness the benefits of globalization → if it results in a large budget deficit, the consequent raising of direct taxes might cause an outflow of K & skilled labour preventing the economy from benefiting from globalisation
- **[Other consideration for appropriateness: method of raising productivity & nature of economy]** Whether increasing productivity is appropriate also depends on the appropriateness of the method to increase productivity, which in turn depends on the nature of the economy. Marginal benefit of training & education to increase labour productivity might be low in economies with ageing population → more appropriate to increase productivity through automation and infrastructural development, and development of capital intensive methods of production; or even policies to attract migration of skilled labour and inflow of FDI such as competitive income tax rates and corporate tax rates.
- **[Final stand on appropriateness of increasing productivity: appropriate & necessary but in itself insufficient]** Increasing productivity, if the budget allows and is fitting to the nature of the economy, is not only appropriate but also necessary because it brings in more export earnings, FDI inflows & skilled labour. However, by itself it is an insufficient means to harness the benefits of globalization because increasing productivity incurs high costs & other conditions should be present as well in order to harness the benefits of globalization. Hence it needs to be accompanied by clean governance, fair wage policy, pro-business environments, macroeconomic stability, as well as a welfare system to help inefficient firms/individuals cope with the costs of increasing productivity.

	<b>Knowledge, Application/Understanding and Analysis</b>	
L3	For a balanced response that explains how productivity might be appropriate to harness the benefits of globalisation, and also how it might not be appropriate given different conditions/circumstances.	8-10 (9)
L2	For a one-sided response that explains how increasing productivity is appropriate to harness the benefits of globalisation OR how increasing productivity <u>may not</u> be appropriate to harness benefits of globalisation	5-7 (6)
L1	For answer that shows knowledge of the benefits of globalisation and/or productivity.	1-4 (3)
E3	For an answer that uses analysis to support an evaluative appraisal about the appropriateness of increasing productivity to harness the benefits of globalisation.	4-5
E2	For answer that makes some attempt at an evaluative appraisal about the appropriateness of increasing productivity to harness the benefits of globalisation.	2-3
E1	For an answer that gives an unsupported concluding statement or appraisal about the	1

	appropriateness of increasing productivity to harness the benefits of globalisation.	
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**VICTORIA JUNIOR COLLEGE  
JC 2 PRELIMINARY EXAMINATION 2019  
HIGHER 2**

**ECONOMICS**

**9757/01**

**19 September 2019**

Paper 1 Case Studies

**2 hours 15 minutes**

**Additional Materials:** Answer Booklet

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.

On the cover page of your answer booklet(s), remember to also fill in your exam number and syllabus details.

Write in dark blue or black pen on both sides of the paper.

You may use an HB pencil for any diagram or graphs.

Do not use staples, paper clips, highlighters, glue or correction fluid.

DO **NOT** WRITE IN ANY BARCODES.

Answer **all** questions.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

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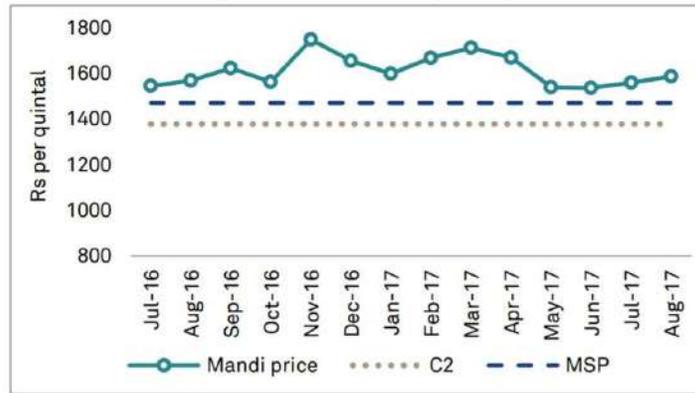
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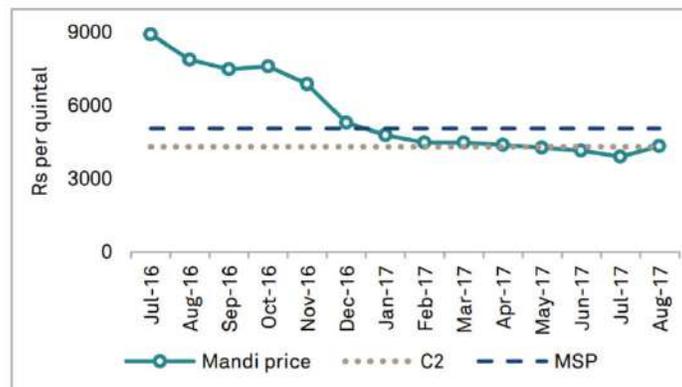
Answer all questions.

### Question 1: Agriculture, water crisis and poverty

**Figure 1: Price of paddy\***



**Figure 2: Price of tur\***



\* Paddy and tur are food crops.

Mandi price refers to market price. MSP is the minimum support price fixed by the government. C2 is the cost of cultivation.

Source: CRISIL, 2017

### Extract 1: Drought to hurt the Indian economy

Due to two consecutive years of poor monsoon, water shortage in reservoirs as well lowering of the water table have created a serious challenge for the drought-affected areas in 10 Indian states. About 330 million people across 256 districts are facing the grave situation.

A study by Assocham has estimated that this drought will cost the national economy at least Rs 650,000 crore (approximately US\$100 billion). With regards to the economic impact of the drought, the study said that financial resources will get diverted from development to providing aid. Furthermore, the possible migration to other places puts pressure on urban infrastructure and supplies.

The drought would also create inflationary pressures, the report added.

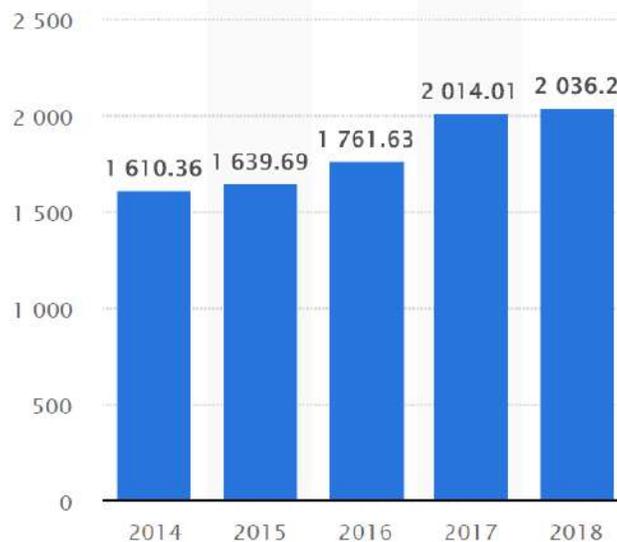
Source: 11 May 2016, The Times of India

### Extract 2: Improving economic outlook

In mid-April, an “above-normal” rain forecast by the India Meteorological Department was a godsend for a country reeling from its worst water crisis in four decades. Over 600 million people in India depend on agriculture for their living and nearly two-thirds of land under cultivation has no irrigation and so relies on rain. In April, the Reserve Bank of India, the country’s central bank, cut interest rates for the first time in six months; a good monsoon could raise the prospect of another cut.

Source: 25 May 2016, The Economist

**Figure 3: India: GDP per capita in current prices (in USD)**



Source: Statista

### Extract 3: Madhya Pradesh farmer protests

In June 2017, farmers in Madhya Pradesh, India, protested by demanding higher Minimum Support Prices (MSP), as well as a complete debt waiver. Farmers there had asked the central government to deliver on its promise of adjusting MSP to be cost of production plus 50 percent profit – a price that was declared impractical by the government in 2015.

After two years of drought resulting in successive crop failures farmers were finally relieved to receive abundant rainfall and a good harvest. Yet, they are still struggling to make a profit on their produce. Overproduction of food can push farmers into distress just as much as a failed harvest. A supply glut, such as the one presently faced by pulses, chili, potato, and onion cultivators in India, generally leads to a price crash, resulting in poor returns. But it is exactly for situations such as these that the MSP policy is in place in the country – to shield farmers from market volatility.

The MSP scheme forms part of India’s agricultural price policy. It is the price at which farmers’ produce in certain crops is bought by the government during the relevant seasons. When the market prices dip to a level that is below the MSP, the government agencies step up and buy over the produce in order to protect the farmers.

However, the states have either failed to procure most of the produce at MSP or are really slow in the process, forcing many farmers to sell far below the set price. There could also be exploitation by commission agents. They have been reported to have bought the farmers' produce at much below the MSP.

Sources: 14 June 2017, YourStory Research and 1 August 2018, Citizen Matters

#### **Extract 4: Water crisis in India**

India is suffering its gravest water shortage since independence due to the El Niño effect. Every day brings news of exhausted rivers and wells, destitute farmers migrating to the cities and water trains being dispatched to parched regions.

The central government has responded with many promises. In February Narendra Modi, the prime minister, pledged to double farm incomes by 2022. Other ministers speak of massive irrigation projects, and have revived an ambitious water-diversion scheme for parched regions that involves no fewer than 37 links between rivers. Most links would be via canals, some 15,000km of artificial waterways in all.

Hydrologists are sceptical of big projects, open to massive cronyism, when simpler and environmentally sounder solutions are at hand. India relies not on rivers but on underground aquifers for some two-thirds of its irrigation and for more than three-quarters of its drinking water. Despite the severity of the current drought, the real problem is not a lack of water. Per person, India has twice as much of it as water-starved northern China. But India is being hampered by mindless overuse and, in many places, a lack of sensible water-allocation policies. Pricing water properly would be much better than transporting it about at great expense.

Source: 14 May 2016, The Economist

#### **Extract 5: Modi's \$87 billion river-linking gamble set to take off as floods hit India**

After years of foot-dragging India will begin work in around a month on a US\$87 billion infrastructural scheme to connect some of the country's biggest rivers. The mammoth plan entails linking nearly 60 rivers, which the government hopes will cut farmers' dependence on fickle monsoon rains by bringing millions of hectares of cultivatable land under irrigation. Government officials say diverting water from bountiful rivers such as the Ganges, Godavari and Mahanadi to sparse waterways by building dams and a network of canals is the only solution to floods and droughts that plague India every year, killing hundreds of poor people and withering crops.

Not everyone is convinced the projects should be the priority, however. "Theoretically we can't find fault with the plan," said Ashok Gulati, a farm economist who has advised governments. "But spending billions of dollars in a country which wastes more water than it produces, it makes more sense to first focus on water conservation."

The proposed 77-metre high (250-ft), 2-km long dam on the Ken River will submerge 9,000 hectares of mostly forest land. A big portion will come from the Panna Tiger Reserve. The forest reserve, a major tourist attraction, is home to 30 to 35 tigers and nearly 500 vultures. Authorities say they have planned for the safety of tigers and vultures.

**Questions**

- (a) Explain how the changes in prices of paddy and tur are likely to affect what farmers will produce in the agriculture year 2018. [2]
- (b) “A good monsoon could raise the prospect of another cut” of interest rates (Extract 2).  
Explain why the Reserve Bank of India would be less concerned about cutting interest rate amidst a good monsoon. [4]
- (c) Explain why Figure 3 might not be useful for drawing conclusion about change in the material living standards of a typical resident of rural India. [4]
- (d) Explain why a network of artificial canals that divert water from bountiful rivers to parched regions (Extract 5) can be considered a public good. [2]
- (e) Discuss the effectiveness of the minimum price support scheme (MPS) to improve the livelihood of farmers in India during a good harvest. [8]
- (f) If you were an economic advisor to the government of India, discuss whether you would have advised it to go ahead with the US\$87 billion water diversion scheme. [10]

[Total: 30]

## Question 2: Green growth and sustainable development

**Table 1: Annual growth rates in selected countries**

	% change in real Gross Domestic Product (GDP)				
	2012	2013	2014	2015	2016
<b>China</b>	7.9	7.8	7.3	6.9	6.7
<b>Indonesia</b>	6.0	5.6	5.0	4.9	5.0
<b>UK</b>	1.4	2.0	2.9	2.3	1.8

Source: World Bank

**Table 2: Selected economies' composition of aggregate demand (2016)**

	Components of Aggregate Demand (as % of GDP)				
	Household Consumption Expenditure (C)	Investment Expenditure (I)	Government Current Expenditure (G)	Exports (X)	Imports (M)
<b>China</b>	40	44	14	20	18
<b>UK</b>	66	17	19	28	30

Source: World Bank

### **Extract 6: China's economy cools as government curbs hit factories, property and retailers**

The world's second-largest economy has started to show signs of fatigue, with momentum seen slackening further as Beijing's crackdown on debt risks curbs demand. Beijing is already in the second year of a campaign to reduce high levels of debt as authorities worry that riskier lending practices, especially in the real estate sector, could endanger the economy. In addition, tighter pollution rules have hit factory output. China's exports growth have eased last month as the war on pollution dragged on manufacturing activity and pulled average daily crude steel output down.

Data showed China's new loans fell more than expected last month to their lowest in a year as banks tightened mortgage lending. While the People's Bank of China kept liquidity tight through much of the year by raising short term rates, growth is still expected to easily meet the government's full-year target of around 6.5 percent for 2017.

Source: Reuters, 14 November 2017

### **Extract 7: European ban on palm oil in biofuels upsets Jakarta, KL**

Indonesia and Malaysia, which together produce nearly 90 per cent of the world's palm oil, are reeling from a decision by the European Parliament last week to ban the use of the commodity in motor fuels from 2021 to prevent deforestation and meet Europe's more ambitious climate goals.

Political leaders in both South-east Asian countries have warned that the move may lead to a trade conflict as it looks like a protective trade barrier. They also warned that the livelihood of over six million people - comprising mostly farmers with small holdings and plantation workers - could be badly affected.

Members of the European Parliament last Wednesday voted to amend a draft law on renewable energy that calls for reducing to zero "the contribution from biofuels and bioliquids produced from palm oil" in three years. Palm oil is widely used as cooking oil and in making products ranging from ice cream to instant noodles and soaps to lipsticks. The commodity has another use - it can be blended with fossil fuels such as diesel to produce biofuels to power up motor engines.

For Indonesia, 40 per cent of its palm oil exports to Europe are converted into biofuels. In 2018, Indonesia exported a total of 28 million tonnes of crude palm oil, valued at US\$23 billion (S\$30 billion), which accounts for almost 10 per cent of the country's exports.

Analysts say banning the use of palm oil for biofuels may be easier said than done as phasing out palm oil would mean Europe would have to find an alternative, likely to be soya bean oil from the United States and South America or from domestic sources. Three million tonnes of additional supply of soya bean a year will be needed as replacement, meaning six million hectares of tropical forest in Brazil would have to be converted into soya bean plantations to meet this increase in demand.

Source: The Straits Times, 24 January 2018

### **Extract 8: UK Government support needed to unlock billions in green business**

The UK could be a green business powerhouse in the next three decades. The low-carbon economy in the UK employs at least 432,000 people, with a turnover of more than £77 billion in 2015. This is larger than industries such as car-making and steelmaking, which are frequently given the spotlight when politicians discuss industry and jobs.

Growth in green business is also expected to outstrip other sectors of the economy, as international opportunities open up for low-carbon goods and services. The shift to a more efficient and lower carbon economy is well under way across the globe, with the cost of clean technologies, such as renewable energy and electric vehicles, falling rapidly, and investment growing strongly. Investments in the UK by major developing countries alone are projected to be \$23 trillion by the end of the next decade, with green business's supporters arguing that the UK is well placed to take a share of the burgeoning market. A group representing more than 30 of the UK's green and low-carbon companies forecast that the low-carbon economy would rocket from 2 per cent of the UK's GDP today to 13 per cent in the next three decades, boosting both manufacturing and services, but only with government support.

The UK government has pointed to increased encouragement for the use of electric vehicles, funding to build new nuclear power stations, and subsidies which will lower the costs of developing wind farms off the UK coast as evidence of its commitment to low-carbon infrastructure. Since May 2010, the UK has wind power capacity of more than 11 gigawatts, generating enough electricity for more than 7.8 million homes.

Source: The Guardian, 4 June 2017

## Questions

- (a) Compare the change in China's GDP levels with that of Indonesia from 2012 to 2016. [2]
- (b) Explain two factors which would affect domestic consumption in China. [4]
- (c) Explain how Indonesia's balance of trade will be affected by Europe's ban on palm oil in biofuels. [2]
- (d) Using a demand and supply diagram, explain the likely impact of Europe's ban on palm oil in biofuels on soya bean prices. [4]
- (e) Discuss the impact of the ban of palm oil in biofuels on the level of unemployment in Europe. [8]
- (f) Discuss the effectiveness of measures adopted by the UK government as mentioned in Extract 8 to achieve sustainable growth in the UK. [10]

[Total: 30]

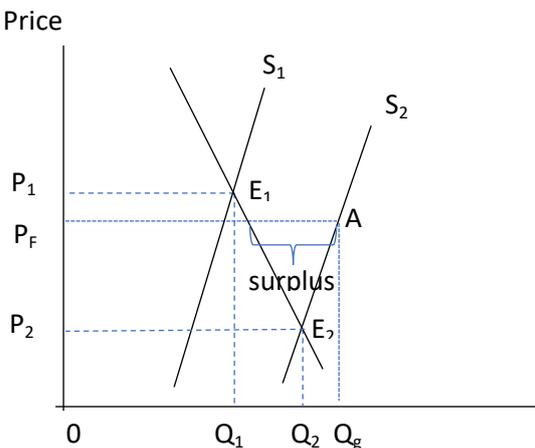
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## 2019 H2 Economics Prelim Exam Paper 1 Suggested Mark Scheme

### Question 1: Agriculture, Water Crisis and Poverty

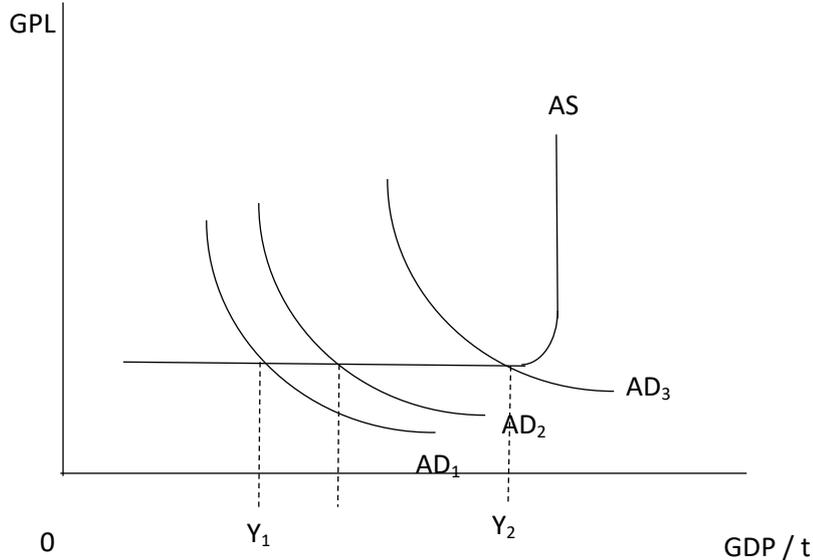
#### Answers

a)	<p><b>Explain how the changes in prices of paddy and tur are likely to affect what farmers will produce in the agriculture year 2018.</b></p> <p>Rational farmers will switch to paddy production because the rise in price of paddy relative to tur (1m) makes production of paddy relatively more profitable (1m).</p>	[2]
b)	<p><b>“A good monsoon could raise the prospect of <u>another</u> cut” of interest rates. (Extract 2)</b></p> <p><b>Explain why the Reserve Bank of India would be less concerned about cutting interest rate amidst a good monsoon.</b></p> <p>A central bank typically cuts interest rate to stimulate C/I (1m) and hence AD in order to boost actual growth (1m) However, such a policy of increasing AD contributes to DD-pull inflation pressure when economy is near or at full employment. This is an unintended consequence. (1m)</p> <p>If there is a good monsoon, the resulting bumper harvest of crops would lead to decrease in prices of agricultural inputs which leads to fall in unit cost of production in given that India has many manufacturing industries that are engaged in processing of agricultural produce. (1m) The resulting rise in AS lowers cost -push inflation pressure and so reduce overall upward pressure on the country’s GPL. (1m)</p> <p>Or</p> <p>When there is a good monsoon, more land become arable. This increases India’s productive capacity. This means AS rises. (1m) The rise in AS helps to create capacity to accommodate increases in AD created by an expansionary interest-rate centred monetary policy and thus the central bank would be less worried that its cutting of interest rate would have the unintended consequence of worsening inflation in the country. (1m)</p>	[4]
c)	<p><b>Explain why Figure 3 might not be useful for drawing conclusion about change in the material living standards of a typical resident of rural India.</b></p> <p>Give 2 reasons. 1 reason with explanation is worth 2m.</p> <ol style="list-style-type: none"><li>1. The GDP per capita figures are measured in current prices. It is likely to have overstated the rise in <i>real</i> GDP per head since India most likely experienced inflation during that period.</li><li>2. The rise in real GDP per head is likely to have overstated the rise in SOL of rural residents. Growth of GDP is not likely to have been inclusive in the sense that the rural sector probably did not benefit as much as urban sectors. The data point to poverty in rural area.</li></ol>	[4]

	<p>E.g. farmers have become destitute (Extract 4) and government schemes have not benefitted them (Extract 3).</p> <p>3. The rise in real GDP per head may have overstated the rise in SOL of rural residents. As India develops, more and more farm output will be commercialised (i.e. reduction in subsistence farming). This will lead to less under-reporting of India's output. This means the observed rise in India's real GDP per head is partly due to a greater percentage of farm final output being included in the GDP calculation rather than actual rise in output.</p>	
d)	<p><b>Explain why a network of artificial canals that divert water from bountiful rivers to parched regions (Extract 5) can be considered a public good.</b></p> <p>It is non-rival – once the canals are built, the consumption of the functions of the canal (i.e. brings water to the farm land / reduce flooding) by one person does not prevent another from benefitting from it at the same time. (1m)</p> <p>It is non-excludable – It is hard / impractical to charge for its use. (1m)</p>	[2]
e)	<p><b>Discuss the effectiveness of the minimum price support (MSP) scheme to improve the livelihood of farmers in India during a good harvest.</b></p> <p><b>EXPLAIN HOW THE MEASURE WORKS</b></p> <p>In times of good weather, SS of crops rise to <math>SS^2</math>, price fall sharply to <math>P_2</math>. Farmers' TR falls due to <math> PED  &lt; 1</math> (because of lack of substitute to staple food). With <math> PED  &lt; 1</math>, the rise in TR from selling more is less than fall in TR from charging less (i.e. fall in TR from fall in price is more than rise in TR from less than proportionate rise in quantity demanded).</p> <p>With a price support scheme, the government buys up the excess SS at MSP of <math>P_F</math> and this enables farmer to earn more (or at least not earn less).</p> <p>In the diagram below, without the scheme, farmers' TR falls from <math>0P_1E_1Q_1</math> to <math>0P_2E_2Q_2</math>. With the scheme, when there is a good harvest that shifts SS to <math>S_2</math>, the government buys up the excess supply and TR rises from <math>0P_1E_1Q_1</math> to <math>0P_FAQ_g</math>.</p> 	[8]

	<p><b>LIMITATIONS</b></p> <p>The MPS will be effective only assuming govt is efficient / and not-corrupt and willing to pay a high enough MSP which may not be possible given the govt's budget constraints (govt has other priorities).</p> <ol style="list-style-type: none"> <li>Govt officials in some areas either did not implement the scheme (Extract 3) or were too slow in implementation. Farmers in dire need of income sold to commission agents instead who bought at prices way below MPS.</li> <li>MSP is not high enough. Extract 3 reports that farmers are demanding that the govt increase the MSP. The data however, doesn't indicate whether the MSP has been enough to help farmers earn enough revenue to at least keep up with the country's inflation rate such that they don't suffer a fall in their real income.</li> </ol> <p>Thus, the MSP is ineffective and the case evidence does point to great economic hardship among farmers in rural India. [Note: This last concluding sentence is not necessary for 8m]</p> <p><u>Mark Scheme</u></p> <table border="1"> <tr> <td>L1</td> <td>1-3</td> <td>Descriptive or incomplete explanation of how MSP is supposed to help farmers.</td> </tr> <tr> <td>L2</td> <td>4-6</td> <td>Analytical explanation of how MSP is supposed to help (Explanation is supported by use of DD/SS diagrammatic tool of analysis and application of concept of PED to TR).</td> </tr> <tr> <td>E</td> <td>+ (1to2)</td> <td>Justified stand on why scheme is not likely to be effective by applying critical thinking (singling out assumptions that don't hold, by referring to the evidence – e.g. govt is inefficient) or economic constraints.  2m awarded only when the limitation is explained and contextual.</td> </tr> </table>	L1	1-3	Descriptive or incomplete explanation of how MSP is supposed to help farmers.	L2	4-6	Analytical explanation of how MSP is supposed to help (Explanation is supported by use of DD/SS diagrammatic tool of analysis and application of concept of PED to TR).	E	+ (1to2)	Justified stand on why scheme is not likely to be effective by applying critical thinking (singling out assumptions that don't hold, by referring to the evidence – e.g. govt is inefficient) or economic constraints.  2m awarded only when the limitation is explained and contextual.	
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f)	<p>If you were an economic advisor to the government of India, discuss whether you would have advised it to go ahead with the US\$87 billion water diversion scheme.</p> <p>I would consider the viewpoint of the government who would consider society's interest.</p> <p>Thesis – Should</p> <p>1) Benefits of scheme</p> <ul style="list-style-type: none"> <li>It enables India to enjoy a higher rate of actual growth. The spending by the government on this water diversion scheme can be considered infrastructure spending which will lead to a rise in AD in India. Assuming the presence of excess capacity, the rise in AD will cause the actual GDP (<math>Y_e</math>) to rise by a multiple of the rise in G. When AD rises from <math>AD_1</math> to <math>AD_2</math>, AD will now exceed</li> </ul>	[10]									

GDP and total injections now exceed total withdrawals in the circular flow of income. This leads to decrease in inventories in the capital goods industries. The firms in this sector will increase production thereby generating a rise in national income. The recipients of the rise in income will be induced to spend on locally produced consumer goods/services which leads to further rise in AD. The process continues until equilibrium is attained when AD equals GDP and withdrawals equal injections, at GDP level  $Y_2$ .



- It enables India to enjoy a higher rate of potential growth. It prevents destruction of crops in times of drought and thus lowers the need for the government to provide financial aid to afflicted residents. Such aid has meant increased spending by the government on transfer payments for households which is meant for them to spend on consumption, and cutting back by the government spending that supports economic development – e.g. education, infrastructure (Extract 1). A cutting back of spending on education would cause the country's labour productivity to expand more slowly. A cutting back of spending would lead to a slower rise in the country's capital stock. This would lower India's potential growth (slower shift of AS to the right) By preventing crop destruction, the above problem will be minimised, thereby enabling India to enjoy a greater rate of economic growth.

The explanation on for the 'potential growth argument' can also be angled in terms of rise in infrastructure spending leading to a rise in full employment national output ( $Y_f$ ) [i.e. rightward shift of AS] due to expansion in country's capital stock].

- It makes India's actual growth more inclusive. Currently, the evidence suggests that growth in India has not been inclusive because although the data shows rise in GDP per head (figure 3), the data also highlights the problem of farmers in destitution (extract 4). The scheme improves India's irrigation system which will address the water crisis and so prevent crop

failure caused by droughts. Thus, rural households that rely on farming can be protected from destitution.

[Ev] This can be considered an important benefit because >600m people in India depend on agriculture for their livelihood.

- It could also help to lower the incidence of cost-push inflation experienced by India.  
Drought leads to destruction of crops and increase in prices of agricultural inputs which leads to rise in unit cost of production, given that India has many manufacturing industries that are engaged in processing of agricultural produce. The resulting fall in AS contributes to cost-push inflation since it causes AS to fall (AS shift up).  
By preventing crop destruction, the above problem will be minimised.

Anti-thesis – Should not

1) Costs of the scheme

- The scheme will incur high opportunity cost in the use of public funds.  
The Indian government has a limited amount of tax revenue. Spending US\$87 billion on the scheme will mean sacrificing some next best alternative area of spending – education or health care or some public good. Since India is still a developing country with high incidence of poverty where many still do not have access to education / health care / proper sanitation, the opportunity cost of the scheme could thus be rather high from the people's viewpoint.
- The scheme also results in environmental costs.
  - For example, “the proposed 77-metre high (250-ft), 2-km long dam on the Ken River will submerge 9,000 hectares of mostly forest land. A big portion will come from the Panna Tiger Reserve” which is home to 30-35 tigers and nearly 500 vultures. This constitutes external costs – which are costs incurred by third parties who are neither producers or consumers of the scheme – e.g. nature lovers (locals or tourists) will not get to see tigers / vultures in their natural habitats

2) Constraints

- The scheme will increase the national debt  
While going ahead with the scheme means cutting back on other areas, the government is still likely to have to borrow funds to fund the scheme. This leads to increase in public debt. This is a cause of concern because over-indebtedness could lead to loss of confidence in government's ability to repay its creditors. This could lead to future difficulty in obtaining loans by the government.

3) There are other cheaper ways to solve the water crisis

- The water crisis could be solved by pricing water higher or public education to conserve water  
According to Extract 4, India has more water per person than

China but yet suffers from water shortage. The water crisis is a problem of under-pricing of water which suggests that the problem could be solved by pricing water higher and introducing schemes to lower the demand for water (conserve on use of water) – E.g. via public education. Since there is a cheaper way to solve the problem, the government should use the cheaper way to optimise use of scarce resources.

EV: However, this other way of addressing the problem may not be effective due to inadequate monitoring or ineffectiveness of public education due to low literacy rates in the rural sector.

Conclusion

Will advise the government to go ahead because

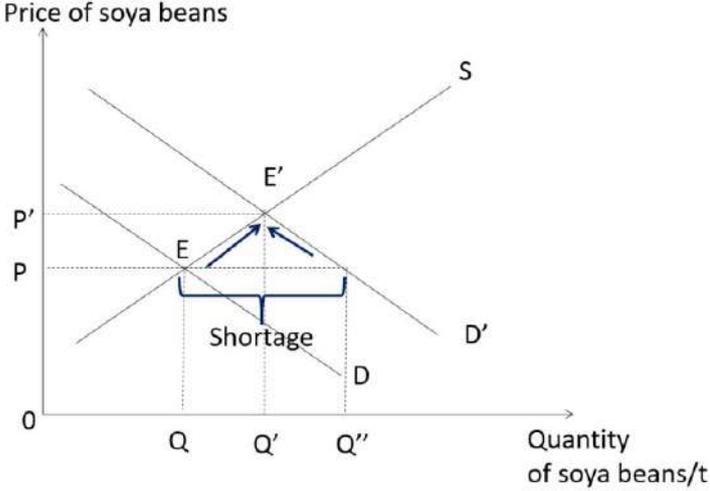
- While the costs of the scheme are high, if the benefits are higher, then should go ahead.  
The benefits are likely to exceed the costs. While the scheme is going to cost the government US\$87 billion, the long term benefit could amount to be at least worth US\$100 billion (extract 1) by saving the country the costs that arise from droughts. When the external costs arising from destruction to the natural environment are considered, perhaps the overall costs may outweigh the benefits, but with climate change, the problem of droughts is likely to increase in frequency. Thus, this scheme while costly, is likely to bring about more benefits in the long term.
- The water crisis could be solved by pricing water higher but this would drive up the price of water and this adds to the economic hardship of the rural poor.
- The problem of loss of wildlife can be partly addressed by relocating the wild animals.
- The budget constraint is not that important a consideration for rejecting the scheme because this scheme is growth generating and tax revenue can rise over time to enable government to settle the debt that arose from the scheme.

Mark Scheme

L1	1-4	Limited / descriptive explanation of reasons for and against. or Developed explanation of reasons for or against the scheme.
L2	5-7	Analytical explanation of reasons for and against the scheme (Explanation is supported by relevant economic concepts / theories).
E	1 to 3	Overall stand with weighing of benefits vs. costs by evaluating the arguments, support with evidence / context

## Question 2: Green growth and sustainable development

(a)	<b>Compare the change in China's GDP levels with that of Indonesia from 2012 to 2016.</b>	<b>[2]</b>
	Both China's and Indonesia's GDP levels were rising [1] at a falling rate. [1]  <i>Note: Larger % increase in GDP levels for China as compared to Indonesia accepted - 1m</i>	
(b)	<b>Explain two factors which would affect domestic consumption in China.</b>	<b>[4]</b>
	Explain any of the following two factors [2m for explanation of each factor] <b>1. Lower availability of credit</b> (Extract 6 Para 2) Due to debt risks banks are likely to have reduced lending to households. The inability by households to obtain loans will lead to a fall in domestic consumption in China.  <b>2. Rise in interest rate</b> (Extract 6 Para 2) 'People's Bank of China raised short term (interest) rates' which increases the cost of borrowing and increases the returns on savings. This discourages households to spend and will result in a fall in domestic consumption in China.  <b>3. Expectations of future income</b> (infer from Extract 6 Para 1) Signs that the Chinese economy is slowing down may cause households to anticipate slowdown/fall in income or loss of jobs. Households will be more careful with spending which will result in a fall in domestic consumption in China.	
(c)	<b>Explain how Indonesia's balance of trade will be affected by Europe's ban on palm oil in biofuels.</b>	<b>[2]</b>
	Evidence: Extract 7. Europe's ban on palm oil in biofuels will result in a fall in demand for Indonesia's palm oil exports which results in a fall in export revenue. [1] Assuming no change in import expenditure, there will be a fall in (X-M) hence balance of trade worsens/deteriorates. [1]	
(d)	<b>Using a demand and supply diagram, explain the likely impact of Europe's ban on palm oil in biofuels on soya bean prices.</b>	<b>[4]</b>
	Europe's ban on palm oil in biofuels will result in an increase in demand for soya bean to produce soya bean oil which is a substitute to palm oil. [1]	

	 <p>The increase in demand shifts the demand curve right. At <b>initial price</b> (<math>P</math>), <math>Q_d (Q'') &gt; Q_s (Q)</math> leading to a <b>shortage</b>. This puts an <b>upward pressure</b> on prices. The process continues until the new equilibrium (<math>E'</math>) is achieved and equilibrium price of soya beans rise from <math>P</math> to <math>P'</math>. [2]</p> <p>Diagram [1]</p>	
(e)	<p><b>Discuss the impact of the ban of palm oil in biofuels on the level of unemployment in Europe.</b></p>	[8]
	<p><b>Increase in demand for other sources of biofuels produced in Europe will result in fall in unemployment.</b></p> <p>Europe's ban on palm oil in biofuels will result in an increase in demand for other sources of biofuels produced in Europe (Evidence: Extract 7 para 5) such as soya bean oil, rapeseed oil and sunflower oil which are substitutes to palm oil. With the increase in production of these alternatives sources of biofuels, there will be an increase in the demand for workers in these sectors. This will result in a fall in unemployment.</p> <p>[EV] The impact of the ban on palm oil in biofuels on the level of unemployment in Europe depends on whether Europe imports other sources of biofuels e.g. soya bean from USA rather than rely on domestic sources of biofuels. If Europe depends more on imported biofuels, unemployment may not fall significantly in Europe.</p> <p><b>Europe's ban on palm oil in biofuels may lead to retaliation which will result in rise in unemployment.</b></p> <p>(Evidence: Extract 7 para 2) The ban on palm oil in biofuels which leads to a fall in Indonesia's export revenue may result in retaliation from Indonesia and/or Malaysia. For example, Indonesia may place protectionist measures such as tariffs on Europe's goods and services entering Indonesia. Indonesians will buy less of Europe's exports which results in a fall in her export revenue. Assuming export revenue falls more than fall in import expenditure, <math>(X-M)</math> and hence <math>AD</math> will fall. With <math>AD</math> less than <math>AS</math> at the current <math>GPL</math>, there will be an unplanned rise in inventories. This will lead to firms reducing production and hiring less factors of production, such as labour. This results in a rise in unemployment in Europe.</p> <p>OR</p>	

**Europe’s ban on palm oil in biofuels will result in feedback effects which will result in rise in unemployment.**

(Evidence: Extract 7 para 4) The ban on palm oil in biofuels which leads to a fall in Indonesia’s export revenue and hence (X-M) will result in fall in AD. This will result in a fall in Indonesia’s national income which means that Indonesians will face lower purchasing power and buy less goods and services including imports e.g. from Europe.

Europe will hence experience fall in demand for its exports which results in a fall in export revenue. Assuming no change in import expenditure, (X-M) and hence AD will fall. With AD less than AS at the current GPL, there will be an unplanned rise in inventories. This will lead to firms reducing production and hiring less factors of production, such as labour. This results in a rise in unemployment in Europe.

**Europe’s ban on palm oil in biofuels will result in rise in unit cost of production and a fall in AS which will increase unemployment.**

The ban on palm oil in biofuels will increase in the marginal cost of producing biofuels which will increase the price of biofuels which is a source of energy. As biofuel energy is a major factor input in the production of goods in Europe, there will be an increase in the unit cost of production. This results in a fall in AS illustrated by the horizontal portion of the AS curve shifting upwards and GPL increase. When GPL rises, purchasing power falls and consumption falls (upward movement along AD curve) and real GDP falls. *(Alternatively answers can use international substitution effect or interest rate effect to explain)* Hence, firms will reduce production and hire less factors of production such as labour. This results in a rise in unemployment in Europe.

Conclusion

Overall unemployment in Europe will rise in the long run. In the short-run, the alternative biofuels industries in Europe which are substitutes to palm oil will see a fall in unemployment. However, in the long-run due to feedback effects or retaliation, Europe will experience a rise in the level of unemployment.

Level	Descriptor	Marks
L1	Some knowledge about the impact of the ban on palm oils in biofuels on the level of unemployment in Europe but answers tend to be descriptive.	1 – 3
L2	Analytical explanation of the impact of the ban on palm oil in biofuels on the level of unemployment in Europe. Reference is made to the case evidence.	4 – 6
E	Evaluative comments on the relative impact on unemployment in Europe considering whether there will be an overall rise or fall in unemployment or short-run vs. long-run impact on unemployment.  <i>Note: For answers which analyse change in level of unemployment in a single direction only (e.g. argue that the ban results in rise in unemployment only), evaluation can consider extent of impact on unemployment level.</i>	1 – 2

(f)	<b>Discuss the effectiveness of measures adopted by the UK government as mentioned in Extract 8 to achieve sustainable growth in the UK.</b>	<b>[10]</b>
	<p>Sustainable growth includes sustained growth (actual and potential growth) at a rate that can be maintained without creating other significant socio-economic issues for future generations. The measures adopted by the UK government mentioned in Extract 8 include 'increased encouragement for the use of electric vehicles, funding to build new nuclear power stations, and subsidies which will lower the costs of developing wind farms off the UK coast' (Extract 8 last para).</p> <p><b>The measures adopted by the UK government will boost actual and potential growth.</b></p> <p>With the UK government's increased encouragement for the use of electric vehicles, the demand for electric vehicles is likely to rise and profits are likely to rise. Government funding to build new nuclear stations and subsidies to develop wind farms will lower the marginal cost of building nuclear stations and developing wind farms, which will result in higher profits for firms. The expected rate of return of investment in these industries will rise and encourage greater investment expenditure (I) (Evidence: Extract 8 para 2).</p> <p>The data also suggests that there are 'international opportunities for low-carbon goods and services (Evidence: Extract 8 para 2) which will mean there will be increased global demand for green goods and services. With government support to develop the renewable energy sector (e.g. wind energy), the UK can gain comparative advantage in producing green products. This will allow the UK to ride on its possible comparative advantage in green products which will boost export revenue (X).</p> <p>Overall, the increase in I and X will result in a rise in AD. The multiplier process will result in a multiplied rise in real GDP which boosts actual growth.</p> <p>In addition, the rise in I will result in an increase in the quantity of capital. This increase the UK economy's productive capacity and there will be an increase in AS (illustrated by a rightward shift of the vertical portion of the AS curve) which will boost potential growth.</p> <p>[EV] The increase in I and X will have a significant positive impact on the UK's actual growth as Table 2 shows that the combined impact of I and X accounts for 45% of the UK's GDP. Extract 8 also suggests that the growth of the green industry in the UK will bring significant benefits to actual growth.</p> <p>[EV] Although the UK can ride of the global green movement which can boost FDI and export revenue, the developments of Brexit may limit the increase in FDI and export revenue. For example, Brexit uncertainties may hinder foreign firms from investing in the green industries in the UK as there is uncertainty regarding the expected return on investment. This will limit the increase in actual and potential growth in the UK.</p> <p><b>The measures adopted by the UK government will reduce pollution which will help to ensure growth is sustainable for future generations.</b></p> <p>Economic growth has resulted in the growth of use of fuel-powered vehicles for transportation and increased demand for energy/electricity by households and firms. The use of fuel-powered vehicles and traditional energy sources from burning fossil fuels e.g. coal have resulted in significant release of harmful</p>	

carbon emissions into the atmosphere. This has resulted in external costs generated e.g. healthcare cost incurred by third parties who fall ill from the pollutants, and society suffers from significant welfare loss. With the measures adopted by the UK government such as funding/subsidies to develop renewable energy e.g. wind, the cost of using renewable energy is likely to fall which will encourage firms to switch from coal-derived energy to renewable energy. This will reduce the demand and hence production of energy by burning fossil fuels. The encouragement of use of electric cars will encourage households to reduce the use of fuel-powered vehicles. These measures facilitate the reduction the amount of pollutants released in the atmosphere which lower the amount of external costs generated. Overall, the negative impact of rapid economic growth on third parties will fall, and there will be a reduction in welfare loss.

OR

Economic growth has resulted in an increased demand for energy/electricity by households and firms. The use of traditional energy sources have resulted in significant depletion of fossil fuels to generate energy/electricity. With the measures adopted by the UK government such as funding/subsidies to develop renewable energy e.g. wind, the cost of using renewable energy is likely to fall which will encourage firms to switch from coal-derived energy to renewable energy. This will reduce the demand and hence production of energy by burning fossil fuels, and will slow down the exhaustion of resources which could ensure sufficient amounts of resources for future generations. This will allow economic growth in the UK to be sustainable for future generations.

[EV] With government measures in place, there will be a boost in low-carbon/clean/green infrastructure. However, it is uncertain as to whether households and firms will change their consumptions habit / production methods. For example, if electric cars continue to be significantly more expensive than fuel-run cars, many households will not switch to electric cars which will reduce the effectiveness of the government measure to reduce carbon emissions.

[EV] Positive impact on reducing pollution and slowing down the use of resources will take time to be felt as the infrastructure takes time to be built. Green measures take time as green infrastructure e.g. nuclear plants and wind farms takes time to build. Therefore these benefits will be only experienced in the long run.

#### Conclusion

The measures adopted by the UK government will be largely **effective** to achieve sustainable growth in the UK as the measures have positive effects on all aspects of sustainable growth.

If the uncertainties of Brexit are resolved, the combined impact of increased G, I and X will ensure sustained economic growth for the UK. In addition, as the data mentions that the cost of clean technologies is falling (Extract 8 para 2), it is likely that the UK can move significantly towards the use of renewable energy e.g. wind energy and electric cars, which will help to achieve sustainable growth.

OR

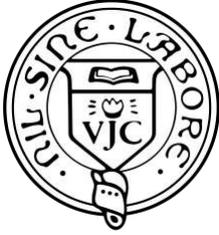
The measures adopted by the UK government will be largely **ineffective** to

achieve sustainable growth in the UK.

The data suggests that government measures alone are insufficient and there is a need for the support of firms in order for the benefits of these measures i.e. sustainable growth to be achieved. The negative impact of Brexit may hinder FDI and export demand for green goods and services which will render these measures ineffective.

Furthermore, the UK's continued budget deficit will hinder the government's ability to support green movement. For example, the UK government may have to reduce funding in this area which could result in delays in the building of wind/nuclear infrastructure which will reduce the impact on sustainable growth.

<b>Level</b>	<b>Descriptor</b>	<b>Marks</b>
L1	Some knowledge about how the UK government measures achieve sustainable growth but answers tend to be descriptive.	1 – 4
L2	Analytical explanation of how the UK government measures achieve sustainable growth. Reference is made to the case evidence.	5 – 7
E	Evaluative comments about the effectiveness of the UK government measures to achieve sustainable growth.  Conclusion with substantiation must be included to score full 3m.	1 – 3



**VICTORIA JUNIOR COLLEGE  
JC 2 PRELIMINARY EXAMINATION 2019  
HIGHER 2**

**ECONOMICS**

**9757/02**

**4 September 2019**

Paper 2 Essays

**2 hours 15 minutes**

**Additional Materials:** Answer Booklet

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.  
Write in dark blue or black pen on both sides of the paper.  
You may use an HB pencil for any diagram or graphs.  
Do not use staples, paper clips, highlighters, glue or correction fluid.  
**DO NOT WRITE IN ANY BARCODES.**

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or section B.

Start each question on a new page.

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

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This document consists of **3** printed pages

[Turn over

Answer **three** questions in total.

## Section A

**One or two** of your three chosen questions must be from this section.

- 1** Bubble tea has spread like wildfire on mainland China. This is in part due to viral marketing, recipe innovations and a push to create modern teahouses that have become hangout spots for the millennials. At the same time, new planting and soil management practices in China have resulted in a rise in the production of tea leaves, an ingredient of bubble tea.

Adapted from *Today Online*, 6 October 2017

Discuss the impact these events are likely to have on China's consumers and tea farmers. [25]

- 2** (a) Explain the factors that are likely to influence firms' decisions to merge. [10]
- (b) Assess whether mergers are desirable to society. [15]

- 3** The Competition Commission of Singapore (CCS) finds it extremely difficult to convince parents that highly marketed 'premium' infant milk powder products are comparable to other brands. "Without better information, parents should be careful about relying on the claims made by infant formula companies," Dr Koh Poh Koon, Senior Minister of State for Trade and Industry said, while stressing that cheaper options are just as nutritious.

Adapted from *The New Paper*, 2017

- (a) Explain the market failure associated with imperfect information in the markets for different types of infant milk powder products. [10]
- (b) To what extent should the Singapore government intervene in the above markets? [15]



## Section B

**One or two** of your three chosen questions must be from this section.

- 4** The goal of many central banks is to achieve price stability.
- (a) Explain the key determinants of price stability. [10]
- (b) Discuss the view that achieving price stability is the most important determinant of a country's success in improving its standard of living. [15]

- 5** In 2017, Germany has the world's biggest absolute current account surplus while America's deficit remains the world's biggest. Current account imbalances are however not always a cause for concern.

Source: *International Monetary Fund (IMF) Report*, 2018

- (a) Explain the possible causes of current account imbalances faced by countries. [10]
- (b) Discuss the factors that are likely to influence macroeconomic policy decision makers in deciding if balance of trade imbalances are a cause for concern. [15]

- 6** The US government has accused China of engaging in unfair trade practices and has imposed tariffs on many Chinese imports like aluminium and steel. In turn, China imposed a number of retaliatory tariffs on US imports like fruit, wine, and pork.

Source: *The New York Times*, 1 April 2018

- Discuss the policy measures that the Singapore government can adopt to deal with the macroeconomic problems associated with the ongoing trade war. [25]

----- End of paper -----

## H2 Economics Paper 2 Suggested Mark Scheme

- Bubble tea has spread like wildfire on mainland China. This is in part due to viral marketing, recipe innovations and a push to create modern teahouses that have become hangout spots for the millennials. At the same time, new planting and soil management practices in China have resulted in a rise in the production of tea leaves, an ingredient of bubble tea.**

Adapted from Today Online, 6 October 2017

**Discuss the impact these events are likely to have on China's consumers and tea farmers.** [25]

### Approach:

This question requires students to use demand and supply analysis and the relevant elasticity concepts to determine equilibrium price and quantity in at least 2 different markets. The impact of these on total revenue / expenditure of farmers / consumers or on consumers and producers surplus have to be considered.

### Introduction

The impact of the above events on two different markets will be considered: impact on China's consumers in the bubble tea market and impact on farmers in the tea market. Demand and supply tools including the use of price elasticity of demand and supply will be used to analyse both the impacts on consumers' total expenditure / consumer surplus and farmers' total revenue / producer surplus.

[Note: Instead of the bubble tea market, students can choose to analyse the impact on another different market, for example, speciality coffee.]

### Body

#### **Explain how the events affect the market for bubble tea on China's consumers (DD and SS factors)**

**Successful marketing efforts have fuelled the growth of modern teahouses, leading to a change in taste and preference towards bubble tea and hence a rise in its demand.**

Demand for bubble tea is the quantity of bubble tea that consumers are willing and able to buy at various prices. Successful marketing efforts and the emergence of modern teahouses may have resulted in the millennials checking out new joints as a hobby and something they can post about on social-networking sites. Also, consumers' evolving tastes, with more seeking out different recipe innovations, have resulted in a change in taste and preference in favour of the bubble tea beverage. Consumers are thus now more willing to purchase bubble tea, leading to an increase in demand for the beverage from D to D' (Fig. 1).

**A rise in the production of tea leaves will result in a rise in supply of bubble tea.**

Supply for bubble tea is the quantity of bubble tea that producers are willing and able to supply at various prices. New planting and soil management practices in China will result in both higher yields and newer and cheaper ways of producing tea leaves. As marginal

cost of producing tea leaves falls, this results in a fall in the raw material cost of producing bubble tea since tea leaves is a factor input in the production of bubble tea. This means the marginal cost of producing bubble tea falls and it becomes more profitable to produce bubble tea at every price level, thus producers will be more willing and able to produce it. Supply of bubble tea increases from  $S$  to  $S'$  (Fig. 1).

Overall, there will be both an increase in demand and supply for bubble tea.

### **Determining the PED and PES value of bubble tea**

#### **Demand for bubble tea is likely to be price elastic.**

The price elasticity of demand (PED) measures the responsiveness of quantity demanded for the good to a change in its price, *ceteris paribus*. There are many substitutes for bubble tea as a beverage, for e.g., speciality coffee. This means that its demand is likely to be price elastic due to the availability of close substitutes i.e. a change in price of bubble tea will lead to a more than proportionate change in quantity demanded, *ceteris paribus* since consumers can easily switch to substitutes.

[EV] However, if the marketing effort is successful, it is likely to persuade consumers to view other beverages as less desirable substitutes. This is likely to result in a less price elastic demand for bubble tea.

#### **Supply for bubble tea is likely to be price elastic.**

The price elasticity of supply (PES) measures the responsiveness of quantity supplied for the good to a change in its price, *ceteris paribus*. The ease of production of bubble tea is relatively high as it requires factors of production that are easily available. For eg, the size of a shop tends to be small and thus rental cost is relatively lower. Firms can also switch from producing alternative products to bubble tea production. For eg, a coffee joint producer can easily convert its shop to a bubble tea joint since the setup and the manpower are likely to be similar. Hence, the supply of bubble tea is price elastic since an increase in the price can bring about a more than proportionate increase in quantity supplied, *ceteris paribus*.

### **Direction of change in equilibrium price and quantity of bubble tea**

#### **The increase in demand and supply of bubble tea will lead to an increase in equilibrium quantity of bubble tea but the impact on price depends on the relative shifts of demand and supply.**

As seen from Figure 1, demand for bubble tea rises from  $D$  to  $D'$ , and supply rises from  $S$  to  $S'$ . In the first scenario, suppose the rise in demand exceed that of the rise in supply for bubble tea, this means that there will be a shortage at the original price level,  $P$ . To eliminate the shortage, there will be an upward pressure on price as consumers bid up prices. With the rise in price, quantity demanded falls. This is because when price rises and becomes higher than the marginal benefit, rational consumers will cut back on purchases. At the same time, as price rises and exceeds the marginal cost of production, this incentivises producers to produce more as production is now more profitable and quantity supplied rises. The adjustment process will continue until the quantity demanded equals to the quantity supplied at the new equilibrium  $E'$ , where the new equilibrium price is  $P'$  and the new equilibrium quantity is  $Q'$ . Overall, both equilibrium price and quantity of bubble tea rise.

**Impact on total expenditure / consumer surplus for consumers of bubble tea**

A rise in total expenditure (TE).

Since both the equilibrium price and quantity of bubble tea have risen, this means consumers' expenditure for bubble tea will increase from  $OPEQ$  to  $OP'E'Q'$ .

In terms of consumer surplus, which is a measure of consumer welfare that people gain from consuming goods and services, it has increased. This can be seen from the rise in consumer surplus from  $PaE$  to  $P'bE'$ , which is the difference between the highest price consumers are willing to pay and the price they actually pay for the units consumed.

(Students need only to consider the impact on either consumer expenditure or consumer surplus)

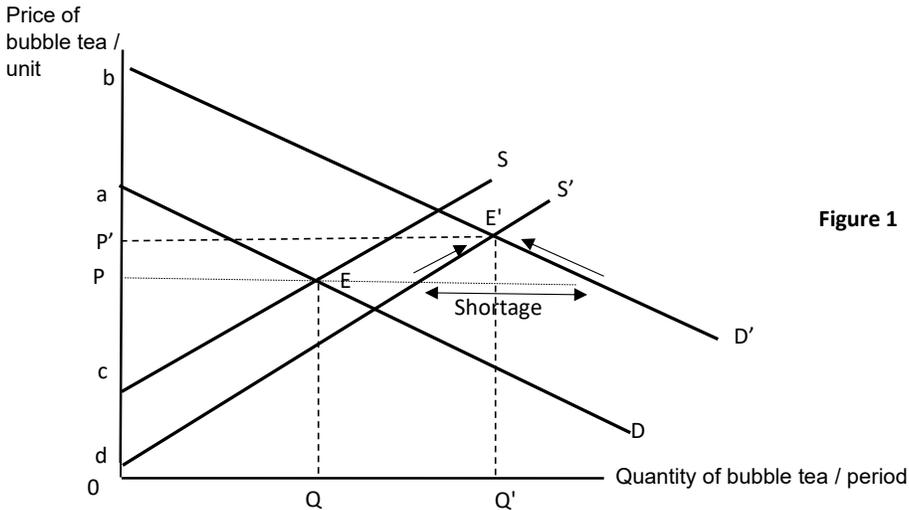


Figure 1

In the second scenario, suppose the rise in demand is less than the rise in supply for bubble tea (Figure 2). This means that at the original equilibrium price,  $OP$ , there is now a surplus. Producers will have the incentive to lower price so as to get rid of the excess stock. With the lower price, producers will reduce the quantity supplied since marginal cost is higher than the price and this disincentivizes production as it has become less profitable. On the other hand, for the consumers, the price fall will now become lower than the marginal benefit. Rational consumers will increase their purchases to obtain greater satisfaction. The consequent movement along  $D'$  and  $S'$  will result in lower equilibrium price ( $OP'$ ) and higher equilibrium quantity ( $OQ'$ ).

**Impact on total expenditure / consumer surplus for consumers of bubble tea**

When both demand and supply have changed and the final outcome is such that market equilibrium price and quantity change in opposite directions, the impact on consumers' TE will depend on the PED for bubble tea and the extent of the rise in demand caused by the change in non-price factor (taste in favour of bubble tea).

To analyse the overall impact on total expenditure (= equilibrium price x quantity bought), the impact of the changes in supply and demand on total expenditure is analysed sequentially.

Holding demand constant at D, the rise in supply from S to S' will result in a fall in price and given that demand for bubble tea is price elastic, the fall in price will result in a more than proportionate rise in quantity demanded. The increase in expenditure from the rise in quantity demanded (BE'Q'Q) will be more than the decrease in expenditure from the fall in price (PEBP'). Hence, total expenditure will increase from the impact of supply.

Holding supply constant at S', the rise in demand from D to D' will result in a rise in expenditure to OP''E''Q'' since both price and quantity will increase. This further reinforces the increase in expenditure of bubble tea from the rise in supply.

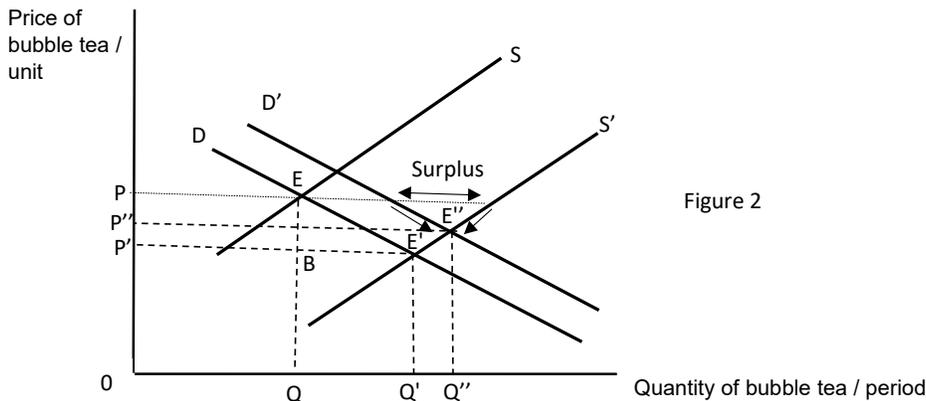


Figure 2

**[EV]** The first scenario is more likely to occur in the short run where the demand for bubble tea due to the fad rises more than its supply. Thus, consumers' expenditure in short term should rise.

**[EV]** The second scenario is likely to occur in the long run where the rise in supply is likely to exceed the rise in demand. This is because the bubble tea market is highly competitive (entry barriers are low) and so it is likely to attract many firms into the market since it is seen to be profitable. Moreover, then rise in demand for bubble tea is likely to moderate over time when the fad fades. Thus, bubble tea consumers' TE in long term will continue to be higher than in the current period (as explained earlier, with ref to Fig 2).

**Explain how the events affect the market for tea on tea farmers (DD and SS factors)**

**The rise in demand for bubble tea results in a rise in demand for tea leaves.**

Tea leaves is a factor input in the production of bubble tea. With the rise in the equilibrium quantity of bubble tea, this will lead to a rise in derived demand for tea leaves which is required in the preparation of bubble tea, shown by an increase in demand from D to D' (refer to Fig. 1 – assume it is a tea market).

**An improvement in the method of production will result in a rise in supply of tea leaves.**

As explained earlier, new planting and soil management practices in China will result in both higher yields and newer and cheaper ways of producing tea leaves. This results in lower marginal cost of producing tea leaves. This means that farmers will find it more profitable to produce tea leaves at every price level. Thus they will be more willing and able to produce it and supply of tea leaves increases from S to S' (again, refer to Fig. 1 – assume it is a tea market).

**Determining the PED and PES value of tea leaves**

**Demand for tea leaves is likely to be price inelastic.**

Tea leaves is an important ingredient in the making of bubble tea. In addition, in the context of China that has a long history of drinking tea, it is unlikely that the Chinese will view other beverages as close substitutes. The demand of tea leaves is thus price inelastic as there are few available substitutes. This means that a change in price of tea leaves will lead to a less than proportionate change in quantity demanded, *ceteris paribus*.

[Note: If students can provide well-argued reasons to substantiate demand being price elastic, it is acceptable too]

**Supply for tea leaves is likely to be price inelastic.**

Supply is price inelastic when an increase in the price brings about a less than proportionate increase in quantity supplied, *ceteris paribus*. In the case of tea leaves, even if its price was to rise, farmers are unable to respond by significantly increasing the quantity supplied of tea leaves given the relatively long gestation period involved in growing tea leaves.

**Direction of change in equilibrium price and quantity of tea**

**The increase in demand and supply of tea will lead to an increase in equilibrium quantity of tea but the impact on price depends on the relative shifts of demand and supply.**

Similar to the case for bubble tea, as seen from Figure 1, demand for tea rises from D to D', and supply rises from S to S'. The demand will likely increase more than the rise in supply. As the demand for bubble tea is significant and tea is an essential ingredient, this is likely to result in a significant rise in demand for tea. In addition, given that the planting and soil management practices are still new in China, there may be challenges faced in adopting these methods or some farmers may want to stick to the traditional way of production. Hence this may result in a less significant rise in tea production. Considering that the rise in demand exceeds that of the rise in supply for tea, there will be a shortage at the original price level, P. To eliminate the shortage, there will be an upward pressure on price as consumers bid up prices. The adjustment process is similar to what was discussed earlier for the bubble tea market.

**Impact on total revenue for tea farmers**

Since both the equilibrium price and quantity of tea have risen, this means farmers' revenue for tea will increase from OPEQ to OP'E'Q' (Fig 1).

In terms of producer surplus which is the difference between the price firms receive and the lowest price they were prepared to accept for the units sold, it has increased. This can be seen from the rise from  $P_cE$  to  $P'dE'$  (Fig 1).

**[EV]** The above assumes short run analysis. In the long run, given the profitable nature of tea production, other agricultural farmers who are growing other crops may also be incentivised to convert their land to tea production instead. Hence more farmers enter into the tea market. In addition, as the new farming practices become more established, the yield from tea is also likely to rise more significantly. Hence in the long run, the supply of tea rises by a greater extent. Moreover, when demand for bubble tea moderate in the longer term as the fad diminishes, the derived demand for teas leaves will moderate too. As the population ages, the demand for sweet cold drinks like bubble tea is likely to be moderated too. Thus, it is likely the case that market equilibrium price will fall in the long run and market equilibrium quantity will rise in the long run. The impact on TR of tea leaves growers will depend on the PED for tea and the extent of the rise in demand caused by the rise in derived demand for tea.

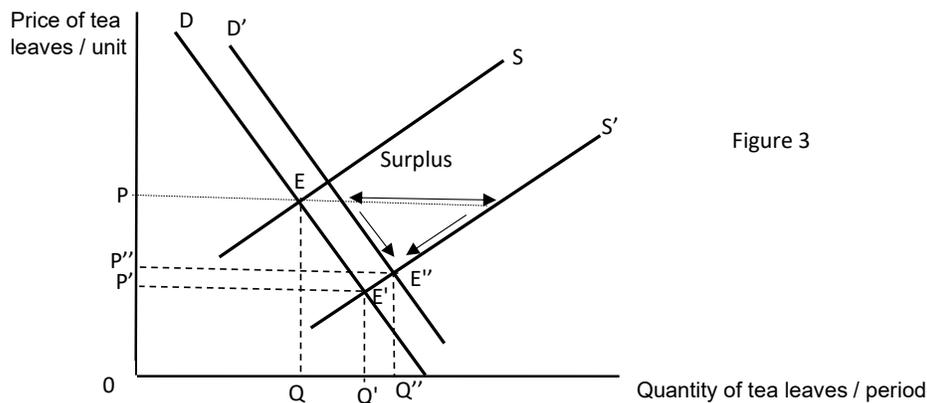


Figure 3

Referring to Fig 3, with demand of tea leaves being price inelastic, holding demand constant at  $D$ , a rise in supply leads to a fall in TR. The fall in TR from the fall in price from  $P$  to  $P'$  will be more than the rise in TR from the less than proportionate rise in quantity sold from  $Q$  to  $Q'$ . Starting from point  $E'$ , the rise in demand from  $D$  to  $D'$  results in a rise in TR (from  $0PE'Q'$  to  $0P'E''Q''$ ). However, with demand for tea leaves moderating in the long term due to the moderating of the demand for bubble tea when the bubble tea fad fades, it is likely for the rise in TR (from area  $0P'E'Q'$  to  $0P''E''Q''$ ) from the rise in demand from  $D$  to  $D'$  to be less than the fall in TR from the rise in supply from  $S$  to  $S'$ . As such, TR of tea leaves farmers will fall in the long run.

### Conclusion

In conclusion, for the bubble tea market, consumer expenditure is likely to increase for both short and long run if demand for bubble tea is price elastic.

For tea market, there will be a rise in tea farmers' revenue in the short run. In the long run, given that demand is price inelastic and rise in supply is likely to be more than rise in demand, then farmers' revenue is likely to fall.

The above analysis assumes *ceteris paribus*, which is unlikely to hold in the real world. Over time, consumers' taste may change as new types of beverages enter into the market. Also, consumers in China may become more health conscious and informed about the health benefits of bubble tea. Thus, **this means** that the rise in the demand for bubble tea may be limited.

In the long run, the entry of farmers to the tea market may also not occur if there are more profitable developments in other global markets. This means that supply of tea may not increase significantly in the long run.

Such changes in demand and supply conditions in both markets will thus have impacts on consumers' expenditure and farmers' revenue.

## Mark Scheme

<b>Knowledge, Application/Understanding and Analysis</b>		
<b>Level</b>	<b>Descriptor</b>	<b>Marks</b>
L3	For an answer that uses given demand and supply factors and relevant elasticity concepts to thoroughly analyse the impact on respective markets. Long run analysis is provided. Higher level of rigour in analysis is observed.	18 - 20
	For an answer that uses given demand and supply factors to analyse the impact on respective markets (i.e. change in price, quantity, total revenue / total expenditure). Accurate application of relevant elasticity concepts and appropriate use of diagrams is required.  2 different markets must be analysed.	15 - 17
L2	For an answer that either gives a descriptive and / or under-developed explanation of given demand and supply factors and how that impacts the respective markets OR a detailed explanation of given demand and supply factors and how that impacts either the market for tea or a related market. Explanation of impact on total revenue/ expenditure or consumer / producer surpluses.	12 - 14
	For an answer that mostly addresses the question, but explanation of how demand and/or supply factors lead to impact on the respective market(s) is undeveloped or descriptive.	9 - 11
L1	For an answer that shows some relevance and knowledge of given demand and supply factors, or impact on the market for tea or a related product. However, points remain largely unexplained.	5 - 8
	For an answer that is mostly irrelevant. There could be listing of some demand and supply factors without explanation.	1 - 4
E3	For an answer that uses analysis to support an evaluative conclusion on the overall impact of the events on the market for tea and on a related market in China in different time periods. Evaluates the likelihood of changes in demand / supply conditions in the 2 markets.	4 - 5
E2	For an in-body evaluation which shows attempt to explain the likelihood of changes in demand / supply conditions.	2 - 3
E1	For an answer that gives unsupported judgement(s) / evaluative statement(s) on the impact of the events on the tea market and / or a related market on consumers or farmers	1

## Question 2

- (a) Explain the factors that are likely to influence firms' decisions to merge. [10]  
(b) Assess whether mergers are desirable to society. [15]

### Part (a) Suggested Answer

#### Introduction

A merger is the coming together of two or more firms to create a single new firm. As firms are profit maximizing agents, they will consider the benefits and costs of merging, which affects the level of profits earned, as well as the constraints faced, when deciding whether to merge. The focus of this essay will be on horizontal integration, which is the situation where firms in the same stage of production in the same industry merge.

#### Body

##### Potential benefits of merging

One factor that influences firms' decisions to merge is the potential increase in market share after the merger.

For example, when two pharmaceutical firms merge, the resulting firm would have a larger market share since it now enjoys the combined demand of both firms, and the combined output is now larger as compared to before the merger. As a result of higher market share, the demand for the merged firm's products would become more price inelastic due to lower availability of substitutes. Hence, the firm can then raise prices to increase revenue, and hence increase profits, ceteris paribus. Thus, in deciding whether to merge, firms would consider the extent of increase in market share after the merger. The greater the increase in market share, the more likely the firms would decide to merge.

Another factor that may influence firms' decisions to merge is the potential internal economies of scale (EOS) that can be enjoyed after the merger, which depends on the nature of the industry.

When firms in the same stage of production in the same industry merge and become larger, they would be able to tap on available internal EOS. For example, when two airline companies merge, the larger firm can reap significant technical EOS due to the principle of increased dimensions. With the combined demand after the merger, there would likely be a greater amount of passengers for each flight. As such, the airline firm can switch to using a larger plane that can ferry double the number of passengers. However, the cost of the larger aircraft would likely not double since the number of pilots that are required to operate the larger aircraft, and thus AC will fall, allowing them to increase profits. On the other hand, two hairdressing firms would likely not be able to reap significant internal EOS from the merger since the production process is labour-intensive and thus profits are not likely to rise significantly. Therefore, a merger would be more likely for firms, such as the airline companies, that can benefit from substantial internal EOS that can be enjoyed after the merger, allowing them to lower costs and increase profits.

However, firms would also take into consideration whether the merger would result in internal diseconomies of scale that may arise when it grows too large.

As firms merge and expand beyond its minimum efficient scale (MES), there may be internal diseconomies of scale that set in and unit cost of production would start to rise. For example, the merger of two firms can give rise to the creation of many specialised departments, such as procurement, marketing, human resource, etc. These departments may have conflicting objectives, which may lead to problems with management and coordination. To manage these

**Kommentar [WU1]:** As such, the airline firm can switch to using a larger plane that can ferry double the number of passengers. However, the cost of the larger aircraft would likely not be double. Furthermore, the number of pilots that are required to operate the larger aircraft remains the same. Thus, AC will fall, allowing the firm to increase profits.

The previous one seemed like two different reasons put into one.

problems, there may be increased red tape and paperwork, leading to greater inefficiency and a rise in unit costs. The onset of internal diseconomies of scale would therefore lead to a fall in profits, *ceteris paribus*. As such, firms would consider whether the merger would result in internal diseconomies of scale, and would not merge if the merger would lead to significant internal diseconomies of scale.

**Potential costs of merging**

Firms will also consider whether a merger will result in a fall in the productivity of current workers.

In view of a merger, current workers in the firm may become demoralised due to uncertainty about how a merger may impact them, as well as a fear of disruption to corporate culture. As a result, the productivity of current workers may fall, which may offset any potential cost savings that can be reaped from merging. Therefore, firms would be more likely to merge if the merger does not lead to a fall in the productivity of current workers.

**Constraints**

Lastly, constraints such as government regulations, as well as the finances of the firms, would also likely influence firms’ decisions to merge.

The presence of anti-competition laws and regulations would prevent firms from merging and growing larger. For example, the competition act that is administered and enforced by the Competition and Consumer Commission of Singapore prohibits mergers and acquisitions that substantially lessen competition. As a result, firms that intend to merge may not be able to do so as they face restrictions set out by the competition act. Firms may also be unable to merge if they do not have sufficient funds to do so, or if they are unable to take loans to finance the merger.

**Mark Scheme**

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> <li>Well-developed explanation of three factors that firms would consider when deciding whether to merge</li> <li>Factors explained should cover both benefits and costs of a merger</li> </ul>	8 – 10
L2	<ul style="list-style-type: none"> <li>Underdeveloped explanation of at least two factors that firms would consider when deciding whether to merge</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>One well-developed factor that firms would consider when deciding whether to merge</li> </ul>	5 – 7
L1	<ul style="list-style-type: none"> <li>An answer that shows some knowledge about mergers</li> </ul>	1 – 4

**Part (b) Suggested Answer**

**Introduction**

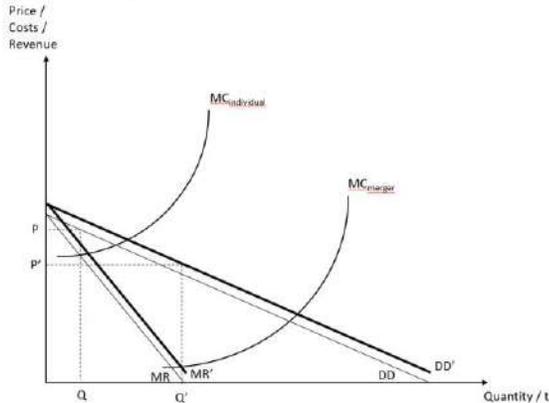
- Merger of firms can impact society in different ways, and in this essay, we will analyse the impacts of mergers on efficiency (i.e. allocative, productive and dynamic efficiency) and equity to determine if mergers are desirable to society.

**Thesis: Mergers are desirable to society**

Mergers can benefit society as it could result in lower prices, which improves equity.

As explained in part (a), when firms merge and become larger, demand of the new merged firm rises and they can enjoy internal economies of scale (EOS) which the individual firms may not have enjoyed without the merger. As such, the MC curve of the merged firm would thus be

lower than the MC curve of firms if they had not merged since the plant size of the merged firm would be larger.



**Figure 1: Merger resulting in lower prices**

With reference to Figure 1, initially, assuming profit maximisation, the individual firms maximise their profits at  $P$  and  $Q$ , where  $MC_{\text{individual}} = MR$ . With the merger of the firms, the resultant firm would see a rise in demand from  $DD$  to  $DD'$  and a corresponding rise in  $MR$  from  $MR$  to  $MR'$ . There is also substantial EOS which would cause the  $MC$  curve of the resultant firm that is using a larger plant size,  $MC_{\text{merger}}$ , to be lower than that of the individual firm,  $MC_{\text{individual}}$ . Assuming profit maximisation, the merged firm will maximise profits at  $P'$  and  $Q'$ , where  $MR' = MC_{\text{merger}}$ . As such, consumers would benefit from the lower price and higher output as compared to before the merger, improving equity.

**[Ev]** However, whether price will definitely be lowered depends on the extent of EOS that can be reaped as compared to the rise in demand. In the case where the merged firm can enjoy significant cost savings that is much greater than the rise in demand, price will fall, as seen in Figure 1 above. On the other hand, if the amount of EOS reaped is smaller than the rise in demand, prices will not fall and may even rise instead.

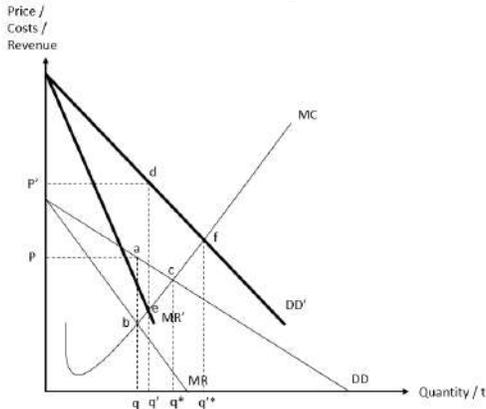
Besides lower prices, mergers can also bring about increased dynamic efficiency through product innovation.

The merger of firms give rise to a larger resultant firm with greater market share and market power. As such, the firm will then be able to charge high prices, which increases the likelihood of them earning supernormal profits. The supernormal profits earned would give the firm greater ability to fund research and development (R&D) efforts in product innovation to raise total revenue and possibly total profits. If there are high barriers to entry into the industry, the firm would also have the incentive to innovate since the rise in profits from innovation would not be competed away by new firms. Through product innovation, society can benefit with an improvement in the quality of products and the development of new products. Thus, mergers can bring about dynamic efficiency, which benefits society.

*[\*] Note: Students can also explain process innovation, which also benefits society as it leads to more efficient production methods, which reduces the firm's marginal cost of production, allowing them to have a cost advantage over their competitors, giving it the ability to reduce prices to be more competitive and likely increasing its profits. The lower prices would mean that consumers can gain from being able to consume a greater quantity, increasing their welfare.*

**Anti-Thesis: Mergers are not desirable for society**

However, mergers may lead to greater allocative inefficiency due to greater market power. A merged firm would have a higher level of market power, which gives it greater ability to make pricing and output decisions. Assuming that the merged firm is profit maximising, it will produce the output level where marginal cost (MC) = marginal revenue (MR) to maximize profits.

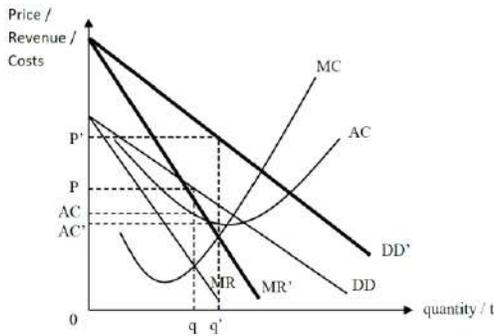


**Figure 2: Allocative Inefficiency due to Merger**

With reference to Figure 2, before the merger, the firm will be producing  $q$  and charging a price of  $P$ . However the socially optimal output level is at  $q^*$ , where  $P=MC$ . Thus, there is underproduction of  $(q^*-q)$  units. Between  $q$  to  $q^*$ , total social benefit is  $qacq^*$  but total social cost is  $qbcq^*$ . As such, there is a net benefit to society that could have been enjoyed if these units were produced, and by not producing these units, there is therefore a deadweight welfare loss of area  $abc$ . After the merger, the merged firm enjoys greater market share and face a higher demand, illustrated by  $DD'$ , as the firm captures a larger share of market demand. The firm will also have a more price inelastic demand as there are now fewer firms in the market after the merger, which means there are fewer substitutes available. The merged firm will thus produce a quantity of  $q'$  and charge a price of  $P'$ . However, the new socially optimal output level is  $q^{**}$ , implying an underproduction of  $(q^{**}-q')$  units and a resulting deadweight welfare loss of area  $def$ , which is larger than area  $abc$ .

Mergers may also result in worsened inequity in income distribution.

The higher price and lower unit costs that result from mergers translate to higher total economic profits for firms. With the merger, the firm may earn greater and more sustained supernormal profit in the long run, which will worsen income distribution between consumers and producers.



**Figure 3: Supernormal Profits after Merger**

With reference to Figure 3, as a result of the merger, consumers are now charged a higher price of  $P'$ , while firms enjoy an increase in profits from  $[(P-AC) \times q]$  to  $[(P'-AC') \times q']$ . This worsens inequity between consumers and shareholders of the firm, who are presumably more affluent members of the society.

Moreover, with mergers, there could possibly be 'x-inefficiency' due to complacency, leading to productive inefficiency.

After a merger, the resulting firm would have higher market share as well as market power, as explained in part (a). As such, the lack of competition may possibly lead to the merged firm becoming complacent, leading to 'x-inefficiency' as it may not actively produce at the lowest possible unit costs. In this case, the firm would be productively inefficient. For example, the merged firm may fail to minimise costs as they over-staff, or spend excessively on prestigious buildings and equipment.

Mergers may also lead to a fall in consumer choice, which lowers consumer welfare.

For consumers, a merger might see increased dominance of a few large firms in the market. This may cause consumers to have less options as the existing firm do not carry a full range of what they might want due to the merger. There is thus a decrease in their welfare.

### Conclusion

In conclusion, whether mergers are desirable to society depends on various factors, such as:

- The nature of the industry that the merging firms are in, which determines the opportunities available to reap internal EOS
- The particular industry the merging firms are in, which would likely determine the kind of goods they are producing

If the merger is taking place between firms that produce goods that are deemed as necessities, such as in the case of health insurance, the merger would likely be undesirable to society. This is because the market for insurance services would likely already be allocative inefficient due to imperfect information, and coupled with the rise in market power from the merger, the welfare loss would therefore be larger. Also, there would likely be higher prices and greater inequity between consumers and producers with a merger between insurance firms. On the other hand, if the merger is between firms that produce luxury goods, the impact on society would likely be less undesirable.

Moreover, as in the case of the merger between firms producing demerit goods, such as cigarettes, the merger would likely be more desirable to society. As cigarettes are demerit

**Kommentar [WU2]:** This doesn't seem related to the issue of health insurance being a 'necessity'.

Conclusion reorganised slightly to:  
If the merger is taking place between firms that produce goods that are deemed as necessities, such as in the case of health insurance, the merger would likely be undesirable to society. This is because there would likely be higher prices and greater inequity between consumers and producers with a merger between insurance firms. Lower income households may also lack the ability to purchase the more expensive health insurance. On the other hand, if the merger is between firms that produce luxury goods where equity is less of a concern, the impact on society would likely be less undesirable.

Moreover, as in the case of the merger between firms producing demerit goods, such as cigarettes, the merger would likely be more desirable to society. As cigarettes are demerit goods that is over-consumed when left to the free market, the greater market power of the merged firm and the resultant higher prices would be beneficial from society's point of view as it can help to reduce the consumption of cigarettes and thus welfare loss. However, in markets such as for health insurance services, the welfare loss may become larger. This is because the market would likely already be allocative inefficient due to imperfect information, and coupled with the rise in market power from the merger, the welfare loss would therefore be larger.

goods that is over-consumed when left to the free market, the greater market power of the merged firm and the resultant higher prices would be beneficial from society's point of view as it can help to reduce the consumption of cigarettes.

Whether mergers are desirable to society also depends on the nature of the industry that the merging firms are in, which determines the opportunities available to reap internal EOS and thus the likelihood of a fall in price. The sale of insurance is largely labour-intensive and services are personalised, implying fewer opportunities for internal EOS to be reaped when insurance firms merge. As such, a merger between insurance firms would likely not benefit society as prices are unlikely to be lowered. In contrast, the production of consumer electronics is more capital-intensive. Thus, there would be greater opportunities for internal EOS to be reaped, thus prices can be lowered and equity can be improved.

**Mark Scheme**

Level	Descriptor	Marks
L3	<ul style="list-style-type: none"> <li>A well-developed and two-sided discussion on the impact of mergers to society</li> </ul>	8 – 10
L2	<ul style="list-style-type: none"> <li>An underdeveloped two-sided discussion on the impact of mergers to society</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>A well-developed but one-sided discussion on the costs OR benefits of mergers</li> </ul>	5 – 7
L1	<ul style="list-style-type: none"> <li>Descriptive answer which shows some knowledge of the impact of mergers</li> </ul>	1 – 4
E3	<ul style="list-style-type: none"> <li>Strong, relevant substantiation of a stand on whether mergers are desirable to society. Substantiation should consider different factors that may determine whether mergers are desirable or not.</li> <li>Good and appropriate use of examples for context</li> </ul>	4 – 5
E2	<ul style="list-style-type: none"> <li>Some attempts at substantiation of a stand on whether mergers are desirable to society</li> </ul>	2 – 3
E1	<ul style="list-style-type: none"> <li>Unsubstantiated judgement on whether mergers are desirable to society</li> </ul>	1

### Question 3

The Competition Commission of Singapore (CCS) finds it extremely difficult to convince parents that highly marketed 'premium' infant milk powder products are comparable to regular options. "Without better information, parents should be careful about relying on the claims made by infant formula companies," Dr Koh Poh Koon, Senior Minister of State for Trade and Industry said, while stressing that regular options are just as nutritious.

Adapted from *The New Paper*, 2017

(a) Explain the market failure associated with imperfect information in the markets for different types of infant milk powder products in Singapore. [10]

(b) To what extent should the Singapore government intervene in the above markets? [15]

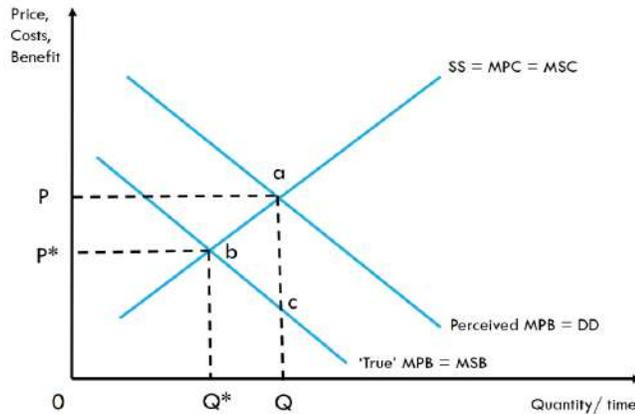
### Introduction

Infant milk powder products can be broadly categorised into "highly marketed premium infant milk powder products" and regular ones. In Singapore, there could be imperfect information in both markets, leading to supplier-induced demand for the premium products and consumer's ignorance regarding the regular products. As such, both markets fail to achieve allocative efficiency i.e. market failure.

### Body

In the market for "highly marketed premium milk powder products", there could be a problem of asymmetric information, more specifically supplier-induced demand. Since milk powder products companies know more than consumers regarding their products, supplier-induced demand may result. This may occur when companies engage in extensive persuasive advertising to promote their products, creating the impression that they are much more nutritious than other products. For example, they may market their infant milk powder products as 'necessary' and 'essential' to an infant's brain and bones development. However, these could be exaggerated claims i.e. the nutritional content such as calcium and vitamin B in these 'premium' products are not much different from regular infant milk powder products, which buyers are not aware of. As a result, convinced parents may perceive these products to be more nutritious and beneficial than they actually are, creating a divergence between perceived marginal private benefit (MPB) and true MPB of such products. Perceived MPB curve is thus higher than the 'True' MPB curve.

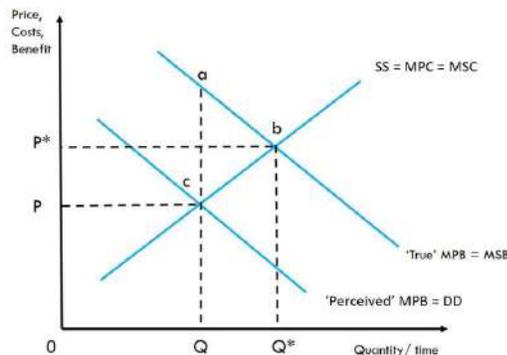
**Market for highly marketed premium infant milk powder products in Singapore**



Consumers, in this case parents, will base their decision on their perceived MPB. As such, the perceived MPB curve equals the effective demand curve. Market equilibrium occurs where the demand (Perceived MPB) meets the supply (MPC) while the social equilibrium occurs where marginal social benefit (MSB) equals marginal social cost (MSC). The market quantity is  $Q$  and the social optimal quantity is  $Q^*$ . Between  $Q$  and  $Q^*$ , the total social costs measured by area  $abQQ^*$  outweighs the total social benefits measured by area  $acQQ^*$ . This means that the society has incurred a welfare loss of area  $abc$  by overconsuming these products of  $Q-Q^*$  and the free market has failed to achieve allocative efficiency.

On the other hand, there could be a problem of consumer's ignorance in the market for regular infant milk powder products. Parents may form an inaccurate impression that these products are 'inferior' and 'inadequate' in terms of their nutritional content than they actually are simply because they are not marketed like the 'premium' ones. However as established earlier, they may be "just as nutritious", leading to consumer's ignorance on the parents' part. Perceived MPB curve is lower than the 'True' MPB curve.

**Market for regular infant milk powder products in Singapore**



Consumers, will base their decision on their perceived MPB. As such, the perceived MPB curve equals the effective demand curve. Market equilibrium occurs where the demand meets the supply (perceived MPB=MPC) while the social equilibrium occurs where MSB equals MSC. The market quantity is Q and the social optimal quantity is Q\*. Between Q and Q\*, the total social benefits measured by area abQ\*Q outweighs the total social costs measured by area cbQ\*Q. This means that society misses out on the potential welfare (area abc) that could have been gained if not for the under consumption of these products for Q\*-Q units. As such, the free market has also failed to achieve allocative efficiency in this market.

**Mark Scheme**

Level	Descriptors	Marks
L3	A well-developed answer which thoroughly explains how market failure arises from imperfect information in BOTH markets for 'premium' and regular milk powder products  For clearer illustration of the sources of market failure, the answer should include accurately drawn diagrams	8 - 10
L2	An under-developed answer with some gaps in analysis for how imperfect information leads to market failure in BOTH markets for 'premium' and regular milk powder products  OR  Answer addresses only ONE market.	5 - 7
L1	Some knowledge of market failure due to imperfect information but mainly unexplained assertions.	1 - 4

(b) To what extent should the Singapore government intervene in the above markets? [15]

**Introduction**

In part (a), it is established that the markets for both types of infant milk powder products have failed to achieve allocative efficiency. As such, the government should intervene and eliminate the welfare loss. This essay will explain different types of intervention that Singapore government can adopt and conclude whether they should intervene to a large or small extent.

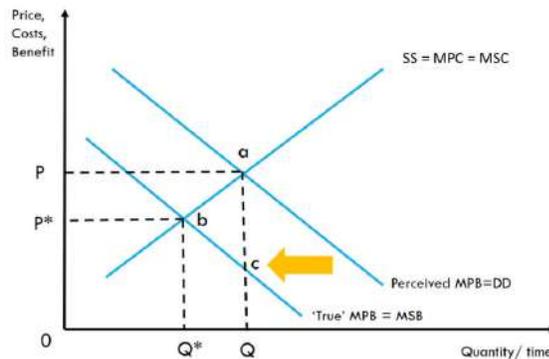
**Body**

**The government should intervene to a small extent through the use of less costly education campaigns and stricter regulations on advertising**

The government can implement a less costly, smaller scale education campaigns like delegating representatives to make public interviews such as that of Dr Koh Poh Koon's on the true benefits of premium milk powder products. By assuring parents that the nutritional value of premium milk is comparable to regular ones, the extent of consumer's ignorance can be tackled if they are convinced and the information gap between perceived MPB and true MPB can be closed as shown in the diagram below. Additionally, the government can also implement stricter

regulations on advertising efforts by companies. Since the main source of information failure is from the false impressions conveyed through persuasive advertising, the government should keep a greater lookout for misleading advertising that might perpetuate such inaccurate impressions. By limiting such advertisements, parents can have a greater accuracy of information.

### **Market for premium infant milk powder products in Singapore**



When the perceived MPB moves to true MPB, there will be a surplus at initial price level  $P$ , putting a downward pressure on the price. Equilibrium quantity will fall from  $Q$  to  $Q^*$  and equilibrium price will fall from  $P$  to  $P^*$ . In this case, a smaller intervention as such can help to achieve allocative efficiency.

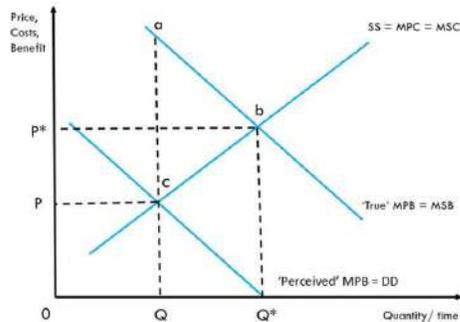
This policy can improve allocative efficiency in the market for regular milk powder products as well. Since the imperfect information is due to misguided perceptions of different nutritional values in the two products, an effort to close the information gap on premium milk will also close the information gap on regular milk, encouraging consumers to switch over to regular milk. Allocative efficiency is improved when demand rises and the equilibrium quantity of regular milk increases closer to social optimal output  $Q^*$ .

*Possible In-body evaluation: However, there is an unintended conflict of objectives with this policy. While the government may solve the problem of allocative inefficiency, it will unintentionally worsen inequity as the rise in  $DD$  for regular milk will eventually lead to a rise in its equilibrium price. This means that lower-income family who previously benefitted from the lower prices (interestingly due to other parents' ignorance of the true benefits) may not be able to buy them now, worsening inequity. The Singapore government will have to consider this tension if they choose to intervene.*

### **The government should intervene to a large extent through the use of free provision of regular milk powder products**

Singapore government can provide regular milk powder products for free, especially if the extent of market failure is significant. If parents are highly misguided by the persuasive advertising of companies selling 'premium' infant milk powder products, the extent of imperfect information associated with the two markets will be large, which means that welfare loss in the markets will also be large. In this case, government can implement a larger extent of intervention such as free provision of regular infant milk powder products.

## Market for regular infant milk powder products in Singapore



When the government provides free provision of the regular milk powder products, there will be a movement along the perceived MPB curve, which is also the effective demand curve, from the initial market price level  $P$  all the way to the price level  $0$ . If the extent of consumer's ignorance is large enough, as illustrated by the significant enough to create divergence between perceived MPB and true MPB as illustrated in the diagram above (where the social optimal level happen to coincide with the quantity depended at zero price), free provision may eliminate the welfare loss of area  $abc$  and achieve allocative efficiency as the consumption level will increase from initial market quantity  $Q$  to socially optimal quantity  $Q^*$ . Even though this policy requires the government to channel a large amount of funds, the objective of achieving allocative efficiency can be met. Moreover, it enables poor households to have access to milk powder for infants.

*Possible In-body evaluation: In Singapore however, the extent of consumer's ignorance might be small due to the high degree of health and risk consciousness. Singaporean parents in general would likely do their own research and seek out additional information before settling on a milk powder product for their infants. This means that information that parents receive would likely be more accurate and therefore the extent of ignorance is small. If this is true, a free provision may result in a greater welfare loss, leading to government failure.*

This policy can also improve allocative efficiency in the market for premium infant milk powder products. When regular infant milk powder products are provided for free, it will reduce the demand for premium milk powder products because they are viewed as substitutes albeit weak ones ( $XED > 0$ ). This will reduce the equilibrium quantity of premium milk powder products closer to socially optimal output  $Q^*$ , eliminating some welfare loss.

Additionally, equity can also be improved as regular milk powder is considered an important good essential to the survival of infants. When the price of these products becomes  $0$ , it becomes accessible to every parent, which can relieve their economic pressures, especially those of low-income families with more than one infant. This will significantly improve equity among parents in Singapore.

**Kommentar [AY3]:**  $0$  bold and underline

**Kommentar [WU4]:** demanded

**Kommentar [AY5]:** For  $Q^*$  to coincide with  $Q_d$  for Perceived MPB DD when price is zero is totally fluke.

**Kommentar [AY6]:** Fluke. As above. Need clearer explanation why may over-consume (just like for subsidy, it was very explicitly explained)

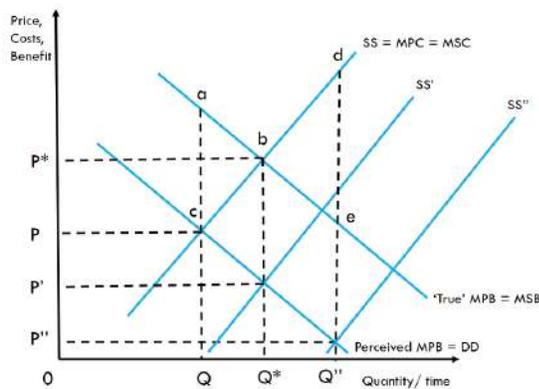
**Kommentar [AY7]:** I know this is not about AE but  $Q_b$  does not confine the analysis to AE and equity is definitely a relevant goal for intervention here.

**Kommentar [AY8]:** Should show in diagram to drive home the point that govt failure is possible for this very interventionistic measure.

**The government should not intervene because it may lead to a greater welfare loss, resulting in government failure**

The government can implement production subsidy in the market of regular infant milk powder products. Given perfect information on the extent of consumer's ignorance, the government can implement the appropriate amount of per unit subsidy  $P^*-P'$ . This policy lowers the marginal cost of production and increases the producers' ability to sell them, causing a rise in SS as illustrated by a rightward shift of the SS curve from SS to SS'. This results in a surplus at initial price level P, putting a downward pressure on price. Equilibrium price falls from P to P' and equilibrium quantity rises from Q to allocative efficient output Q\*. In this case, the welfare loss of area abc is eliminated and the objective of allocative efficiency is achieved.

**Market for regular infant milk powder products in Singapore**



However, Singapore government may find it relatively difficult to measure the extent of consumers' ignorance. Imperfect information on the extent of consumers' ignorance poses a risk of government over-subsidising the market. When this happens, the SS curve may rise to SS'', leading to the market quantity increasing to Q'' instead of Q\*. Between Q\* and Q'', the total social costs of area Q\*bdQ'' outweighs the total social benefits of area Q\*beQ'', leading to a welfare loss of area bde. In this case, the welfare loss of area bde due to over consumption when government intervenes is larger than the welfare loss of area abc due to under consumption without government's intervention. As such, the government should not have intervened as free market would have achieved a more allocative efficient outcome.

**Conclusion**

In conclusion, Singapore government should intervene in the above markets to a smaller extent.

This is because the extent of consumer's ignorance in the market for infant milk powder is likely to be small to begin with because Singaporeans are relatively educated and health conscious. This suggests that parents would likely be more cautious in reading the nutritional labels and make more educated decisions on which milk product to buy. As such, the costs of larger

interventions (e.g. funds needed for free provision for regular milk) is likely going to outweigh the benefits (eliminating a small welfare loss). Therefore, it is not rational for the government to intervene to a large extent. They should focus on smaller interventions that are less costly instead.

If successful, the smaller interventions of education campaigns and stricter regulations on advertising are also preferred because they target the root cause of the imperfect information effectively. These policies are also more sustainable in the long term. Once Singaporeans are convinced about the true benefits of the milk powder products, they (current and prospective parents) will start to make rational decisions that are also allocative efficient; further government intervention will no longer required. Compared to production subsidies, this puts relatively less strain on government resources in the long term. Government can channel to the funds to tackle other sources of market failure such as public good and merit good to maximize society's welfare.

**Mark Scheme**

Level	Descriptors	Marks
L3	A well-developed answer which thoroughly explains <u>different extent of interventions</u> to improve allocative efficiency and equity for <u>both</u> markets of infant milk powder products	8 - 10
L2	An under-developed answer which explains how government measures improves allocative efficiency in both markets without considering different extent of the interventions	5 - 7
L1	Answer that shows knowledge of various government measures but does not link to how they improve allocative efficiency or equity  Answer contains theoretical errors	1 - 4
E3	Concluding statement + substantiation  In-body evaluation: Able to consider effectiveness or unintended consequences of policies that may affect allocative efficiency or equity in the context of Singapore  Substantiation of stand: Able to consider contextualized factors such as the extent of market failure & costs and benefits of intervention in Singapore	4 - 5
E2	Concluding statement + some substantiation  OR  In-body evaluation	2 - 3
E1	Concluding statement on whether Singapore government should intervene to a large or small extent without substantiated conclusion	1

#### Question 4

The goal of many central banks is to achieve price stability.

- (a) Explain the key determinants of price stability. [10]  
(b) Discuss the view that achieving price stability is the most important determinant of a country's success in improving its standard of living. [15]

Part (a)

Approach: This requires students to demonstrate their understanding of the causes of inflation or deflation in a country, by explaining the converse, i.e. what leads to price stability.

#### Introduction

Price stability is one of the main macroeconomic goals of a country. It refers to a situation where general price levels remain relatively stable, i.e. low and stable rates of inflation (sustained increase in GPL) and no prolonged deflation (sustained fall in GPL). Generally, many central banks have an inflation target of 2%.

#### Body

One key determinant of price stability is the rate of potential growth.

Potential growth is the change in potential output of a country i.e. its productive capacity. It is reflected by an increase in the AS from  $AS_0$  to  $AS_1$  (vertical portion shifts right). Increases in a country's quantity and/or quality of factors of production lead to potential growth, since it enables the economy to produce more from  $Y_{t0}$  to  $Y_{t1}$ . When the increase in AD for a country is matched by the increase in AS, there will be price stability because demand-pull inflationary pressures will be avoided. When AD increases from  $AD_0$  to  $AD_1$ , leading to  $AD >$  national output and thus unplanned falls in firms' inventories, firms will seek to produce more. Having sufficient spare capacity in the economy because of continued potential economic growth would mean that firms will be able to hire suitable factors of production and continue using efficient combinations of factor inputs when they expand production. This helps to maintain their unit cost of production, which means the firms can continue to produce more at the same general price levels i.e.  $P_0$ . Price stability will thus be achieved if rate of potential growth in an economy is high enough to accommodate increases in AD.

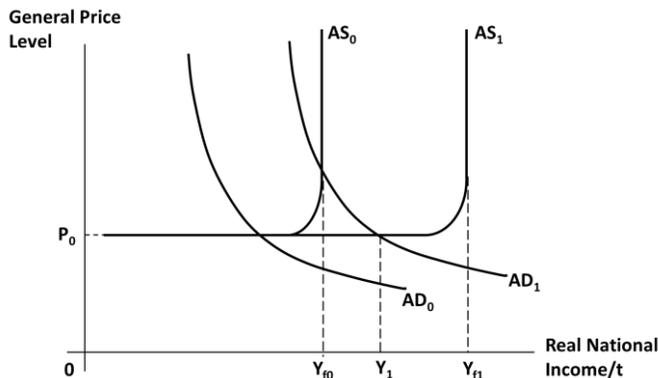


Fig. 1: Price stability when AD and AS increase in tandem

Note: Students may frame this as rate of increase in AD, but there should be consideration of rate of increase in AS to fully explain its impact on price stability. Students may also consider the reverse, which is how insufficient AD may lead to deflationary pressures in the country e.g. Japan.

It is also possible to consider 'whether there is spare capacity' or 'state of economy'. If AD is rising but there is ample spare capacity in the economy to accommodate the increase in demand for factor inputs, GPL will remain unchanged. This will be a more important determinant in the **current** time period, whereas rate of potential growth is a more important determinant **over time**.

Another key determinant is whether there is inflation in other countries.

This is especially important for countries lacking in raw materials such as Singapore, and thus dependent on other countries for factor inputs. When there is inflation in other countries, price of imported inputs e.g. sand will increase, leading to increases in unit cost of production in Singapore. This leads to a fall in AS as firms partly cut back on production, and partly pass on the unit cost increase to consumers through higher prices. As such, the new equilibrium general price level will be higher, leading to imported inflation. On the other hand, if there is price stability in other countries, this will not happen, leading to price stability also in Singapore.

One other determinant would be the policy stance of the government and/or Central Bank.

As the goal of governments and Central Banks include price stability, there could possibly be intervention by these parties to prevent the threat of either inflation or deflation in the country. For example, the Monetary Authority of Singapore generally adopts a policy stance of modest and gradual appreciation of the Singapore dollar (S\$) to counter both cost-push and demand-pull inflationary pressures. A stronger S\$ will mean imported inputs become cheaper, reducing unit cost of production and increasing AS. At the same time, foreigners will find Singapore goods and services to be more expensive in foreign currency, leading to reduced demand for Singapore's exports. This offsets prevailing increases in AD, thus reducing demand pull inflationary pressures. Thus, where there is successful intervention by the relevant authorities, price stability can be achieved.

Students may also phrase it as whether there will be intervention by the government and/or Central Bank (discretionary policies).

Other possible points pertaining to nature of an economy will also be accepted.

### Mark Scheme

Level	Descriptor	Marks
L3	<ul style="list-style-type: none"><li>A well-developed answer which thoroughly explains the possible factors leading to price stability in a country. There is reference to relevant diagrams, where applicable.</li></ul>	8 – 10
L2	<ul style="list-style-type: none"><li>An undeveloped answer which explains the possible factors leading to price stability in a country.</li><li>Answer is descriptive and/or contains gaps in explanation.</li></ul>	5 – 7
L1	<ul style="list-style-type: none"><li>Listing of possible factors leading to price stability in a country.</li><li>Answer may have basic conceptual errors.</li></ul>	1 – 4

Part (b) **Discuss the view that achieving price stability is the most important determinant of a country's success in improving its standard of living.** [15]

Approach: This question requires a two-sided response. Students need to first explain the view presented, i.e. why achieving price stability is important to a country's success in improving its standard of living (SOL). There is then need to explain the opposite view i.e. why price stability is not the most important determinant, because other determinants may be of more importance.

#### Introduction

The overarching goal of a government is to improve the SOL of its citizens, which comprises of both material and non-material aspects. To do so, governments seek to achieve the macroeconomic goals of price stability, high and sustained economic growth, low unemployment and a favourable balance of payments (BOP) position.

**Thesis: Achieving price stability is an important determinant of a country's success in improving its SOL.**

Ensuring price stability provides the basis for sustained economic growth. Price stability provides more certainty for firms when making investment decisions, because firms can take cues from the price mechanism in determining whether there is growing demand for their products (as opposed to prices increasing because of inflation). Firms also have more confidence to invest compared to times of prolonged deflation, which may suggest weak demand in an economy. With more certainty and confidence, firms will be more willing to invest. This increase in investment expenditure (I) will result in an increase in AD, leading to actual growth assuming spare capacity in the economy initially.

An increase in AD from  $AD_0$  to  $AD_1$  leads to  $AD >$  national output. This causes an unplanned fall in firms' inventories level, causing firms to increase production to restore them. The increase in output leads to more income for households, inducing an increase in consumption and thus AD increases further. This triggers more production, and the cycle repeats leading to a multiplied increase in national output from  $Y_0$  to  $Y_3$ . The rise in national income implies that households now have greater purchasing power, which enables them to purchase and consume more

goods and services to fulfil their material needs. Thus achieving price stability (which encourages investment) will lead to an improvement in material SOL of citizens.

The increase in I on capital goods also increases the productive capacity of the economy (from  $Y_{f0}$  to  $Y_{f1}$ ). This allows for increases in real national output beyond  $Y_{f0}$  if AD were to continue to increase, which will allow for long-term improvement in the material SOL of citizens. Countries lacking in spare capacity, e.g. emerging economies such as Indonesia which have been experiencing strong growth, would also find price stability crucial in encouraging I and enabling improvements in material SOL.

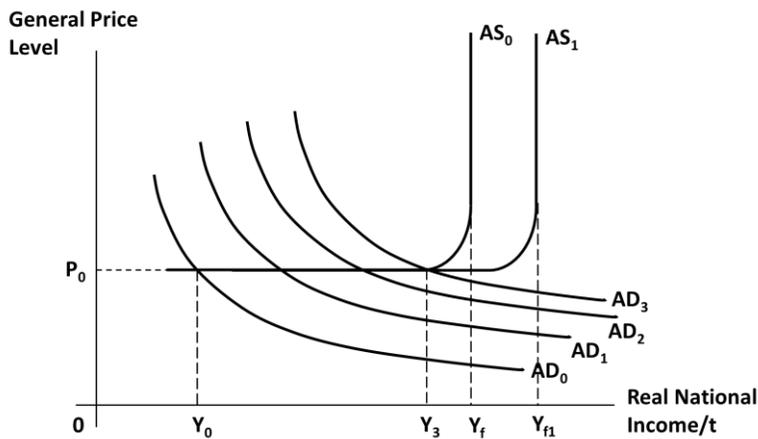


Fig. 2: Sustained economic growth from increase in investment expenditure

[Ev] As investment is important for both actual and in particular potential growth, achieving price stability to encourage investment is very important. If prices were not stable, firms likely will lack the willingness to spend on investment projects. This is especially since consumer confidence will also fall in periods of price instability, leading to poorer expected rate of returns on investment projects for firms. Even if the government loosen immigration policy to boost potential growth, countries with price instability tend to be unattractive to foreign labour (since there is much uncertainty regarding real income earned). Without potential growth, improvements in material SOL will eventually stop, since the economy cannot produce beyond  $Y_f$ .

[Ev] For countries where investment takes up a large proportion of real GDP e.g. China where growth is investment-led (44% of real GDP), ensuring price stability will lead to significant increases in AD and thus actual growth. It therefore contributes significantly to China's success in improving SOL.

Ensuring price stability implies a higher likelihood that real income has increased. When general price levels remain stable, cost of living is maintained, i.e. the income needed to sustain a household's standard of living is maintained. Furthermore, if the rate of increase in nominal income in a country is higher than the inflation rate, it will mean that real income is increasing. Households will now have higher purchasing power, allowing them to buy and consume more goods and services. Material SOL is thus improved.

**Anti-Thesis: Other determinants besides achieving price stability may be more important in determining a country's success in improving its SOL.**

Achieving other macroeconomic goals e.g. favourable BOP position is a more important determinant of a country's success in improving its SOL.

A favourable BOP position refers to one where BOP is close to equilibrium i.e. no large deficits or surpluses. A large BOP deficit caused by a large trade deficit (export (X) revenue > import (M) expenditure) would imply that a country is spending beyond what it is earning from other countries, which means that the consumption of M has to be financed by either borrowing or selling of its assets. Borrowing leads to accumulation of external debt, and this debt has to be repaid in the future with interest. When repayment is made, the citizens' ability to consume goods and services will be reduced, leading to lower future material SOL. Avoiding large BOP deficits is therefore necessary for improvements in SOL over time.

[Ev] This is particularly significant in countries which have been running persistently large BOP deficits (caused by trade deficits arising from high import spending on consumer goods and services), e.g. the UK, and thus accumulating high levels of external debt. The persistent trade deficits may also suggest underlying issues in the economy, e.g. uncompetitive goods and services, which lowers firms' expected rate of returns on investments and may lead to a fall in investment expenditure even though there may be price stability in the economy.

Any other reasonable argument as to why external stability is important for improvements in SOL will be valid, e.g. if a country moves from BOP equilibrium to BOP deficit, it may reflect a fall in net exports ( $X - M$ ) and thus a fall in AD, which leads to negative growth and a lower SOL for citizens.

Alternatively, students may explain why other macroeconomic goals, e.g. achieving low unemployment, may be more important a determinant of improvement in SOL.

Achieving price stability is insufficient in improving a country's non-material SOL.

Non-material SOL stems from intangibles, e.g. living in a clean environment, spending leisure time on enjoyable activities. Achieving price stability which leads to greater ability to consume targets only the material aspect of SOL. Furthermore, if the increase in national output comes with higher levels of pollution which leads to poor health or lesser ability to enjoy leisure hours, any improvement in material SOL may be offset by the reduction in non-material SOL. This is because firms are profit-motivated, and is unlikely to take into consideration the health cost on third parties when they produce using pollutive methods. It is therefore important also to improve non-material SOL as well, e.g. through regulations on pollution levels which improves the quality of air and water.

**Conclusion**

Depending on the nature of the economy, achieving price stability may not be the most important determinant of a country's success in improving its SOL.

This is because, even though price stability is very important in encouraging investment, which is necessary for continued economic growth and thus improvements in SOL, the improvement in SOL is not guaranteed. There may be other reasons inhibiting the improvement in material SOL for an average citizen, e.g. in countries such as India where growth has not been inclusive. Also, if the population grows faster than real GDP i.e. real GDP per capita is falling, SOL for the citizens may actually be falling.

In countries where improvements in material SOL have come at the expense of non-material SOL, achieving price stability is insufficient in ensuring improvements in SOL. Where pollution has reached hazardous levels, as in the case in many Indian cities, improving the environment may significantly improve the non-material SOL and be the most important determinant of India's success in improving SOL instead.

Other points to consider: Current state of economy; if there are high levels of unemployment implying many households living on very low (or no) income, achieving low unemployment may be a more important determinant of improvements in SOL.

### Mark Scheme

Level	Descriptor	Marks
L3	<ul style="list-style-type: none"> <li>A well-developed and balanced discussion of the view that achieving price stability is the most important determinant of a country's success in improving its standard of living.</li> <li>Good use of real-world examples to illustrate arguments.</li> </ul>	8 – 10
L2	<ul style="list-style-type: none"> <li>A well-developed but one-sided discussion of the view that achieving price stability is the most important determinant of a country's success in improving its standard of living, or of the opposite view.</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>An underdeveloped but two-sided discussion of whether achieving price stability is the most important determinant of a country's success in improving its standard of living.</li> </ul>	5 – 7
L1	<ul style="list-style-type: none"> <li>Descriptive answer which shows some knowledge of what leads to improvements in SOL.</li> <li>Answer that has basic theoretical errors.</li> </ul>	1 – 4
E3	<ul style="list-style-type: none"> <li>A well-substantiated conclusion on whether achieving price stability is the most important determinant of a country's success in improving its standard of living, e.g. by considering the nature of the economy. There is use of examples to contextualise the stand.</li> </ul>	4 – 5
E2	<ul style="list-style-type: none"> <li>Answer attempts to substantiate its stand regarding the view provided.</li> </ul>	2 – 3
E1	<ul style="list-style-type: none"> <li>Answer has unsubstantiated evaluative comments.</li> </ul>	1

### Question 5

In 2017, Germany has the world's biggest absolute current account surplus while America's deficit remains the world's biggest. Current account imbalances are however not always a cause for concern.

Source: International Monetary Fund (IMF) Report, 2018

- (a) Explain the possible causes of current account imbalances faced by countries. [10]
- (b) Discuss the factors that are likely to influence macroeconomic policy decision makers in deciding if balance of trade imbalances are a cause for concern. [15]

a)

**Approach:** Since current account balance consists of imports and exports of goods and services, plus incomes flowing into and out of the country and unilateral transfers, hence the causes raised for this part should come from these components. In addition, causes of current account deficit and surplus should be considered.

#### Introduction:

A current account records three main types of transactions: payments for imports and exports of goods and services, incomes flowing into and out of the country and unilateral transfers. A current account imbalances occurs when there is an overall net inflow of the above transactions (current account surplus) or when there is a net outflow of the above transactions (current account deficit).

#### Body

##### **Higher domestic inflation relative to the rest of the world will affect export competitiveness of a country negatively.**

Assuming prices of other countries' goods and services remain constant, an increase in domestic prices relative to the foreign prices will cause domestic households to increase demand for imported goods and services instead of domestically produced ones, thereby causing import expenditure to increase. At the same time, more expensive exports will cause foreigners to lower quantity demanded for the exports, causing export revenue to fall if the demand for the country's exports is price elastic. If demand is price elastic, the increase in price will lead to a more than proportionate fall in quantity demanded, ceteris paribus. Assuming the current account is initially in equilibrium, the falling export revenue and rising import expenditure will result in a current account deficit.

##### **An appreciating exchange rate relative to the rest of the world will worsen the current account.**

An appreciation of domestic currency of a country (e.g. Singapore) will cause the price of her exports in terms of foreign currency to rise, and the price of imports to fall in terms of the domestic currency. Therefore, foreigners will purchase less of Singapore's exports, causing demand for Singapore's exports to fall. This means that with a lower quantity of exports, export revenue in domestic currency falls. On the other hand, the residents of Singapore will now find imported goods cheaper in terms of domestic currency. This leads them to

purchase more foreign imports. If demand for imports is price elastic, expenditure on imports in domestic currency will rise as quantity demanded increases more than proportionately to the price fall, ceteris paribus. With export revenue falling and import expenditure rising, current account will be in a deficit, assuming it is initially in equilibrium.

**Increase in overseas investment in the current period will lead to an increase in property income received from abroad in the next period.**

If investors expect foreign countries to have better business expectation or offer lower labour costs, the expected rate of return on investment will rise and firms will spend more of their capital spending overseas, leading to a long-term capital outflow from the domestic country. Alternatively, changes in real interest rates can also alter the rewards earned by the owners of financial assets. For example, a Singaporean investor may purchase Australian bonds or deposits due to an increase in interest rates in Australia as it is now relatively more worthwhile to invest in Australian assets, resulting in an outflow of capital from Singapore. When a country builds up a portfolio of these overseas investments, this may lead to future returns of interest, profit and dividends. Assuming the current account is initially in equilibrium, this inflow results in a current account surplus as there is an increase in property income received from abroad.

[Note: Other causes for CA imbalances can be considered too]

L3	For an analytical answer that covers causes resulting in both current account surplus and deficit.	8-10
L2	A descriptive explanation of the causes of current account imbalances. The causes explain either current account surplus or deficit	5-7
L1	Knowledge of the current account and listing of factors that cause current account imbalances. Statements are mostly unexplained.	1-4

b)

**Approach:** Whether balance of trade (BOT) imbalances are a cause for concern depends on its impact on the other macroeconomic goals. Students are to consider the different factors and the impact of a BOT surplus / deficit on the macroeconomic goals.

**Introduction:**

The aim of macroeconomic policy decision makers is to achieve a higher living standard (SOL) via achieving the four macroeconomic goals of sustained economic growth, price stability, full employment and balance of payment equilibrium. BOT imbalances occurs when the export revenue is greater than the import expenditure (BOT surplus) or when the export revenue is less than the import expenditure (BOT deficit). Whether BOT imbalances are a cause of concern depends on the state of the economy, nature of the economy and the root cause of the BOT imbalances.

**Body:**

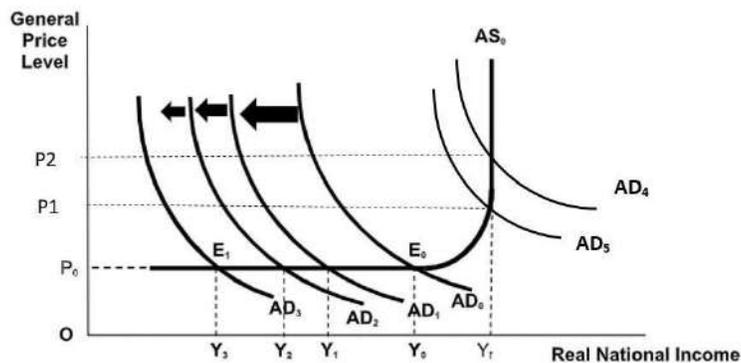
**One factor that will influence macroeconomic policy decision makers is the root causes of BOT imbalances.**

A country may be experiencing a persistent trade deficit due to the loss of its competitiveness. For example, US firms may be less competitive than some foreign countries especially in low-end manufactured goods. When this happens, US consumers are likely to import the relatively cheaper foreign substitutes. The demand for imports rises and import expenditure also rises. At the same time, exports of these goods will also be weak as US products cannot compete with products from other countries. A combination of rising import expenditure and reduced export revenue means net exports (X-M) is likely to be a negative value, assuming balance of trade is in equilibrium initially. This will have an adverse impact on economic growth and employment. In this instance, the trade deficit will be a source of concern if the root cause of the lack of competitiveness within the economy is not addressed and this deficit becomes chronic and persistent. On the other hand, if the trade deficit is due to a fall in income caused by recession of key trade partners, this may not be a cause for concern since the deficit is likely to be temporary, Once the trade partners recover from the recession, the trade deficit will improve.

Macroeconomic policy decision makers may not be concerned if the root causes of the BOT imbalances is due to the economic development of the country. If a country's rising trade deficit is not due to loss of its competitive advantage but rather due to its good domestic economic performance (eg the economy is growing and imports are being induced), then decision makers may not be concerned. Alternatively, the cause of the deficit may also be because the country has bought a lot of imported capital goods which can be a source of potential growth and job creation for the country. If imports are capital goods, a trade deficit due to increased import expenditure (assuming import expenditure rises faster than export revenue) would lead to an improvement in future material SOL as more goods can be produced in the future, shown by a rise in vertical AS. This means that there will be higher consumption of goods and services in the future and hence improvement in the material aspect of future SOL. This would be especially more relevant for developing countries which are reliant on imports of capital goods to achieve growth in the future.

**Another factor that will influence macroeconomic policy decision makers is the state of the economy.**

If an economy was initially at near full employment level (ie  $Y_0$ ) and assuming that balance of trade was in equilibrium, that is, there is no BOP imbalance, then with a decrease in X-M, the AD will fall and subsequently result in a lower national income through the multiplier effect. This will be a cause for concern. The fall in AD will in turn lead to decreases in its national income. With the decrease in value of net exports, the aggregate demand will fall from  $AD_0$  to  $AD_1$  as seen in the diagram below. At the current national income level, AD is now less than Y meaning that aggregate demand falls short of national output. This would result in an unplanned accumulation of inventories and lead to firms cutting back on production. With lesser production, lesser workers will be needed and this would cause a drop in employment and the national income. When households face a drop in income, they will cut back on their consumption of domestically produced goods / services (Cd), resulting in a fall in AD. As they spend less on the other goods from firms, it would result in a further drop in production in the economy and more workers will be laid off. This multiplier effect will continue until the national income falls and reaches a new equilibrium  $Y_3$ . When the economy produces less goods and services, the derived demand for labour falls, thus worsening demand deficient unemployment.



On the other hand, if the economy is experiencing demand-pull inflation and is operating on the vertical portion of AS, then a trade deficit is not a cause for concern. This is because with a fall in AD from  $AD_4$  to  $AD_5$ , the general price level falls from  $P_2$  to  $P_1$ . A fall in aggregate demand from a fall in net export earnings will lead to firms reducing production and thus competing less for resources for production. This means that firms are better able to get resources that they need, resulting in more efficient factor combinations and falling unit costs of production. This lowers the inflation rate and ensures price stability for the country. Hence a trade deficit in this instance is not a cause for concern.

**[Ev]** How significant this factor is depends on whether productive capacity is increasing in the economy. For a country like Singapore that is already operating near full employment level, a rising trade surplus may not be desirable as this may result in demand pull inflation, but only if the rise in productive capacity is unable to catch up with the rise in AD. If productive capacity is increasing, and possibly faster than the increase in AD, current state of economy will not be a significant consideration for policy decision makers.

**The last factor that will influence macroeconomic policy decision makers is the nature of the economy.**

A rising trade surplus could be a source of growth for small and open economies like Singapore which would aim for a rising trade surplus to stimulate growth. Due to her small domestic market, she is reliant on external demand to drive growth as seen by how exports constitute 176% of her GDP (2018). A rising trade surplus due to an increase in net exports ( $X-M$ ) means that there will be an increase in the AD. Excess demand causes an unplanned fall in inventories, which signal to firms to increase production by hiring more factors of production. Such increase in demand for labour (demand for labour as a derived DD) results in a lower unemployment. An increase in household incomes of those in the trade sector will then induce consumption as consumers spend a portion of their income on domestic goods and services. Subsequent rounds of further spending lead to multiple increase in national income, leading to economic growth and improvement in material SOL.

On the other hand, for countries like US where the economic growth is not as dependent on external demand due to its large domestic market, its net exports makes up a less significant proportion of AD as compared to domestic consumption. As such, the impact on actual growth and unemployment may not be as severe. Hence the extent of a country's reliance on trade to drive economic growth will be a factor that will influence macroeconomic policy decision makers.

A factor that will influence macroeconomic policy decision makers in deciding if trade imbalances are a cause for concern is also the size of its economy and hence the resulting impact of trade imbalances on others. If an economy is large, its trade imbalances will have significant impact on its key trading partners. If this impact is adverse, the likelihood of retaliation from the trading partners is high. For eg, a large and persistent trade surplus for a country like Germany can be a cause for concern for macroeconomic policy decision makers. This is because one country's trade surplus is another country's trade deficit. This causes contraction of the latter's AD. As such, the latter's national income contracts via the downward multiplier effect. The contraction in the trade partners' income will induce them to cut back on imports since import is a function of income. Thus the country with the trade surplus will eventually suffer falling exports which will lead to contraction in AD and hence national income. The effect will be worsened if the trade partner engages in retaliation measures to protect their domestic industries. Germany and also China's large and persistent trade surplus with the US have led to tension with the US, and the resulting trade war. On the other hand, for a small country like Singapore, even if it has persistent trade surplus, its impact on its trade partners is likely to be insignificant, thus rendering the threat of retaliation to be low.

**Another factor that influences whether trade imbalances are a cause for concern is whether exchange rate stability will be impacted.**

A balance of trade deficit will result in a downward pressure on a country's currency in the foreign exchange rate market. If the country is operating on a managed float exchange rate system, it will have to maintain the value of the currency in the foreign exchange rate market through either buying or selling of currency. If the exchange rate is in danger of depreciating below the lower limit of the band set, to eliminate the downward pressure, the central bank will sell foreign currency reserves to buy back domestic currency. However the exchange rate cannot be maintained at the current level and may depreciate sharply if the central bank eventually runs out of foreign currency reserves. When the central bank runs out of foreign reserves, it will be forced to let its currency depreciate. The lack of exchange stability has negative impacts on the economy, e.g. for a country reliant on imported inputs for production, the depreciation will lead to costlier inputs, increasing cost of production and leading to cost-push inflation as AS falls. The currency may also be subjected to a speculative attack if foreign investors anticipate that the exchange rate may further depreciate, worsening the problem. Trade imbalances will thus be a cause for concern in such a case.

However, if exchange rate stability can be maintained, a balance of trade deficit need not be a cause for concern. This could be because foreigners are willing to lend to the country facing a trade deficit. For example, the US dollar is still sought after as a reserve currency thanks to its status as the world's dominant economy and investors have a lot of confidence in the US economy and currency. When the US borrows to finance its deficit, there will be an inflow recorded under the capital account that eliminates the downward pressure on the US dollar in the foreign exchange market. Thus the US economy would not be as concerned with the large trade deficit it is experiencing.

*Note: Another possible point students can consider is the persistence of the trade balance.*

## Conclusion

The most significant factor that influences macroeconomic policy decision makers in its decision on whether balance of trade imbalances are a cause for concern is the root cause of such imbalances.

This will be of great concern if the root of the trade imbalances is due to the loss of competitiveness of its domestic industries against the foreign sectors. Such loss of competitiveness may be due to structural rigidities or unproductive labour force. If these internal problems are not addressed, this will result in slower economic growth as BOT deficit worsens due to locals preferring foreign substitutes. It will also result in cost-push inflation and unemployment in the economy, eventually affecting the country's SOL.

On the other hand, the factor due to the state of an economy is less important. If a trade surplus results in demand pull inflation due to the country's limited productive capacity, this is likely to be a short term concern. In the long run, as the country increases its productive capacity, by say, improving on its quality of factors of production, the inflationary pressures will be reduced.

Similarly, the factor about the nature of a country's economy is also less significant. Where there is retaliation from trade partners due to a country's trade surplus, the country can consider widening its trade links and form free trade areas with other countries. This will ensure that the country's trade flows will be minimally affected and hence its macroeconomic goals can be achieved.

## Marks Scheme

L3	For an answer that gives a detailed and analytic explanation of factors influencing decision-makers.  Assertions should be phrased clearly to address question and supported with good use of relevant tools of analysis.	8 – 10
L2	Answer that may not address the question explicitly but merely explains whether the trade imbalances are a cause for concern. Explanations may also be underdeveloped.	5 – 7
L1	For an answer that shows knowledge of some factors or some idea of the impact of trade imbalances on the macroeconomic goals.  There may also be major and frequent conceptual errors.	1 – 4
E3	For a stand with strong, relevant substantiation, weighing the significance of the various factors influencing decision makers.	4-5
E2	For a stand that attempts to make some judgement of the various factors affecting decision makers.	2-3
E1	A conclusion where the judgement is unexplained.	1

## Question 6

**The US government has accused China of engaging in unfair trade practices and has imposed tariffs on many Chinese imports like aluminium and steel. In turn, China imposed a number of retaliatory tariffs on US imports like fruit, wine, and pork.**

**Source: The New York Times, 1<sup>st</sup> April 2018**

**Discuss the policy measures that the Singapore government can adopt to deal with the macroeconomic problems associated with the trade war. [25]**

### **Introduction:**

The trade war between China and US started with the US imposing tariffs on many Chinese imports. China in turn retaliated with counter-tariffs on US goods and services. As China and US are major trading partners of Singapore, the trade war would likely have significant impacts (largely negative) on Singapore's economy. In recommending policy measures to deal with these impacts, the nature of the Singapore economy will be considered - Singapore is a small and open economy that is heavily reliant on trade for growth.

### **Body**

#### **Impact of US and China's trade war on the macroeconomic goals of Singapore**

**The trade war may cause a recession and higher rates of unemployment in Singapore. Singapore's economy would be negatively impacted by the ongoing trade war.**

The trade war would cause China and US economies to slowdown or slide into recession. A tariff is a tax levied on products when they cross national boundaries. They are implemented with the aim of restricting imports to protect domestic industries from foreign competition. When US imposes tariffs on Chinese goods and services, prices of Chinese goods increase for the Americans. This will encourage US consumers to buy US goods rather than Chinese goods, hence tariffs protect domestic industries and jobs.

If the tariffs are imposed on many goods across various sectors, the impact of the trade war would be economy wide. Import expenditure will fall for US while domestic consumption expenditure increases. This causes Aggregate Demand (AD) in US to increase. However, when China retaliates back with tariffs, demand for US exports would fall, assuming that the tariffs are imposed on many goods and services too. US export revenue falls too. Assuming exports revenue falls to a greater extent than import expenditure, overall AD of US decreases. This causes a multiplied decrease in US's national income.

US is a key export destination for Singapore. Thus when US consumers face a fall in national income, their purchasing power and ability to consume goods and services will decrease. Thus their demand for exports from Singapore would decrease and Singapore would face a fall in export earnings and its economy is at risk of slowing down too. This is assuming that Singapore's exports are normal goods with positive income elasticity. Singapore produces high quality and high value added goods like electronics that are likely to have positive income elasticity.

China will also face a fall in export demand with the tariffs imposed on its exports by US government. Thus its AD will decrease and will suffer negative economic growth. As China is

also a key export destination for Singapore, Chinese consumers will demand less of Singapore's exports with falling incomes.

Singapore's export revenues will be further reduced and its balance of trade worsens.

Moreover, since Singapore is part of the global supply chain, it produces many intermediate goods used as inputs in the production of Chinese exports to US. Since Chinese exports to US are slowing, derived demand for Singapore's exports would fall too. This again causes export earnings to decrease for Singapore.

Foreign Direct Investments (FDI) into Singapore are also likely to fall as a result of the ongoing trade war. A slowdown in major economies in the world would raise a lot of uncertainty about future business prospects as profitability of investments depends on the income level of consumers. This lowers expected rate of return on investments and investments in Singapore may fall since foreigners set up factories in Singapore to export to the rest of the world.

As I and X decreases AD decreases and national income of Singapore decreases. Demand deficient unemployment may rise too. Firms in the export and construction industries face an unplanned increase in inventories. Thus they will cut back on production and retrench workers. Incomes of workers in these industries will fall and they will in turn spend less, pay less in taxes, spend less on imports and save less. This causes firms in domestic retail industry to fall an unplanned increase in inventories. This prompts another round of cut in spending. National income decreases to a multiplied extent. This is shown by the multiple shifts in AD in the diagram below.

**The trade war can cause Singapore's balance of payments (BOP) to worsen.**

The BOP consists of both current and capital account. Current account will worsen with decrease export earnings. Capital account will worsen with lower inflow of foreign direct investments.

**The price of imported goods will increase and cost-push inflation will arise as a result of the trade war.**

A tariff on imported inputs would cause costs of production to increase in the US. This may result in higher cost push inflation in US if the unit costs of production increase. For example a tariff on steel would cause steel to be more expensive as steel users will use the relatively more expensive domestically produced steel. Firms that use steel, like electronics manufacturers, will face a rise in costs of production. Firms would pass on the higher costs as higher prices to consumers. As a result, the goods that consumers in Singapore import from the US would also be more expensive. This would erode their purchasing power assuming no change in nominal income.

**Policy measures that the Singapore government can adopt to deal with the macroeconomic problems associated with the trade war:**

**The Singapore government can adopt a depreciation policy to address the recession associated with the ongoing trade war.**

MAS may choose to let the Singapore dollar to depreciate i.e. a fall in the external value of S\$. The policy of depreciation causes SGD to be weaker relative to selected foreign currencies (assuming no changes to the exchange rates of other economies), and makes its exports more

competitive in terms of some foreign currencies. When SGD depreciates, Singapore's exports will become cheaper in foreign currency. Foreigners will thus buy more of Singapore's exports. With a rise in DD for Singapore's export, export revenue will rise (price in SGD unchanged, higher quantity of output sold). Concurrently, imports to Singapore become more expensive in SGD. Singaporeans will thus decrease quantity demanded for imports. If DD for imports is price elastic, the fall in price (in SGD), will lead to a more than proportionate decrease in quantity demanded for imports, leading to a fall in import expenditure. With a fall in M expenditure and rise in X revenue, ceteris paribus, BOT will improve. AD and hence real NY will increase via the multiplier, ceteris paribus leading to economic growth. The gain in competitiveness in SG's exports will also cause a rise in demand for workers in the export sector and will also address the unemployment problem arising in this sector.

[EV] For Singapore that is very reliant on imported inputs, the gain in export price competitiveness from the weaker currency will be limited because of the high import content in her export. In addition, the rise in demand due to the relatively lower export prices may not be sufficient to counter the weak demand from US and China due to the lack in confidence and the recession in these countries. Exchange rate policy may thus not help to boost demand for exports significantly.

**The Singapore government can use short run supply side policies to address the rise in unemployment associated with the ongoing trade war.**

An example is the jobs credit scheme that provides businesses with cash grants based on the CPF contributions they make for their employees. This encourages firms to retain their workers during the downturn caused by the trade war. The credit an employer can receive depends on the number of employees on its payroll and the wage cost based on CPF contributions. This acts like a subsidy whereby costs of hiring workers decreases and unit costs of production will fall causing aggregate supply to increase. Horizontal AS shifts down. With excess aggregate supply, firms will have to cut prices to stimulate spending and so reduce the excess supply.

Alternatively the government can use flexible wage system with a sizable variable component in wages to allow companies to adjust wages quickly in severe business downturns. Businesses can adjust wages immediately when faced with short term economic downturns. Thus firms could avoid retrenching workers during recessions.

[EV] Wage subsidies may be prohibitive for a country with a large budget deficit or for a large country as the spending on such policy will be very high and may result in high opportunity cost. Such a measure is also more effective in industries where wage costs take up a large proportion of total cost of production, for example, in the hospitality industry. Given the healthy fiscal position enjoyed by Singapore over the years, it is able to use this tool to address the unemployment situation in the short run. However, in the long run, other policies need to be used. As Singapore is a fast aging population with rising demand on healthcare services, the allocation of the budget to this sector will thus rise. This will then pose a fiscal constraint on the ability of the government to implement wage subsidy in the long run.

**The Singapore government can use trade policies to deal with the recession associated with the ongoing trade war**

Singapore can negotiate trade deals with other economies to offset the loss in export earnings from USA and China.

Singapore can diversify its exports markets by pushing for trade deals with countries which are not as affected by the trade war. For example, countries like Vietnam have gained from the With the US imposing tariffs on Chinese products, US firms and consumers may choose to import from other countries like Vietnam instead. Moreover, foreign investors in China may pull out their investment and change destination to Vietnam in order to avoid facing the tariffs. Signing new trade deals like the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) will lower tariff and non-tariff barriers and facilitate trade between Singapore and Japan. While both exports and imports will increase with the trade agreements, export earnings will likely increase more than import expenditure as Singapore's domestic economy is small relative to the economy of Japan. In addition it will be easier for firms to undertake investments in trading partners' economies. This could additionally boost Singapore's actual economic growth as FDI flows into Singapore.

[EV] An FTA will benefit Singapore's exporting firms which no longer face the protectionistic measures imposed by the government who entered into FTA with SG. Thus, Singapore's planned export value should rise by more than that for import and the resulting rise in aggregate demand will lead to a rise in equilibrium national output as long as there is availability of capacity. However, FTAs may also lead to greater competition from foreign firms. With more FTAs signed, this could lead to more foreign direct investment as the larger foreign firms would want to take advantage of Singapore's FTA status to export from Singapore. This may exacerbate the constraints of the smaller domestic market size and the lack of resources that the domestic firms already face.

**Conclusion**

Overall signing more trade deals with other countries is likely to be the most effective policy in addressing the problems associated with the trade war.

The impact of the trade war is likely to be significant for Singapore as it is highly reliant on China and US for growth. The ASEAN economies are growing and to promote growth, if Singapore signs the trade agreements with these economies, they can prove to be alternative destinations for Singapore's exports and will help Singapore recover from the negative implications of the trade war. However, it takes time to reach consensus and further liberalise trade with ASEAN countries. In the short run, to address the unemployment that comes along with the recession in Singapore, the supply side policy like the jobs credit scheme is likely to be more effective as it helps employers to retain the workers by reducing the labour cost. The use of exchange rate policy like depreciation to promote economic growth is relevant for Singapore as it is an open economy. However, this is done at the expense of cost-push inflation since Singapore is heavily dependent on imports. The use of depreciation to boost growth will thus not be effective since the competitiveness of its exports will be limited.

**Mark scheme**

Level	Descriptors	Marks
L3	An analysis of the problems that Singapore will face due to the trade war and at least 3 well-developed policies that the Singapore government can implement to tackle the identified problems.	18 - 20
	An analysis of the problems Singapore will face due to the trade war and	15 - 17

	at least 2 policies that the Singapore government can implement to tackle the identified problems.	
L2	An underdeveloped explanation of the problems Singapore will face and an underdeveloped / descriptive explanation of the policies it can use ( i.e. matched but underdeveloped problems and policies)  Limited scope: consider only 2 policies and 1 problem OR 2 problems and 1 policy  OR  Mismatched or standalone policies that are well developed	12 - 14
	An underdeveloped explanation of the problems Singapore will face due to the trade war and / or policies that can tackle the macroeconomic problems.  Mismatched problems and policies that are underdeveloped	9 – 11
L1	For an answer which shows some knowledge of the impact of a trade war and / or some knowledge of the policies.  Answer that has basic theoretical errors.	5 – 8
	For an answer which is mostly listing policies used to tackle trade war and some impacts of trade war.  Answer that has basic theoretical errors.	1 - 4
E3	Makes a stand as to which policy is appropriate at tackling the problems associated with the trade war. Substantiation includes consideration of the various strengths and limitations of the different policies in tackling the problems associated with the trade war.  Considers the relative appropriateness of the policies applicable to the Singapore's context	4 – 5
E2	Some attempts to substantiate the appropriateness of the policies	2 – 3
E1	Makes a stand with no further substantiation on which policy is appropriate at tackling the problems associated with the trade war	1