Catholic Junior College
JC2 Preliminary Examinations
Higher 1

ECONOMICS

8819/01

Paper 1

18 August 2017

3 hours

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.

Section A
Answer **ALL** questions.

Section B
Answer **ONE** question from this section.

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.

This document consists of 8 printed pages and 0 blank pages.

[Turn over]

Section A

Answer **ALL** questions

Question 1

The Zika Virus Epidemic

In early 2015, a widespread epidemic of Zika fever caused by the Zika virus in Brazil, spread to other parts of South and North America. It also affected several islands in the Pacific, and Southeast Asia. Zika virus is transmitted primarily by Aedes mosquitoes.

Extract 1: Spike in Sale of Mosquito Repellent Products amid Zika Concerns

U.S.A

Fear of the mosquito-borne Zika virus is spurring sales of well-known mosquito repellents, and companies pushing natural products are hoping to grab a share of the market as well, saying their methods will keep the bugs at bay without the 'ickiness' of traditional DEET[1] chemical-based repellents.

"There is no 'natural' substitute for DEET – it is the first-line repellent and should be used by those seeking to lower their risk of being bitten by mosquitoes," said Amesh Adalja, senior associate at the University of Pittsburgh Center for Health Security. But some consumers are turned off by DEET chemical-based repellents. They don't like the odd smell and say it irritates their skin, while others are leery of anything that smacks of chemicals, as reflected in the "buy organic" trend in supermarkets.

Pharmacy operators such as Walgreens, the nation's largest drugstore chain, are helping to boost insecticide sales. At its 120 stores in Puerto Rico, Walgreens has cut the price on mosquito repellent products that the Communicable Disease Centre says can fight Zika.

Singapore

Sales of mosquito repellent products have doubled or even tripled in Singapore since news of the first locally transmitted Zika case emerged.

"We now restock all mosquito repellent products on a daily basis rather than fortnightly to meet the increased demand," a spokesperson for NTUC said. The company is working with suppliers to ensure sufficient stocks at its stores and warehouse, she said. "Prices of these items have also remained the same, and kept affordable through store promotions," the spokesperson added.

Meanwhile, some people are trying to make a quick buck from the demand for mosquito repellents and related products. On online marketplace Carousell, several buyers were buying a box of 10 Baygon mosquito coils - which normally costs 75 cents - for as much as $10. A pack of Tiger Balm mosquito repellent patches - priced at $8.50 on the NTUC website - was going for $15.

Adapted from: *Washington Times*, 5 Jun 2016 and *The Straits Times*, 7 Sep 2016

Extract 2: Zika Virus: The Last Thing Brazil Needs Now

Brazil is in the midst of the longest economic downturn since the 1930s, and the fear-inducing Zika virus is not helping matters. The virus has become big news around the world

[1] Diethyltoluamide (DEET) is the most common active ingredient in insect repellents.

and is raising concerns about its impact on Brazilian tourism, which supports nearly one-tenth of Brazil's economy.

With Brazil's economy in the dumps and its currency trading near all-time lows versus the U.S. dollar, many Brazilians are opting to vacation at home, which could keep the tourism sector afloat. Furthermore, travel companies also say they are seeing great sales on international vacations to Brazil and say the strong U.S. dollar have a lot to do with it.

"The negative impacts from Zika could be counteracted by a general increase in tourism that we're expecting in 2016 because of the exchange rates," said a business analyst.

Adapted from: *money.cnn.com*, 28 Jan 2016 and *ABC Eyewitness News*, 11 Feb 2016

Extract 3: The Socioeconomic Impact of the Zika Virus in Latin America

If inadequately addressed, Zika will strain the capacities of already overburdened health systems. Caring for a child with microcephaly or developmental disorders often forces family members, especially women and adolescent girls, to leave the labour market or formal education, contributing to lost productivity, lost opportunity and increasing economic hardship on already marginalized populations. This increasingly common scenario can impede development goals on ending poverty, quality education, economic growth and reducing inequalities.

In the short term, the largest cost is loss of international tourism revenues, followed by the direct cost of diagnosing patients. In the long term, the lifetime indirect costs related to the care of children with microcephaly are substantial. Many parents (often the mothers) will withdraw from or not enter the labour force to care for a child with Zika-related congenital conditions. These figures likely underestimate the relevant costs because of the difficulties in evaluating the increase in the burden of non-market activities that will often accompany the birth of children with microcephaly, as well as its impact on affected infants.

Additionally, there is a profound equity challenge at the core of the Zika epidemic. The impact is disproportionate on the poorest countries of the region, as well as on the poorest and most vulnerable groups, especially poor women in peri-urban communities (i.e. those living in the peripheries of cities). Besides unequal access to health services, clean water and sanitation, findings from recent studies of microcephaly in north-eastern Brazil found that most reported cases occurred in low-income families, with very few from middle-income, suggesting that the epidemic could contribute to widening socioeconomic inequities. Larger economies like Brazil are expected to bear the greatest share of the absolute cost, but the severest impacts will be felt in the poorest countries.

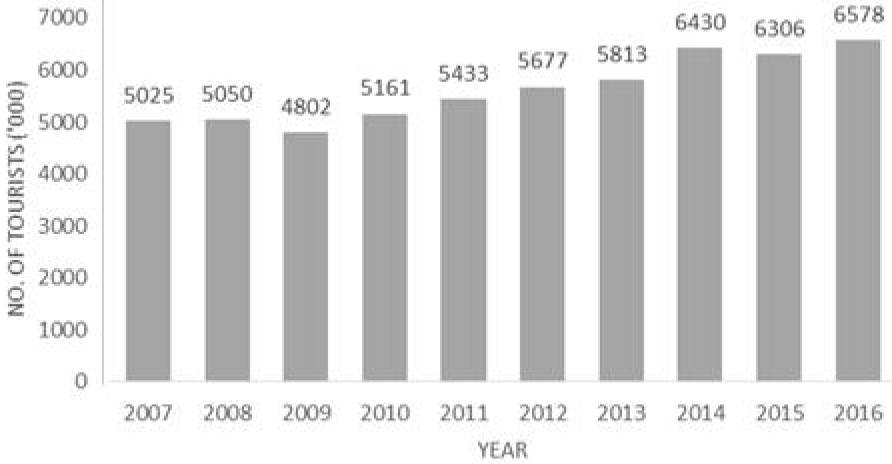
Source: *Paper on Socio-economic impact assessment of the Zika virus in Latin America and the Caribbean*, 3 April 2017

Extract 4: Zika Vaccines under Trial

The World Health Organisation is worried that Zika is spreading far and fast, with devastating consequences. There is currently no vaccine or medicine for Zika. Governments and experts are working fast on this. The National Institutes of Health (NIH) is funding many research projects to study and find cures for the Zika virus. It is working with its partners in the academia, and the pharmaceutical and biotechnology industries to better understand Zika virus, its causes, effects, and ways to combat it. A multi-site clinical trial testing an experimental Zika vaccine developed by NIH scientists has begun.

Source: //www.fic.nih.gov, online accessed 17 July 2017

Figure 1: Tourist Arrivals into Brazil



Source: https://tradingeconomics.com, accessed 20 Jul 2017

Table 1: Short-term and Long-term Costs of Zika in Selected Latin America Countries

Country	Total Short-term Cost (in 2015 USD)	Total Short-term Cost (% of GDP)	Total Long-term Cost (in 2015 USD)	Total Long-term Cost (% of GDP)
Argentina	495,976,647	0.03	9,337,928	0.001
Bolivia	86,839,996	0.09	4,063,506	0.004
Brazil	1,674,408,354	0.03	251,676,089	0.005
Peru	367,758,428	0.06	6,699,638	0.001

Source: *Paper on Socio-economic impact assessment of the Zika virus in Latin America and the Caribbean*, 3 Apr 2017

Questions

(a) With reference to the data, explain the likely value of the price elasticity of demand of repellents with DEET. [2]

(b) Different retailers, such as NTUC and Walgreens, have changed prices of repellents differently in view of Zika. Using demand and supply analysis, explain the price changes of the above retailers. [4]

(c) In the event of a Zika outbreak, discuss whether a subsidy on mosquito repellent products should be implemented in Singapore. [6]

(d) Explain the economic rationale for government intervention in developing vaccinations against Zika. [6]

(e) From Extract 2, identify and explain a reason for the upward trend in tourist arrivals into Brazil shown in Figure 1. [2]

(f) (i) Using Table 1, compare the short term and long term costs of Zika on Brazil with the other Latin American countries [2]

(ii) Using data where appropriate, evaluate whether the Zika outbreak is the most worrisome problem that the Brazilian government has to consider in achieving sustained economic growth. [8]

[Total: 30]

Question 2

Peru's Economic Challenges

Extract 5: Peru Mining Steady despite Volatile Prices

By any measure, Peru is a giant of the global mining industry. Since the liberalisation of the industry in the 1990s, significant local and foreign investment has been made to develop major modern mines. The pace of investment further gathered speed since 2010, when the commodities cycle pushed up prices of the country's key mineral exports. The mining industry has been the driver behind the growth of the Peruvian economy for 10 years, today accounting for about 17.6% of GDP and half of exports.

The industry's primary exports is copper, which is an essential component in virtually every electrical and electronic device and wiring. The last three years of falling copper prices is thus a cause for concern. The slowdown of the Chinese economy is one of the factors for the decline. That said, output is still growing in Peru's operating mines, setting Peru well on its way to becoming the world's second-largest copper producer in the next few years.

Source: www.oxfordbusinessgroup.com/peru-2016*,* accessed 18 July 2017

Extract 6: Commodity Slump Stalls Global Trade Growth

World trade growth has ground to a halt as the commodity price slump hits economic growth in emerging markets, many of whom rely heavily on commodity exports.

Emerging markets imported lots of capital equipment and other supplies to expand their commodity production during the commodity boom. Rising incomes at that time also stimulated a big increase in local consumption, some of which was in turn spent on imported goods and services. Now that the boom has turned into a slump, as capital investment has shriveled, causing a decline in demand for imported industrial equipment. Lower incomes also inevitably caused import demand for consumer goods to have fallen.

The International Monetary Fund speculates that a slowdown in trade liberalization, an upsurge in antidumping and the proliferation of more subtle non-tariff barriers could help explain the extra slowdown in trade growth. As a result, the Fund urges policymakers to resist protectionism, revive trade liberalization and dismantle remaining non-tariff barriers to support global trade.

Source: *Reuters, 27 Oct 2016*

Extract 7: Trouble Brews in Peru

Peru's currency closed last week at just over the psychological barrier of 3.20 per dollar, a six-year low, on falling commodity prices and strong economic data from the United States.

In Peru, economic activity has shown a poor performance mainly as a result of three factors. First, private consumption slowed down due to lower dynamism in the labor market which reduced job creation and increased the unemployment rate. Furthermore, food prices have risen. Second, growth was adversely hit by the contraction in public and private investment due in part to the worsening of business expectations. This suggests that investment will continue being sluggish in 2015.

However, the biggest threat to financial stability in Peru is a sharp slowdown in China. Copper remains one of Peru's key exports and China, which uses 40% of the world's copper, is seeing its lowest GDP growth since 1990. The result is large inventories of copper and other commodities, prompting investors to sell the Nuevo (Peru's currency) and leading to the decline in Peru's exchange rate. The exchange rate pressures limit the scope for new reductions in the interest rate by the monetary authority.

Coupled with high inflation, Peru's central bank is unable to cut its interest or exchange rates to give its economy a boost. They must now look more to productivity improvements to boost GDP, and that is its Achilles heel.

Productivity has improved a bit, but still lags behind Asia's. Although Latin Americans have more education than in the past, international tests show that they still do not learn enough in school. Furthermore, there is a whole range of other issues ranging from a lack of innovation by Latin American firms of all sizes, to poor transport networks and to a lack of competition, especially in services.

Fixing the productivity problem is far more complicated than slashing the fiscal deficit. Assembling land, permits and finance for infrastructure projects can take many years in Latin America. Education reforms take a similar time to have an effect.

But governments can no longer afford to put off reforms indefinitely. The risk the region faces is the clash between low growth and the aroused expectations of growing middle classes that could be politically explosive.

Source: http://perureports.com/2015/08/10, accessed 21 July 2017

Extract 8: Peru's Road to Recovery

After a considerable slowdown in 2014, a recovery in economic growth is projected for 2015 and 2016. This recovery will be driven by fiscal stimulus, and the reversal of the adverse supply shocks such as climate factors that caused temporary disruptions in mining, fishing and agriculture, that affected the economy in 2014.

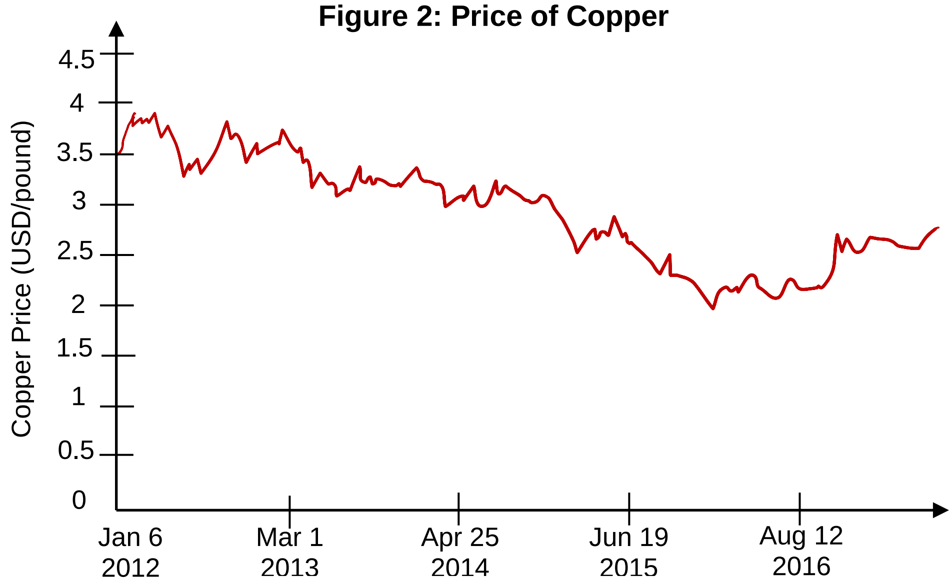
Fiscal policy is expected to be expansionary in 2015 and neutral in 2016. A drop in fiscal revenues is foreseen due to various tax measures announced at the end of last year. These measures include a reduction in corporate and personal income tax rates, and a decrease in the Selective Tax on Fuel. New important infrastructure spending will also take place, which will boost growth by the end of this year and next. The space for new cuts in the interest rate is limited because it could increase pressures in the exchange rates.

In the coming years, growth will gain momentum thanks to the increase in mining production, especially copper, as a result of the new mines beginning to operate. However in the long-run, lower levels of metal prices suggest that the mining sector may no longer be an engine of strong growth. Therefore, to boost productivity and growth of potential output, structural policies are required.

Two important external risks remain. First, there is the risk of a stronger than expected slowdown of growth in China that could reduce terms of trade even further. Second, faster than expected increase in U.S. interest rates could lead to a reversal of capital flows and stronger pressures to the exchange rate. On the domestic side, downside risks are related to a weaker than expected recovery in investment that could be affected by continuing uncertainties in mining regions, or a stronger than expected impact from El Niño weather phenomenon.

Source: http://www.oecd.org/eco/outlook/peru-economic-forecast-summary.htm, accessed 26 July 2017

Figure 2: Price of Copper



Source: www.*infomine.com,* accessed *25 July 2017*

Table 2: Peru Economic Data

	2011	**2012**	**2013**	**2014**	**2015**
Economic Growth (GDP, annual variation in %)	6.5	6.0	5.8	2.4	3.3
Unemployment Rate	7.7	6.8	6.0	5.9	6.5
Inflation Rate (CPI, annual variation in %)	3.4	3.7	2.8	3.3	3.6
Exchange Rate (vs USD)	2.70	2.55	2.80	2.99	3.41
Current Account Balance (USD billion)	-3.0	-5.4	-9.4	-8.9	-9.4
Trade Balance (USD billion)	9.2	6.4	0.5	-1.5	-2.9

Source: www.focus-economics.com/countries/peru, accessed 27 July 2017

Questions

(a) (i) Account for the changes in price of copper from 2012 – 2015. [3]

(ii) Explain the relevance of a price elasticity concept in determining the Peruvian copper producers' standard of living. [2]

(b) With reference to Table 2, explain the relationship between trade balance and exchange rate in Peru from 2011 to 2015. [3]

(c) (i) Identify the internal and external factors that contributed to Peru's economic slowdown. [2]

(ii) Comment on the relative importance of the identified internal and external factors that contributed to Peru's economic slowdown. [6]

(d) Using circular flow of income, explain the effect of "a fiscal stimulus" on the Peruvian economy. [4]

(e) (i) Explain why any two indicators from 2011 to 2015 might have been of concern to the Peruvian government. [2]

(ii) Discuss if protectionism is the best way to deal with the above problems. [8]

[Total: 30]

Section B

Answer **ONE** question from this section.

3 Price mechanism deals with the Central Problem of Economics.

(a) Explain the concepts of scarcity and shortage. [10]

(b) Discuss how government intervention can alleviate the problem of allocating scarce resources in an economy. [15]

4 Inflation rate in Singapore jumped in the final quarter of 2016. It has been attributed to rising transport and education costs, as well as the government's GST voucher – a special cash payment to eligible Singaporeans. The inflation rate is also set to climb amidst mounting external inflationary pressures from global commodity markets.

(a) Explain how the above-mentioned factors led to an increase in inflation in Singapore. [10]

(b) Discuss the extent to which exchange rate policy is appropriate in mitigating the above problem. [15]

2017

Catholic Junior College
H1 Economics / 8819

Preliminary Examination
Full Examiners' Report

CSQ Question 1
CSQ Question 2
Essay Question 3
Essay Question 4

Section A

Answer **ALL** questions

Question 1

The Zika Virus Epidemic

(a) With reference to the data, explain the likely value of the price elasticity of demand of repellents with DEET. [2]

The |PED| value would be **<u>less than 1</u>**. (1m)
Due to the **lack of 'natural' substitutes for DEET** (Extract 1), an *increase in price of repellents with DEET would lead to a less than proportionate decrease in quantity demanded*, i.e. demand for repellents with DEET would be price inelastic. (1m)

(b) Different retailers, such as NTUC and Walgreens, have changed prices of repellents differently in view of Zika. Using demand and supply analysis, explain the price changes of the above retailers. [4]

<u>Explaining unchanged prices in NTUC</u>
- Extract 1, "mosquito repellent products have been restocked on a daily basis to meet the increased demand" (1m) OR "working with suppliers to ensure sufficient stocks at stores & warehouses" (1m)
- The increase in demand has been <u>matched by</u> an equivalent increase in supply, leading to unchanged prices, since there is not shortage/surplus to exert pressure on prices to change. (1m)

<u>Explaining the fall in price at Walgreen</u>
- Extract 1, Walgreen has boosted insecticide sales via an increase in supply (1m)
- The increase in supply is <u>greater than</u> the increase in demand, leading to a downward pressure on prices to eliminate the surplus, resulting in a fall in prices. (1m)

(c) In the event of a Zika outbreak, discuss whether a subsidy on mosquito repellent products should be implemented in Singapore. [6]

Introduction: establish purpose of policy + criteria for evaluation
A subsidy would be implemented in the event of an outbreak in order to address market failure due to the existence of positive externalities in the consumption of mosquito repellent, i.e., use of repellent reduces a consumers' chance of getting Zika (MPB), thus reduce the chances of the spread of Zika in Singapore to others, improving the economic outlook and tourism receipts (unlike Brazil, Extract 2) (MEB).

Whether a subsidy should be implemented would then be decided based on its effectiveness, feasibility in addressing the market failure and whether it suits the context of Singapore.

Thesis: Subsidy should be implemented because it is effective in addressing market failure due to positive externalities.
A subsidy would decrease MPC since it reduces the price of insect repellents for consumers. If the subsidy is set equal to MEB at Qs, this causes consumers to internalize the externality. The new and lower MPC* would intersect MPB at Qs, thus addressing market failure, i.e. eliminating the deadweight loss. Moreover, the reduction in prices would also lead to more equity as the low-income groups gain greater access to these repellents.

Anti-thesis: Subsidy should not be implemented because it is not feasible to estimate MEB precisely.
However, it is difficult to estimate the correct amount of subsidy (=MEB at Qs). An underestimation/overestimation of the amount of MEB would lead to the same result of underconsumption/overconsumption and deadweight loss.

Anti-thesis: Subsidy should not be implemented as it'll drain government resources.
High government expenditure is required to provide for the subsidy. This is not only a drain on government resources but may require higher tax rates such as for income taxes to finance the subsidy. High income tax rates are known to discourage effort and investment in the country.

Synthesis:
Given that the subsidy would merely be temporarily given (during an outbreak), the concern of draining Singapore government's huge fiscal surpluses is a minor one. Moreover, the amount of subsidy can be flexibly altered to adjust for misestimating of MEB. Hence the subsidy should be implemented during an outbreak.

[There are many ways to address this qn: The following approach is also accepted and awarded fully if properly explained.

*Students may also establish the purpose of the policy as **lowering prices**, and discuss whether a subsidy effectively lowers prices for consumers via the **incidence of subsidies.** In this case, **Thesis**: DD more inelastic than SS, higher incidence on consumers than producers; **Anti-thesis**: possible black markets on Carousell after consumers purchase the subsidized repellents, thus reducing the benefit to consumers in terms of prices and consumers surplus]*

Levels	Descriptors
L2: 4-6	Balanced and well developed economic analysis based on the case material and evident evaluation and judgment. Students are expected to include clear links to MPB/MPC/MEB in their market failure analysis; or clear economic explanation of DDSSE. Evaluative comment required to access full 6m
L1: 1-3	Answers tend to be one-sided or insufficient use of economic analysis. Little or no evaluation/judgment.

(d) Explain the economic rationale for government intervention in developing vaccinations against Zika. [6]

Vaccinations can be considered a merit good, which are deemed by the government or society to be desirable and underconsumed.

In a free market economy driven by self-interest, individuals will produce/consume at the point, MPB=MPC, whereby MPB would refer to the reduction in incidence of Zika on the vaccinated individual and MPC is the cost of the vaccination. Hence consumers maximize their welfare at the free market equilibrium output level Qf. (1m for contextualization of MPB/MPC and condition reflecting self-interest)

However, due to the positive externality on 3rd parties, e.g. unvaccinated individuals also experiencing a reduced chance of contracting Zika, there is a divergence between the marginal social benefit and the marginal private benefit. The marginal social benefit is higher than the marginal private benefit at any level of output. (1m for contextualization of MEB and divergence)

There is thus an underconsumption of vaccines by the amount QfQs.
(1m for identifying underconsumption)

At output levels between Qf and Qs, MSB > MSC which leads to a deadweight loss (welfare loss) and hence this indicates society's welfare is not maximized and therefore government intervention is required.
(1m for concluding DWL)

If left wholly to the private sector, the government believes that vaccinations will be under-consumed because individuals undervalue their own private benefits. Consumers may mistakenly underestimate the effects of Zika, for instance, believing that it only affects infants. (1m for contextualizing imperfect information)

In other words, they perceive the marginal private benefit from consuming vaccination, which is the avoidance of contracting the Zika virus, to be lower than it actually is, and therefore consumption of vaccination will be lower than it should be. (1m for theoretical elaboration of underperceiving MPB), further aggravating the underconsumption due to the positive externalities.

(e) From Extract 2, identify and explain a reason for the upward trend in tourist arrivals into Brazil shown in Figure 1. [2]

Evidence:
"Travel companies say they are seeing great sales on international vacations and say the strong U.S. dollar have a lot to do with it." (1m)

Knowledge:
With a strong USD, the price of Brazil goods & services appear relatively cheaper in USD terms which leads to an increase in quantity demanded of Brazil goods & services, including travel vacations in Brazil. (1m)

(f) (i) Using Table 1, compare the short term and long term costs of Zika on Brazil with the other Latin American countries [2]

Similarity:
Highest absolute cost for Brazil compared with other Latin American countries for both long term and short term costs, as well as long term costs as a % of GDP (1m)

Difference:
While Brazil has the highest long term costs as a % of GDP, it has the lowest in short term costs as % of GDP. (1m)

(ii) Using data where appropriate, evaluate whether the Zika outbreak is the most worrisome problem that the Brazilian government has to consider in achieving sustained economic growth. [8]

Question Analysis
In order to evaluate ZIka's impact on sustained growth is the most worrisome, this answer should:
- Consider its short run and long run impacts (actual and potential EG) and
- The significance of each of these impacts, and
- How Zika and its impacts compared to the other problems (based on other macro aims not met) faced by Brazil.

Intro
Thesis: Zika is worrisome because it can affect both actual and potential growth
Anti-thesis 1: Impacts of Zika are limited
Anti-thesis 2: Other problems are more worrisome
Synthesis: Stand and justification

Introduction [establish criteria]
Whether Zika or other problems will be the most worrisome for Brazil will depend on the likelihood of each problem and the severity/extent of its impacts on sustained economic growth.

Thesis: Zika is worrisome because it affects both actual and potential growth.
According to extract 2, there has been rising concerns about Zika's "impact on Brazilian tourism, which supports nearly one-tenth of Brazil's economy". A decrease in X in terms of tourism revenue would lead to a fall in AD and a more than proportionate fall in RNY due to the multiplier effect. This lowers actual growth. As evident in Table 1, Brazil would experience the largest absolute total short term cost in USD as compared to other Latin American Countries (LAC).

The Zika outbreak would also have an impact on potential growth. According to extract 3, “caring for a child with microcephaly or developmental disorders often forces family members, especially women and adolescent girls, to leave the labour market or formal education, contributing to lost productivity”. A lost in productivity and a shrinking labour force would lead to a fall in productive capacity and a decrease in LRAS. As evident in Table 1, Brazil would experience the largest absolute cost and largest cost as a % of GDP as compared to other LAC. This compromises sustained economic growth, because a falling LRAS and falling AD leads to a larger decrease in RNY, with a likely increase in GPL.

[Possible but not required for H1] Furthermore, Zika would worsen socioeconomic inequities, thus further contributes to worsening sustainable economic growth, as larger income inequity reduces the productive capacity of the economy with a larger proportion of its population not being able to access healthcare, education etc, thus resulting in LRAS to fall in future, thus leading to unsustainable economic growth.

Anti-thesis 1: the impacts of Zika are limited
The impact of Zika may be limited due to the tourism sector being only a tenth of Brazil’s economy, i.e. there may be other larger sectors that are still growing and hence contribute to overall economic growth. According to table 1, the short term costs as a % of GDP is also smallest for Brazil vis-à-vis other LAC.

Anti-thesis 2: Other problems are more worrisome
Brazil is in the midst of the longest economic downturn since 1930s and its economy in the dumps (Extract 2), suggesting that there are other macroeconomic problems, such as **low/negative economic growth**. The long drawn economic downturn could lead to low consumer and investor confidence, hence leading to lower C and I, which lowers AD and LRAS, further perpetuating the negative economic growth and deflationary effects on the economy. Furthermore, a long drawn economic downturn very often results from structural issues, such as low productivity and poor infrastructure, which would have severe negative implications on sustained economic growth.

Another problem is that Brazilian currency is “trading near all-time lows”, which suggests that there could be an **external instability** in the form of a **persistent BOP deficit**, which causes outflow to be larger than inflow, hence a depreciation of the currency overtime. A steadily declining exchange rate could lower investor confidence, cause an outflow of FDI, and hence leading to negative economic growth both through AD and LRAS.

However, the depreciating currency appears to have a positive impact on tourism (Extract 2) through an increase in Brazilians opting to vacation at home. The fall in X due to foreign tourists could be offset by an increase in domestic consumption (Brazilian tourists travelling within the country). A depreciating currency would also increase the price of imports, decreasing the quantity demanded of imports, potentially reducing M as well. These factors may potentially offset the fall in AD as a result of the low consumer and investor confidence, leading to a rise in AD and RNY. This could be the positive counter effect that the Brazilian economy needs, in order to get out of the deflationary spiral.

Synthesis:
Whether Zika turns out to be the most worrisome problem for Brazil depends on the extent of impact on tourism due to Zika versus the extent of impact of its depreciating currency. It also depends on whether other sectors of the economy may continue to grow despite its long drawn economic downturn.

Given that the short term costs (including tourism) is only 0.03% of GDP, it appears possible that the negative effects on tourism could be offset by the low currency. **It thus depends on whether the current long drawn economic problem is due to deep seated structural issues.** If not, the depreciating currency could be sufficient to kickstart the economy and pull it out of its low economic downturn – Zika would thus be the worst of its problems. If, however, there are deep seated structural issues, Zika will merely worsen these economy's structural problems. Therefore, the government would do well to implement proactive policies to overcome these problems while taking preventive policies against Zika.

Levels	Descriptors
L2: 4-6	Balanced and well developed economic analysis with ample use of extract evidence. Students are expected to include clear links to actual and potential growth via AD/AS analysis
L1: 1-3	Answers tend to be one-sided or insufficient use of economic analysis.
E2: 2	Judgment substantiated with contextual/theoretical analysis
E1:1	Unsubstantiated judgment

Question 2

Peru's Economic Challenges

(a) (i) Account for the changes in price of copper from 2012 – 2015. [3]

- Demand factor: [1]
    - Evidence (Extract 5): "Slowdown of the Chinese economy"
    - Knowledge: With a slowdown of the Chinese economy, disposable incomes should generally have fallen. Assuming that copper is a normal good, the demand for copper will fall.

- Supply factor: [1]
    - Evidence (Extract 5): "output is still growing in Peru's operating mines…world's second-largest copper producer…" (OR "Peru is a giant of the global mining industry" also accepted in place of "world's second largest copper producer")
    - Knowledge: Since Peru is set to be the second largest copper producer, an increase in its output of copper is enough to increase the world supply of copper.

- Simultaneous shifts: [1]
    - A fall in demand together with an increase in supply of copper will lead to a definite fall in equilibrium price of copper, and this accounts for the "last three years of falling copper prices" as mentioned in extract 5.

(ii) Explain the relevance of a price elasticity concept in determining the Peruvian copper producers' standard of living. [2]

- Application: [1]

Given a fall in copper prices due to the increase in supply of copper, and that the demand for copper is price inelastic because "…copper, which is an essential component in virtually every electrical and electronic device and wiring", hence it will lead to a less than proportionate increase in quantity demanded of copper, and thus the total revenue of copper will fall

- Linkage to SOL: [1]

Since total revenue falls, assuming total cost remains constant, it means that the Peruvian copper producers' profits and therefor their incomes will fall. With less disposable income, purchasing power falls and thus the quantity of goods and services consumed will also fall. Thus material, and possibly non-material standard of living will fall.

Answer also accepted if answer talks about DD shift + PES. But student must be able to explain that regardless the PES is elastic or inelastic, TR still falls. PES is not relevant.

(b) With reference to Table 2, explain the relationship between trade balance and exchange rate in Peru from 2011 to 2015. [3]

- Evidence:

As seen in Table 2 from 2011 to 2015, as trade balance worsened from a surplus to a deficit, Peru's exchange rate depreciated/weakened. [1]

- Knowledge:

With commodity prices falling and sharp slowdown in Peru's trading partners, export revenue fell. This led to a worsening of Peru's trade balance. [1]
This caused a fall in the demand for Peru's currency relative to its supply, resulting in a depreciation of the currency [1]
or

- Evidence:

As seen in Table 2 from 2011 to 2015, as Peru's exchange rate depreciated/weakened, its trade balance worsened from a surplus to a deficit. [1]

- Knowledge:

With the depreciation of the exchange rate, price of Peru's exports became cheaper in terms of foreign currency. As Peru's main exports are commodities, the fall in export price lead to a less than proportionate rise in quantity demanded hence a fall in export revenue as the demand for commodities exports is price inelastic (assuming Marshal Lerner condition does not hold). [1]
Ceteris paribus, this led to a worsening of Peru's trade balance. [1]

(c) (i) Identify the internal and external factors that contributed to Peru's economic slowdown. [2]

- Internal factors [1]
  - Slow productivity, large informal economy, lack of physical capital development, lack of human capital development, private consumption slow down. Contraction in public and private investment.

- External factors [1]
  - Slack export appetite from major importer like China, falling investor confidence causing currency plunge.

[Any one factor for each category will do]

(ii) Comment on the relative importance of the identified internal and external factors that contributed to Peru's economic slowdown. [6]

Command	Comment … relative importance
Content	Economic slowdown Internal factors of growth External factors of growth
Context	Peru
Approach	T: Internal factors – Slow productivity, large informal economy, lack of physical capital development, lack of human capital development, private consumption slow down. Contraction in public and private investment.

	AT: External factors – slack export appetite from major importer like China, falling investor confidence causing currency plunge. [1 Internal factor + 1 External factor + comparison will suffice] Comparison of relative importance + Synthesis: Overall, internal factors seem to be more major problem than external problem.

Introduction An economic slowdown is a situation where real GDP rises insignificantly. This can be contributed by various internal and external factors. **The most significant factor will be assessed by judging the degree of immediate impact it has on Peru's economic growth rates.** *[other criterions are also acceptable, such as the extent of impact given the Peru's relative dependency on external vs internal drivers of growth]*
Thesis: External factors are critical in explaining the economic slowdown in Peru. **One external factor will be a fall in income of Peru's major trading partner, China.** Peru is a major copper exporter, but its NX has been falling due to China's slack appetite for copper. Since China is a major importer of Peru's copper (China consumes 40% of world's copper, Extract 7), **the large fall in export revenue to China is therefore unlikely to be offset by rise in export revenue to other countries.** It was also mentioned that China's slowdown has sparked a confidence crisis in Peru where investors were seen selling off Nuevo. The fall in demand of Peru currency will result in a sudden drop in currency strength. This external factor thus has an impact on the Peruvian government's choice of policies such that expansionary monetary policies can no longer be appropriate as a response to the economic slowdown [as further interest rate reductions will serve to further weaken the Nuevo, hence deepening the confidence crisis]. [alternative: (China slowdown could also possibly hurt her trading partners as she is a major importer, and in turn, these countries will in turn also consume fewer exports from Peru).]
Alternative Thesis: External factors are critical in explaining the economic slowdown in Peru. **Rising food prices is another possible external factor why Peru is facing a slowdown**. Peru may also be importing food from overseas as its primary export is copper. It is logical to conclude that Peru most likely may have a comparative advantage in copper production, and hence will seek to specialize and export. Certain types of food production (such as wheat/corn/soybean) may not be Peru's comparative advantage; hence Peru will import such food items. As a result of this, Peru will be highly susceptible to imported inflation. The rising prices of food will result in imported cost-push inflation. **The extent of imported inflation depends on the rate at which the Nuevo**

weakens. Overall, firms' cost of production rises. SRAS likely shifts up, hence dampening rises in Real GDP.
Anti-thesis: However, internal factors are vital in explaining the slowdown as well. **Falling private consumption (Extract 7) is one reason why Peru is facing a slowdown.** Private consumption may include import consumption and domestic consumption. Due to poorer job expectations, consumers may have cut down on their private consumption. This could possibly imply that domestic consumption will fall. Since Cd is a component of AD, AD on balance may rise but at a slower rate. This could hence explain the economic slowdown. *[Alternatively, students can argue that there may be a cut in import expenditure. While this may seem to improve the trade balance, the larger drop in export revenue to China will offset the cut in import expenditure. Overall, NX may still fall]*
Alternative Anti-thesis: However, internal factors are vital in explaining the slowdown as well. **Falling productivity is cited to be one internal factor why Peru is facing a slowdown.** Productivity in Peru has improved slightly (despite still lagging behind Asia). The improved productivity was attributed to a slightly more educated workforce; hence quality of labor force improves. Overall, a slight improvement in productivity would most likely imply a small increase in the productive capacity of a country, such that the maximum output that Peru can possibly produce has increased slightly. The lack of innovation, physical infrastructure development and competition could then on balance cause a fall in LRAS [or insignificant rise in LRAS], thus dampening rises in Real GDP. *[Note: Other internal factors such as **lack of innovation, lack of physical infrastructure development and lack of competition** can be used as well.* ***Innovation** is important to a country as it may determine the flexibility of firms to change or adjust during difficult times.* *Peruvian government faces a problem investing in **infrastructure development** projects as they will strain the government budget. This will have significant impacts on productivity.* ***Lack of competition** breeds complacency, firms lack incentive to be cost effective and innovative outcomes – unable to compete effectively in terms of price and quality.]*
Conclusion/synthesis Overall, all internal and external factors played significant roles in explaining the economic slowdown in Peru. It can be argued that that the more significant cause of the economic

slowdown is due to external factors. In particular, the most significant is the large decline in China's appetite will be the most significant as it directly reducing real GDP growth rates, and as a result caused internal factors to negatively affect growth, via shattered investor and consumer confidence in Peru, thus further prolonging the economic slowdown. This therefore severely hampers Peru's growth in a short time, hence proving that this external factor is the most significant. *[It is also possible to argue that weak fundamentals would be the underlying cause for the inability to adjust to the external environment. Hence, internal factors will be the most significant in explaining the slowdown]*

Mark Scheme

Level	Descriptors
L1 (1 – 3m)	One sided answer explaining external or internal factors or A superficial two-sided answer with no reference to slowdown.
L2 (4 – 6m)	Two-sided answer explaining how both external or internal factors results in Peru's slowdown, with reference to case materials. Max 5marks - No conclusion on relative significance

(d) Using circular flow of income, explain the effect of "a fiscal stimulus" on the Peruvian economy. [4]

- Definition of circular flow of income: Shows the flow of income and goods and services in an economy. Equilibrium in the circular flow occurs when the sum of Injections = Sum of Withdrawals

- Assuming the economy is initially at equilibrium, a fiscal stimulus increases G on infrastructure and decreases income, corporate and fuel T, resulting in an increase in injections and fall in withdrawals. This will cause the economy to be in disequilibrium with J>W. [1]

- The increase in demand for goods and services will signal to firms to produce more goods and services. As they produce more goods and services, they will employ more factors of production raising factor incomes of households. [1]

- The fiscal stimulus will create many rounds of increase in spending within the circular flow and a multiplied increase in income. [1]

- As income increases in each round, withdrawals in the form of S, T and M will also increase. The process ends when the increase in income is 0 and J=W at a higher level of national income, actual economic growth and employment. [1]

(e) (i) Explain why any two indicators from 2011 to 2015 might have been of concern to the Peruvian government. [2]

- **Trade balance, because it has** has **worsened from surplus to deficit,** thus having a negative impact on economic growth, ceteris paribus [1] OR **Current account deficit** has worsened, thus having a negative impact on economic growth, ceteris paribus. [1] → loss of confidence in the Peruvian economy → less FDI → worsen economic growth and BOP
- **Unemployment rate,** because it is generally high and has been rising since 2013 [1] → low SOL for the unemployed
- **Economic growth rate**, because it is increasing, but at a slower rate. [1] → affect the SOL of the people adversely
- Depreciation of **exchange rate** (against USD), thus leading to lower confidence of investors, potentially reducing actual and potential growth [1]
- **Rising inflation rate**, thus leading to loss of confidence in the Peruvian economy → less FDI → worsen economic growth and BOP

Any 2 indicators with explanation – 2 marks.

(ii) Discuss if protectionism is the best way to deal with the above problems. [8]

Question analysis

Command	Discuss: Provide different perspectives into the issues raised 'best' - Some form of comparison according to a set criterion is needed
Content	Protectionism Macroeconomic Problems & Policies AD/AS analysis
Context	The above identified problems, say: 1. High unemployment rate 2. Worsening trade balance
Approach	1. The word "discuss" entails the use of the Thesis-Antithesis-Synthesis framework to give a two-sided argument about the relative appropriateness of protectionism vs other policies such as fiscal and monetary policies. 2. Under the thesis/antithesis, students will have to decide if protectionist measures or other macro policies are more appropriate in addressing the above macroeconomic issues. This will have to be done using AD/AS analysis with contextualization to the Peruvian context. Students will have to further substantiate the thesis/antithesis with evaluation of each policy. 3. Under the synthesis, students will have to make a stand about whether protectionism is the best measure of government intervention and to justify their stand with economic & contextual analysis.

Introduction

Protectionism refers to the act of erecting barriers - import tariffs or subsidies, with the aim of shielding domestic industries from external competition. Whether or not protectionism is the best approach depends on whether the root cause of the problems is addressed. [criterion]

Example of protectionism in Extract 6 include "antidumping" or "more subtle non-tariff barriers" such as an export subsidy which is meant to protect domestic industries through artificial lowering of export prices.

Thesis 1: Protectionism can be used to improve worsening trade balance and slowdown in economic growth

According to the extract, the trade balance for Peru has worsened, due to the falling export revenue and the rising import expenditure for the country.

By introducing protectionist measures such as the imposition of tariffs on these foreign imports, the Peruvian government is then able to ensure that domestic goods stay competitive in terms of relative price and encourage greater domestic consumption and lower import expenditure. This should help to improve Peru's worsening trade balance.

The improving trade balance will also result in an increase in Peru's net exports. This would increase AD, ceteris paribus, boosting actual economic growth in Peru.

Anti-Thesis 1: Protectionism may not improve worsening trade balance and slowdown in economic growth

However, when countries are experiencing falling export revenue, imposition of a tariff may cause more detrimental outcomes. Some of these outcomes can be allowing ineffective domestic firms to exist, resulting in the misallocation of world resources.

In addition protectionism may also create escalating trade wars. This is because protectionism usually results in trading partners becoming worse off. Trading partners might face increasing unemployment as **workers** will lose their jobs due to them being subjected to protectionism measures imposed by others. Hence, this invites retaliation. Retaliation might result in the benefits of protectionism being cancelled off in the longer term.

Mini Synthesis:

Overall, protectionism measures to resolve a worsening trade balance is not the best way to do so. It is important to find out the cause of the deficit first before deciding to impose protectionism especially in the light of escalating trade wars. This is especially so because protectionism will not be able to solve the root cause of the problem.

Thesis 2: Protectionism may help to lower structural unemployment

Protectionism can help prevent high levels of structural unemployment in sunset industries.

Sunset industries may not possess the comparative advantage necessary to stay competitive in the global market. As such, they should be shut down so that the economy is able to specialise in sectors that they do have comparative advantage in. If the workers in these industries are unable to switch into another industry quickly, it could result in structural unemployment. Export subsidies for these sunset industries can thus help to lower the price of these exports, to continue to remain competitive in the global market, hence protecting the employment of the related workers till they are able to acquire the necessary skills to move to expanding industries.

Anti-Thesis 2: Protectionism may not help to lower unemployment
However, if protectionism measures are put in place for too long, it may result in overreliance and complacency where the workers in these sunset industries end up not being bothered to re-train themselves to be able to stay competitive or find work in other sectors. Also, the longer the duration, there will be a higher risk of creating trade wars. On the other hand, if it is applied and removed too fast, there may not be sufficient time for the affected workers to receive adequate training to be re-deployed.

Anti-Thesis 3: Protectionism may not be the best policy since it does not address the root cause of the problems
Furthermore, one of the root causes of the BOT problem is likely to be the external slowdown of China's demand for Peruvian's copper, leading to declining trade balance and worsening employment. Protecting Peruvian's export industries does not solve this problem at all.

Mini Synthesis:
Protecting sunset industries are important and can be justified, though it hardly addresses the root cause of the BOT deficit. However, the duration of the protectionist measure needs to be carefully considered to be used only as a short-term measure.

Anti-Thesis 4: Other measures should be employed to address the issue of worsening trade balance, slowdown in economic growth (and unemployment)
Instead of relying on protectionism measures, government should consider the use of other macro policies such as supply side policies to solve the issue of worsening trade balance and unemployment.

Supply side policies could lead to an improvement in the quality of goods and services or to enhance efficiency in production. For example, the government could finance Research & Development or provide grants for economic innovation to boost productivity as mentioned in Extract 7. This would help to make Peru's exports of higher quality and could either result in a larger volume of exports or allow the Peruvian firms to charge a higher price for their export. Either way, this leads to a rise in export revenue. Furthermore, through R&D and innovation, Peruvian firms could become less reliant on imports whether in the form of factor inputs or as final goods and services, which leads to a fall in import expenditure. The combined effect of rising export revenue and falling import expenditure would no doubt help to improve the worsening trade balance, boosting actual economic growth in Peru (and reducing unemployment). The higher quality of exports can also divest Peruvian exports away from China, as more countries would want to buy from Peru, thus reducing the vulnerability of Peruvian economy to China's slowdown.

Also, supply side policies could work in improving the productive capacity of an economy, thus tackling another root cause of the rising unemployment (structural issues). For example, the government could fund training for its workers to increase their productivity and thus lowering unit wage costs. As productivity increases and more can be produced using the same amount of resources, which could potentially translate to lower cost of production and cheaper exports. More importantly, the training provided could be targeted at ensuring that workers from sunset industries are properly trained and equipped with the skills and know-how necessary to survive beyond the dwindling sunset industry jobs and be deployed the sectors which the country currently has a comparative advantage in.

However, it may take time for the benefits of the policy to be felt on the economy. Moreover, it may also require extensive funding that may put a strain on government resources given the slowdown in economic growth.

Conclusion
Protectionism benefits domestic firms more than consumers in the short run. However. In the long run, protectionism tends to create escalating wars if it is used extensively, resulting in the entire world being worse off. Therefore, protectionism is not the best approach, should only be used in the short run and never in the long run, since it does not address the root cause of falling export revenue due to China's slowdown and possible structural issues. For long run benefits to address the root causes, supply side policies should be employed instead.

Mark Scheme

Knowledge, Application, Understanding and Analysis		
L2	Content is well developed, with sound economic theory being explained and well explained diagrams and AD/AS analysis being used to compare whether protectionism is the best policy Consistent and effective use of examples, continually linked to question. Coherent two-sided argument made.	**4 – 6**
L1	Answer fails to deal with question requirement by merely giving superficial descriptions of advantages/disadvantages of protectionism, without any form of comparison. Content shows major errors in conceptual understanding. Limited e.g. provided. Argument is incoherent, or missing.	**1 – 3**
Allow up to 2 additional marks for Evaluation		
E	Judgment is based on economic analysis and adequately substantiated and well contextualized to Peruvian context	**1 – 2**

Section B - Essays

Question 3
Price mechanism deals with the Central Problem of Economics.
(a) Explain the concepts of scarcity and shortage [10]
(b) Discuss how government intervention can alleviate the problem of allocating scarce resources in an economy. [15]

(a) Explain the concepts of scarcity and shortages [10]

Learning Points:
1. *Understanding how the price mechanism addresses the central economic problems*
2. *Know and understand the concepts of scarcity and shortages*

Question analysis

Command	Explain: how scarcity and shortages arise.
Content	Central Economic Problem of economics, demand and supply Scarcity = unlimited wants but limited resources – give rise to economic problems of what to produce, how to produce and for whom to produce. Shortage = demand more than supply
Context	No particular context but students can give own hypothetical examples to illustrate the 2 concepts
Approach	The question required students to be able to explain what are the central problem of economics and the role of the price mechanism in addressing the problems. Students are also expected to be able to explain the concepts of scarcity and shortages using PPC and demand and supply analysis. Diagrams to illustrate the concepts are also required.

Introduction
Scarcity = unlimited wants but limited resources – give rise to economic problems of what to produce, how to produce and for whom to produce.

Shortage = Qty demand more than Qty supply

The price mechanism is a system that helps address the scarcity, the central problem of economics. It is where demand and supply interacts with each other to determine the equilibrium price and quantity of goods and services sold in markets. In a free market, economic agents such as producers and consumers are assumed to act rationally and governed by their self-interest. Producers would aim to maximise profits while consumers would aim to maximise satisfaction. The price mechanism uses price to act as a signal to producers and consumers on how to allocate their scarce resources in order to maximise their own satisfaction.

Overview This essay will explain how the price mechanism deals with the central problems of what to produce, how to produce and for whom to produce before going on to explain the concepts of scarcity and shortage.

Paragraph 1

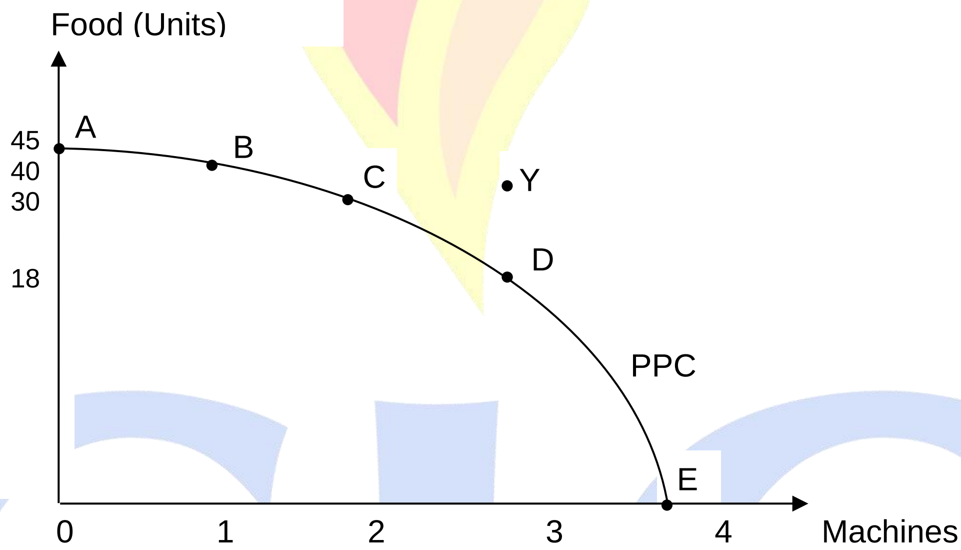
In the price mechanism, consumers decide **<u>what is to be produced</u>** (consumer sovereignty) by exercising their 'dollar votes'. Producers then respond to the desire of the consumers by producing those goods and services that the consumers demand to maximise their profits. As such, producers then address how much to produce by looking at the prices consumers are willing and able to pay. To decide **how to produce** in order to maximise profits, firms will use the least cost method of production to produce the goods for the consumers. In deciding **for whom to produce** the price mechanism plays a rationing role in the sense that only consumers who are willing and able to pay for the good/service get to consume it eventually. As such, only consumers with the highest dollar vote get to enjoy these goods/services.

Paragraph 2

Explain the concept of scarcity

Scarcity arises because ***limited resources*** are insufficient to satisfy ***unlimited human wants.*** Scarcity is a problem faced by all societies. Scarcity can be illustrated by using the PPC. The PPC curve shows all maximum possible combinations of two outputs that an economy can produce within a specified period of time with all its resources fully and efficiently employed, assuming a particular state of technology.

Illustration: Assuming Country X produces only Consumer goods (e.g., Food) and Capital goods (e.g., Machines). To produce more of machines some food will have to be given up. The economy cannot produce more of both.



The economy would like to produce at a point outside the curve (e.g. point Y) where it is able to enjoy a larger combination of goods. But point Y lies outside the PPC and production cannot take place outside the PPC given the current amount of resources and state of technology. Therefore, points that lie outside the PPC illustrate **the problem of scarcity** as they represent points that the country would want to produce at but is unable to do so due to limited resources. Therefore choices have to be made on the allocation of resources. The price mechanism is one way in which resources are allocated.

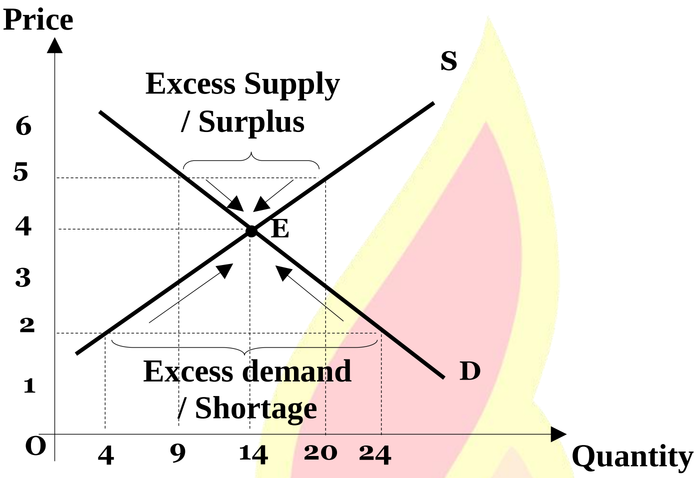
Paragraph 3

Explain the concept of shortages

Shortages occur when quantity demanded is more than quantity supplied at any price below the equilibrium price level.

Shortages can be illustrated using demand and supply analysis. The demand shows the willingness and ability of consumers to purchase a particular good/service at various prices. The supply shows the willingness and ability of producers to produce a particular good/service at various prices. Where quantity demanded equals quantity supplied, the market is in a state of equilibrium. Equilibrium is a state of rest where there is no tendency for any change. This is commonly known as market equilibrium.

However, shortages occur when quantity demanded is more than quantity supplied at any price below the equilibrium price level.



If the initial price is below the equilibrium price, there is an **excess demand or shortage** since the quantity demanded exceeds the quantity supplied. Consumers who could not get all they want would be willing to pay more. This exerts an **upward pressure** on the price. As price rises, producers will increase their quantity supplied and consumers will reduce their quantity demanded until shortage is eliminated and equilibrium price and quantity are established.

Conclusion

Thus, the price mechanism uses price as a signalling and rationing role in the market economy that will automatically adjust to reach equilibrium. At this point, shortage is eliminated and resources are allocated to efficiently to satisfy the consumer wants (i.e., allocative efficiency is achieved), thus addressing the scarcity.

Mark Scheme

L3	Good understanding of the price mechanism and well developed and balanced explanation of scarcity and shortages with the use of economic models and examples.	7-10m
L2	There is some understanding of the price mechanism. Unbalanced but some development in explanation of scarcity and shortages with the use of economic models and examples; OR One-sided explanation of either scarcity or shortages.	5-6m
L1	There is a lack of coherence in the explanation. There is some understanding of the price mechanism but explanations of scarcity and shortages are rather superficial or merely description without using economic models.	1-4m

b) Discuss how government intervention can alleviate the problem of allocating scarce resources in an economy. [15]

Question analysis

Command	Discuss: multiple perspectives that leads to a stand
Content	Market failure and government intervention: any situation in which the markets may fail (e.g., in the case of merit good and public good) and hence it is allocative inefficient; and how government can intervene to alleviate these inefficiencies. *[There are many ways to answer this question. Students may choose any two sources of market failure, and may choose to discuss any type of policies that a government may adopt to intervene (e.g., subsidies, taxes, direct provision, moral suasion, regulation etc).*
Context	No particular context but students can give own examples pertaining to Singapore.
Approach	TAS approach. Students are to analyse that government intervention in addressing the 2 market failures will alleviate the problem of allocating scarce resources and counter argue how government intervention may not result in allocative efficiency. A conclusion and judgement on the view in the question is required.

Introduction

Market failure occurs when the price mechanism is unable to allocate resources efficiently on its own; as such government intervention is necessary to improve the allocation of resources. In situation such as public good, merit and demerit goods or when the production or consumption of goods and services causes positive or negative externalities, the price mechanism will allocate resources inefficiently on its own, resulting in market failure.

Overview In this essay we will look at two situations in which the markets may fail and they are the market for merit goods and market for public goods. We will be discussing whether government intervention will result in more allocative efficiency.

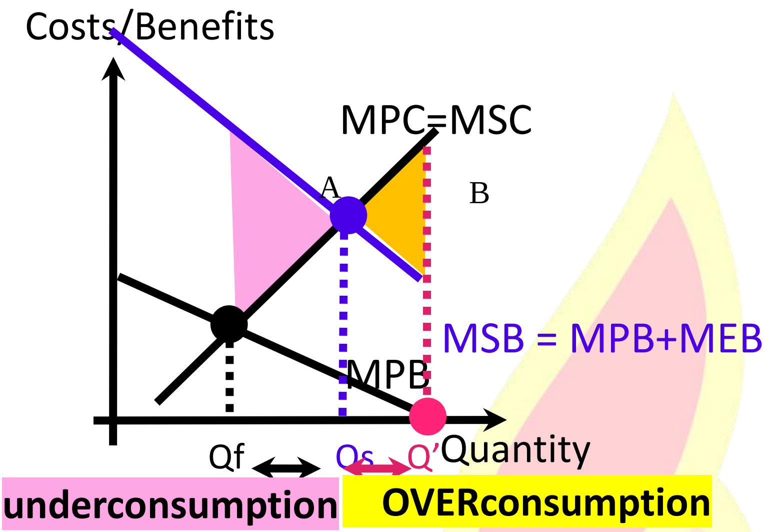
Thesis 1: Government intervention in market failure will result in more efficient outcomes in the provision of merit goods

One market failure would be **education** where it is deemed as a **merit good** by our society, which are goods that are deemed by the government to be desirable but underconsumed. These goods are underconsumed due to its **positive externality** and **imperfect information** held by consumers of their private benefits.

The positive externalities would be the external benefits in terms of a more educated and productive workforce driving our economic growth as well as a more civilised and refined society. When consumption of education has positive externality, this will cause its marginal social benefits (MSB) to be higher than the marginal private benefit (MPB). Since there are no negative externalities, marginal private (MPC) = marginal social cost (MSC). Individuals will consume education up to MPC/MSC = MPB. However, the society will prefer consumption to be at MSB = MSC/MPC where it is allocative efficient. Since MSB is higher than MPB, from the society's point of view, there is under consumption of education which results in deadweight loss.

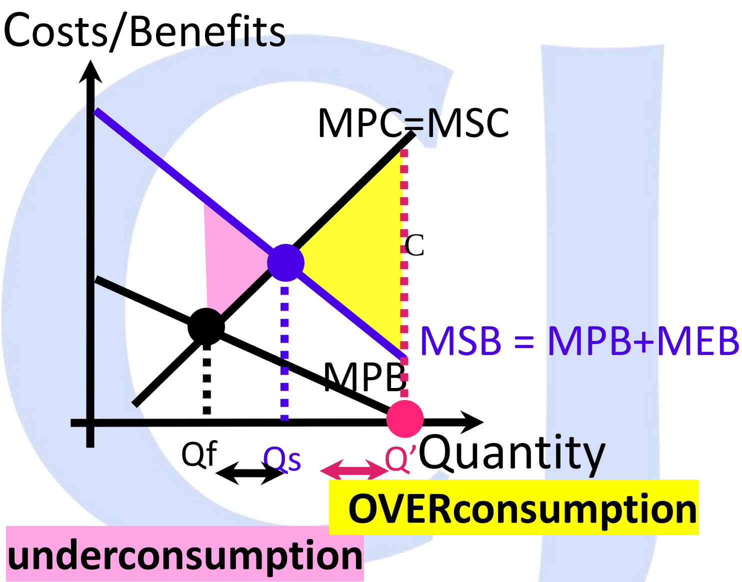
There is also imperfect information of the consumer's marginal private benefit, in an individual may only value the MPB to be the future earnings, but is unaware of the benefit education yields to his civic and cultural awareness as a holistic being. Thus, consumers tend to underestimate the MPB, such that the perceived MPB is lower than the actual MPB, thus underconsuming education, leading to deadweight loss. This further aggravates the underallocation of resources (& DWL) that arises due to positive externality.

Government intervention in the form of **free provision** can help to achieve **allocative efficiency**. For example in Singapore, a large part of our education is provided by the government directly. Primary school education is free while the rest are heavily subsidized. Consumers receiving the free provision will maximise net private benefits, and consume up to MPB=0. This leads to **greater consumption of education, such that Q' > Qf**. Consuming more **primary education**, which has **an extensive MEB**, towards the socially optimal consumption will allow us to **reduce the dead weight loss of triangle A**, and results in **a lesser DWL of triangle B**



Anti-thesis 1: Government intervention in market failure may not result in more efficient outcomes.

However, it should be noted that the free provision will only reduce DWL and improve allocation if the MEB of education is indeed very high. **<u>If the MEB of education is not high enough, free provision actually results in overconsumption</u>**, such that Q' is significantly larger than Qs, thus causing the DWL after free provision to be larger than DWL before government intervention (triangle C), as in Figure 2. This might be true for types of education like a postgraduate degree, where the education incurs less MEB, than primary education, which has extensive MEB. Government intervention thus only improves the problem of allocating scarce resources if the MEB is extensive.



Furthermore, it **<u>free provision does not directly tackle imperfect information</u>**, the other source of market failre. Hence, Qfree provision could be still some distance away from Qs. The Singapore government thus complements free provision with regulation, where the Compulsory Education Act mandates that all children go through primary school education.

Another limitation is that the provision of free and subsidized education would **require large funds** which may **implies higher income tax** on our workforce. Such taxes may **discourage working and investment**, leading to lower aggregate demand that reduces national output level, causing economic slowdown and higher unemployment. Hence even if government intervention alleviates the problem of resource misallocation, **it can cause another set of problem of higher unemployment.**

*[Alternative points: This may also **drain resources** away from other areas of development in the country. Hence it may not lead to more efficient outcomes as a whole for the country. **Over subsidise leads to wastage** of money. Another limitation is that because education is largely provided by the government, the variety and diversity of our education is limited and so while it encourages consumption, consumer choice may be limited.*

*Further, the direct provision by the government can also **create 'crowding out' effects**. This is because the government is now competing with private firms for funds in the provision of goods and services. As such, capital is diverted away from the private sector, reducing the capacity for the private sector to engage in research and development to innovate towards efficiency. Hence, this worsens the misallocation of capital among the public and private sectors in the economy.]*

Mini Synthesis

Given the importance of an educated labour force to Singapore's economy, the extensive government intervention in terms of large amount of money spent on education and regulation are justified because of the huge external benefits to our economy. However, the long terms outcomes of education are always uncertain and this is a risk that our government have to take in the provision of education for all our young. Such extensive intervention should also be reduced with the years of education, since the extent of MEB would fall as one progresses from primary to secondary to tertiary (benefits tend to be more private benefits than external benefits for higher levels of education).

Thesis 2: Government intervention in market failure will result in more efficient outcomes in the provision of public goods

In the case of public goods where they are non-rival and non-excludable such as the case of national defence in Singapore, government intervention is needed. National defence is non-rival because the consumption of it does not lower the quality and quantity of defence to other people in Singapore. A newborn or a foreign tourist entering the country does not make an existing citizen feel less protected by our national defence. Hence, the MPC of providing for an additional person is zero, thus for allocative efficiency, P=0, which no private firm is willing to do. It is also non-excludable because non-payers are being protected as well – there is no feasible way to charge non-taxpayers like foreigners from being protected by the national defence when visiting the country. This creates the problem of free ridership and hence producers are not able to get price signal from consumers to pay for the service. As a result, no private producer is willing to provide national defence.

The Singapore government provides national defence to the entire country due to the nature of it being a public good as well as for national security reason. Singapore's National Defence is provided through two ways. First, we have regulars who work in Ministry of National Defence (MINDEF) as their occupations. Secondly, we have conscription of males Singaporeans and Permanent Residents who are required by law to serve National Service for two years. As such, our National Defence is provided by the government through both regulars and our citizens and PRs. This allows our small nation with a small population to provides a large army that is adequate to provide national defence. Without government intervention in this case, free market will fail completely. Government intervention is thus necessary to allocate scarce resources in the case of a public good.

Anti-thesis 2: Government intervention in market failure may not result in more efficient outcomes.

While Singapore is able to provide adequate national defence, it does incur high opportunity cost. One of the limitations of our government policy with regards to National Defence is that young males adults who have to serve National Service will only be able to contribute economically two years later, hence the potential economic output of our NSmen is lost. Secondly, the government would have to spend huge amount of the budget to provide for the large army that we have. In the real world, the government do not really have the information on what is the optimal amount of national defence it should provide. Over provision of national defence would result in inefficient use of resources.

Mini Synthesis

The Singapore government has sufficient funds to provide for National Defence and while MINDEF is given the largest proportion of budget each year, the government does cater funds to other areas of development in Singapore. National defence do have positive effects on our country as well given that it helps to provide a stable environment for our economy to thrive. Hence, in this case I feel that the government intervention results in more efficient outcome.

Overall Synthesis

I feel that the market oriented government policies seems to be better way to allocate resources rather than blunt regulatory government policies as price acts as a good signal to the producers and consumers.

For example, in cases of overproduction of cigarettes, to eliminate the overproduction(e.g.), price can be increased to reduce the greater quantity demanded by the consumers to achieve allocative efficiency. This can be done by the imposition of tax. In cases of underproduction of merit goods such as healthcare and education which should be made affordable to consumers, with subsidies, or even direct provision (complete subsidy) by the government may be considered a better choice to induce the desired behavior of the consumers.

Overall, whether government intervention leads to more efficient outcomes than the market really depends on the type of polices chosen by the government based on its financial ability. In the case of Singapore, due to the adequate amount of financial resources that the government is able to carry out policies effectively to deal with the various market failures without compromising other areas of development in the country. For governments with limited resources, they may not be able to come out with effective policies to deal with market failure due to the high opportunity costs incurred

Mark Scheme

Knowledge, Comprehension, Application and Analysis		
L3	A balanced and well explained answer on how government intervention may or may not lead to allocative efficiency. Well analysed answer in terms of analyzing the limitations of government intervention. Well explained examples of market failure which are real life examples.	9-11
L2	Explanation is not in depth on how government intervention may or may not lead to efficient allocation of resources. Limitations of government intervention are briefly stated. Some examples of market failure but attempts to use real life examples are rather superficial.	6-8
L1	Mere listing or description of various government interventions without	1-5

	linking to how the problem of allocating scarce resources is alleviated. Explanation of market failures is generic without using any specific examples of market failures or government intervention.	
E2	A well-reasoned conclusion that is supported by economic analysis and is formed to address the question. *Weigh the thesis and anti-thesis to carve out the criteria which tips the argument to either one.*	3-4
E1	An unjustified conclusion that is not supported by economic analysis.	1-2

Question 4
Inflation rate in Singapore jumped in the final quarter of 2016. It has been attributed to rising transport and education costs, as well as the government's GST voucher – a special cash payment to eligible Singaporeans. The inflation rate is also set to climb amidst mounting external inflationary pressures from global commodity markets.

(a) Explain how the above-mentioned factors led to an increase in inflation in Singapore. [10]

(b) Discuss the extent to which exchange rate policy is appropriate in mitigating the above problem. [15]

(a) Explain how the above-mentioned factors led to an increase in inflation in Singapore. [10]

Question analysis

Command	Explain
Content:	Macro Problems (Inflation) : Causes
Context:	Singapore Economy
Approach	This question is straightforward. Students should utilise the prompts from the preamble to explain possible causes of inflation in the Singapore context.

Outline of answer:	
Introduction	Define inflation
Paragraph 1	Explain cost-push inflation in Singapore
Paragraph 2	Explain demand-pull inflation in Singapore
Paragraph 3	Explain imported inflation in Singapore
Conclusion	Summarise

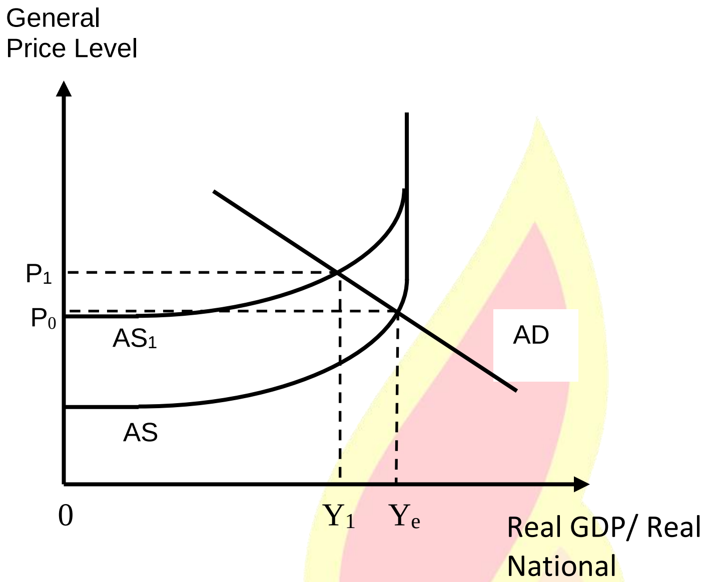
Introduction

Inflation is the sustained increase in the general price level in the economy and can be caused by demand-pull factors, especially when the economy is nearing full employment and/or cost-push factors from higher unit costs.

Given Singapore's small and open economy, the above-mentioned factors have led to both an increase in cost-push and demand-pull inflation.

Body: Paragraph 1
An increase in rising transport and education costs in Singapore will lead to an increase in unit cost of business and training labour respectively and therefore, cost push inflation.

Cost push inflation is caused by continuous increase in cost of production and hence a persistent fall in aggregate supply (SRAS shifts upwards). As labour and transport are necessary inputs for firms and companies, this will drive up costs of production. Firms will respond partly by raising prices or by passing the costs to the consumers, and partly by cutting back on production. This results in an upwards shift of the AS from AS0 to AS1 and an increase in GPL from P0 to P1 (with reference to diagram), i.e. Cost-Push Inflation.
NB to students: While the question is about inflation, and the para only referenced to GPL P_o to P_1, do complete the diagram and dot out the RNY as well.

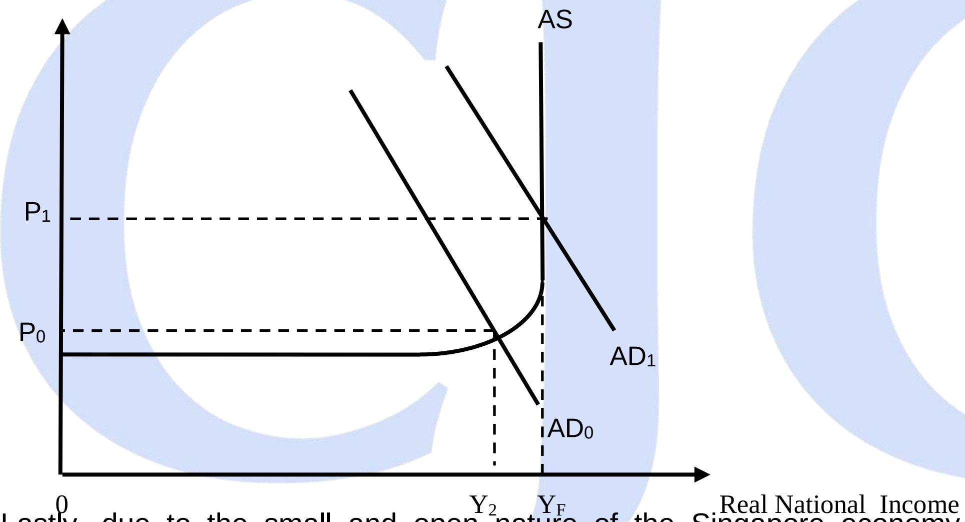


Other than cost push inflation, there are also 2 other types of inflation that could have resulted in the rise of the general price level in Singapore.

Body: Paragraph 2

The government GST vouchers is an example of a transfer payment to households. As households spends these vouchers, which directly increases their level of consumption, leading to demand-pull inflation.

Demand pull inflation is caused by persistent rise in aggregate demand. Since Aggregate Demand consists of Consumption, Investment, Government Expenditure and Net Export revenue, a rise in any of these components will cause a rise in the AD which eventually leads to a rise in the GPL. In this case, it is predominantly due to a rise in Consumption. This results in a rightward shift of the AD from AD0 to AD1 and an increase in GPL from P0 to P1 (with reference to a diagram), i.e. Demand-Pull Inflation.



Lastly, due to the small and open nature of the Singapore economy, there is one last predominant type of inflation likely experienced by the nation.

Body: Paragraph 3

In light of the mounting inflationary pressures from global commodity markets, Singapore is likely experiencing a significant level of imported inflation.

Inflationary pressures from commodity markets, such as copper, rice, wheat, oil etc, leads to rising price of raw materials, food and energy around the world. Commodities are essential factors of production in the production of many goods and services, e.g., copper is an essential factor input for electrical wiring. As Singapore is a price-taker in the global economy, this leads to rising business costs and rise in price of imports. Singapore being a small and open economy, imports a large proportion of its final goods and services, such as food for domestic consumption, as well as raw materials for production. Therefore, a rise in global commodity prices will likely lead to significant levels of imported cost-push inflation. Similarly, this results in an upwards shift of the AS from AS0 to AS1 and an increase in GPL from P0 to P1
Conclusion Therefore, there are three main types of inflation that is likely experienced by Singapore according to the events mentioned in the preamble.

Mark Scheme

L3	Good understanding of the question is seen. For a well-explained answer of the main causes of inflation in Singapore context. Clear and direct references to the events mentioned in the preamble. *[For an answer that address 2 sources from the preamble only – max 7m]*	7 - 10
L2	For an answer that shows understanding of the causes of inflation with **<u>some</u>** application to the events mentioned in the preamble.	5 - 6
L1	For a brief answer that shows some knowledge of the causes of inflation with no application to the events mentioned in the preamble.	1-4

(b) Discuss the extent to which exchange rate policy is appropriate in mitigating the above problem. [15]

Question Analysis

Command	***Discuss the extent***: To consider the ***relative*** appropriateness of exchange rate policy in tackling the various types of inflation. ‘***appropriate’***: the stand has to be concerning whether fiscal policy is appropriate according to a ***set criteria***.
Content:	Macroeconomic problems – inflation caused by the sources in the preamble Macroeconomic policies – exchange rate policy and at least one other policy AD/AS
Context:	Singapore economy experiencing various types inflation
Approach	Set criteria of what constitute “appropriate” An in-depth discussion on the strengths and weakness of exchange rate policy in managing inflation in Singapore Consideration of whether other policies can be more appropriate to tackle the issue of

	inflation in Singapore Finally, a justified synthesis of the points discussed should be done.

Intro	Provide clarity of context, explain briefly impact and the Singapore situation
T1	<u>Claim based on **effectiveness**</u> **Exchange rate policy is appropriate because it is effective in solving imported cost-push inflation** *Provide e.g to show Singapore use of ERP*
AT1	<u>Claim based on **effectiveness/characteristic of SG economy**</u> **Exchange rate policy is not appropriate if cost push factors are domestic in nature.** *Provide data or e.g. to show Singapore's context.*
AT1	<u>Claim based on **effectiveness/characteristic of SG economy**</u> **Exchange rate policy is not appropriate in dealing with demand pull inflation since it is domestic in nature.** *Provide data or e.g. to show Singapore's context.*
AT2	**Other policies may be more appropriate instead of exchange rate policy:** <u>Claim based on **effectiveness/characteristic of SG economy**</u> *Provide alternative policies to provide a depth of analysis.* *Specifically consider either FP or SSP + Use of e.g. to strengthen points*
Conclusion	Provide a **reasoned stand on the appropriateness,** using the extent of **effectiveness and other criteria as contextualized to the SG economy** stated above.

Introduction:

Singapore is a small open economy that depends heavily on external trade as her engine of growth and a resource-limited economy that needs to import the vast majority of her goods for final consumption as well as for inputs of production. High inflation, especially from imported inflation, will raise the cost of living as well as cost of production for Singapore, shifting AS upwards, resulting in higher inflation rates. There will be a negative impact across all four macroeconomic aims of growth, employment, inflation and balance of payments.

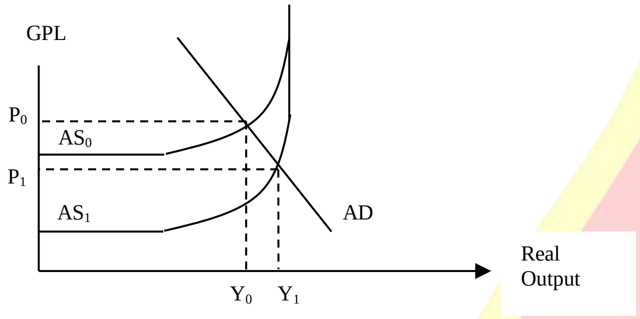
It is thus of utmost importance that interventionist policies be employed to tackle the threat of inflation. One such interventionist measure would be to employ the use of an exchange rate policy. While exchange rate policy could bring about success in mitigating certain types of inflation, it may fall short and there may be a need to utilise other macro policies.

The most appropriate policy would be one that is effective in solving the ***root cause*** *of the inflation in Singapore* and also be a sustainable interventionist measure for the Singapore government.

Body: Thesis 1 – appropriateness of ERP in addressing inflation.

Exchange rate policies can be used to tackle the problem of imported inflation.

A mild appreciation of the Singapore dollar will help to mitigate against higher imported inflation. This is important as Singapore has a high marginal propensity to import and a mild appreciation would thus place emphasis on the addressing of imported inflation first. To deal with the inflationary pressures from global commodity markets, a stronger Sing dollar will reduce the cost of imported raw materials that is expressed in terms of local currency, thus possibly offsetting the rise in price of these raw materials in foreign currency due the inflationary pressures they are experiencing. This lowers the cost of production significantly and shifts AS down, causing GPL to fall back down, thus tackling the problem of imported cost-push inflation.



Currently, the Monetary Authority of Singapore (MAS) employs a Band, Basket, Crawl (BBC) approach which involves the gradual appreciation of the Singapore dollar against other foreign currencies which has worked well for the nation in combating imported inflation.

Furthermore, the required appreciation of the Singapore dollar will mean that export competitiveness is compromised. This is because our exports, being expressed in Sing dollars, will now require more foreign currency to be exchanged for them given our stronger dollar. Hence, price of exports in foreign currency rises, price of imports in local currency falls, leading to a fall in export volume and rise in import volume. If the Marshall-Lerner condition holds, this will decrease our net export revenue and aggregate demand, ceteris paribus. While this further helps to manage inflation through a lowering of the AD and hence GPL, it also in turn, leads to lower national output.

Thus, this MAS' exchange rate stance of an appreciation will not be an appropriate policy in dealing with inflation as it could potentially lead to a lower economic growth.

Body: Antithesis 1- ERP is inappropriate in addressing other types of inflation

Furthermore, the use of exchange rate policy may have limited impact on domestic cost push inflation as well as demand pull inflation.

In the preamble, it is mentioned that Singapore is experiencing rising wage and transport costs. While exchange rate policy could be effective in tackling increase in costs due to rising global input prices, it is unable to affect rising costs due to domestic factors.

For example, if the rise in transport costs is due to domestic factors such as rising tax rates in the transport sector or if the rise in labour costs is due to the successful negotiation of higher wages by labour unions, then the gradual appreciation of Singapore's exchange rate will have no effect in mitigating the inflation caused by the above factors.

Similarly, the preamble mentions the distribution of GST vouchers by the government. These vouchers serve to increase consumption by its recipients and leads to demand pull inflation due to a rise in consumption. The gradual appreciation of the Singapore dollar tackles AD only through its contractionary effect on net exports (thus mitigating demand pull inflation through a lowered AD), and does little to affect the level of consumption within the domestic economy.

Body: Antithesis 2 – Due to shortcomings of ERP, need for other appropriate policies to complement

Thus, to more directly resolve demand pull inflation caused by domestic factors of GST vouchers, contractionary fiscal policy could be more appropriate.

This can be done by increasing government taxation such as income tax which would lower the level of aggregate demand. Higher income tax lowers disposable income of consumers, hence reducing their consumption. Ceteris paribus, this leads to a leftward shift of the AD and lower the increased general price level caused by the initial rightward shift of the AD due to the increased consumption from GST vouchers.

However, a prolonged decrease in the AD due to the contractionary fiscal policy has the effect of slowing economic growth. While the issue of inflation is rectified, national income decreases as a result of the fiscal policy and the economy is negatively impacted as well. The slowdown could also cause an increase in cyclical unemployment has firms scale back on production amidst the slowdown in economic growth.

Therefore, supply side policies may also be implemented to counter such effects and yet manage inflation, and particularly offset the cost-push inflation caused by domestic factors such as rises in transport and education costs.

Supply side policies work by improving the productive capacity of Singapore.

This can be done by providing training to workers to increase their productivity and thus lowering unit wage costs. As productivity increases and more can be produced using the same amount of resources, AS shifts to the right, signifying an increase in the economy's potential to produce (LRAS shifts to the right). This would counter any cost-push inflationary pressures with a fall in GPL, and at the same time generate growth should the economy be operating in the intermediate or classical range. Recent examples of such policies in Singapore include Skills Future as well as other initiatives like the Skills Programme for Upgrading and Resilience (SPUR), which aims at retraining our labour to increase productivity in our emerging industries, thus raising productivity of the workforce and lowering labour wage costs, offsetting the unit cost increases from transport and education.

However, given Singapore's small and open nature, the bulk of its cost-push inflation is due to external factors and the effect of domestic supply side policies might have little impact on global input prices. Moreover, supply side policies will take a long time to take effect.

Overall Synthesis

While exchange rate policy is effective in dealing with imported inflation, its extent of appropriateness depends on the extent of influence of domestic causes on inflation (relative to external causes).
Given the small and open nature of the Singapore economy, it is safe to conclude that imported inflation is a significant cause of inflation and thus, an exchange rate policy is well positioned to tackle this macroeconomic problem. In terms of the domestic factors, the GST voucher is likely a one-off special cash payment by the government and is unlikely to have a prolonged effect on the consumption levels in the long run. As such, demand pull inflation due to the GST vouchers may not be a persistent effect and does not warrant an interventionist policy. However, the rising labour and transport costs could be a cause of concern and a suitable supply side policy targeted at these sectors will be effective, albeit in the long run.

Ultimately, the Singapore government should complement its exchange rate policy with a supply side policy to address the issue of inflation in both the short and the long run.

Mark Scheme

Level	Descriptor	Marks

L1	Failure to address question requirements of discussing the extent to which ERP is appropriate in the given context – i.e., with comparison to other policies Content is poorly expressed, with serious errors and major mistakes made Context is ignored, essay is largely theoretical in nature Limited or no discussion concerning the issue of 'relative appropriateness'	1-5m
L2	Some attempt address question requirements of discussing the extent to which ERP is appropriate in the given context – i.e., some attempt to compare with other policies. Provision of basic arguments Content is explained satisfactorily, with few errors made Context is referred to occasionally, but e.g use is seriously lacking. Argument is somewhat present but can be incoherent at times.	6-8m
L3	Fully address question requirements of discussing the extent to which ERP is appropriate in the given context – i.e., good attempt to compare with other policies. Provision of well thought out arguments Content is explained well, with limited errors. Development of content shows mastery of how ERP and other policies are used in Singapore to fight the problems faced. Context is well explained with excellent e.g. use. Coherent argument that provides a clear discussion of the issue through the use of TAS, alternate policies and all well linked.	9-11m

E1	Unjustified evaluation or stand	1-2m
E2	Well justified evaluation through the use of economic analysis	3-4m

Section A

Answer **all** questions.

Question 1 **China's Economic Performance, Prospects and Influence**

Extract 1: The end of China's economic miracle

Over the last three decades China experienced a remarkable transformation, going from being a poor and largely agricultural economy to becoming the world's industrial powerhouse. Drawing on its rich natural resources and cheap labour, China's relentless economic growth was largely driven by investment and exports of low-cost manufacturing goods.

This proved highly successful but came at a cost. China's horrific pollution problem has its origins in its factory-fuelled expansion. There has been widespread public anger after choking smog grounded flights, forced factory closures and worsened health outcomes. The weaknesses of this growth strategy also became more evident when the global financial crisis erupted and international trade suffered a sudden collapse. As the global leader in international trade, China is critically dependent on the state of the world economy and foreign demand for its products.

In view of such challenges, the Chinese government is now pursuing consumption-led growth by boosting consumer demand as the main engine of growth. Concurrently, the government is reducing its spending on infrastructure that is low-grade and shifting production away from low-cost manufacturing exports which is polluting. Under the new economic model, China's economy will be more sustainable and the country can finally begin restoring its environment after decades of pollution.

Sources: *Euromonitor International*, 16 March 2014 and *The Guardian*, 25 January 2015

Table 1: Economic statistics for China, 2005 – 2015

	2005	2011	2012	2013	2014	2015
GDP growth, % per year	11.4	9.5	7.9	7.8	7.3	6.9
Consumer price inflation, % per year	1.8	5.4	2.6	2.6	2.0	1.4
Unemployment, % of labour force	4.1	4.3	4.4	4.5	4.6	4.6
Balance of trade, US$ billion	124.6	182.0	231.8	235.4	221.3	357.9
Export revenue, % of GDP	34.5	26.5	25.4	24.5	24.1	22.0

Source: The World Bank Group, accessed 21 July 2017

Extract 2: China depreciation sparks currency war fears

The People's Bank of China (PBOC) allowed the renminbi to depreciate by nearly 2% against the US. dollar on Tuesday, a surprise policy change that shocked international currency markets. The sudden depreciation is the largest in two decades, sparking fears of a global currency war.

The move is not seen as a one-off measure and the renminbi is likely to slide further, analysts said. A slow global recovery and ongoing structural reforms have contributed to poor growth. China took Tuesday's step after disappointing economic data indicated that further stimulus was needed to revive the world's second-largest economy.

China's depreciation heightened expectations that other Asian countries may also let their currencies weaken to support their economies, as they compete with Chinese exports on the international stage. The Malaysian ringgit hit a 17-year low. Indonesia's rupiah also fell to a level not seen since July 1998. The Singapore dollar, the Taiwan dollar and the Philippine peso all touched five-year lows.

Source: *Reuters*, 12 August 2015

Extract 3: The economic ramifications of renminbi depreciation

The decision by the PBOC to depreciate the renminbi by 2% will have economic ramifications throughout the world. China risks worsening global financial instability in pursuing its macroeconomic objectives.

The economic effect on the UK could be significant. China is the UK's second largest import partner and its fifth largest export market, representing 8.7% and 4.8% of the UK's total in each category respectively. If Chinese renminbi depreciation entrenches itself and continues, as also seems likely, then the UK's already-large current account deficit could become a significant problem.

Source: *Huffington Post*, 11 August 2015

Table 2: Current Account Balances, Current US$ billions, 2011 – 2015

	2011	2012	2013	2014	2015
UK	-46.3	-97.1	-119.9	-139.7	-122.6
China	136.0	215.4	148.2	236.0	304.2

Source: The World Bank Group, accessed 21 July 2017

Extract 4: Globalisation and UK manufacturing – Opportunities and threats

Globalisation, while opening up business opportunities, has a cost. Professor Scase of University of Kent says that the global manufacturing shift to China may have reduced the prices of goods in the shops, but "we have paid a huge price." Allowing China and other Asian countries to capture so much manufacturing badly damaged the UK manufacturing sector. This hurt many communities as factories closed and workers lost their jobs. However, in recent years, some manufacturing is returning to the UK because UK pay rates have fallen, while wages have increased significantly in China.

The positive aspects of globalisation remain abundant. Globalisation is "uniting the world and creating business opportunities." It has promoted working relationships between companies. General Electric is an example of a substantial enterprise that now works extensively with small entrepreneurs in India to refine and develop its products for the Indian market. The combination of globalisation and digitalisation has also promoted competition and changed working practices, helping UK businesses.

"The UK is very well placed to capitalise on globalisation," Prof Scase says. As a global hub, the UK is in a perfect situation to offer specialist services such as finance, architecture and planning. These are in high demand by developing economies in China, India, Africa, Asia and other emerging markets.

Source: *Kreston Reeves LLP*, 21 September 2015

[Turn over

Questions

(a) Using the data in Table 1, identify and explain **two** indicators that might be of concern to the Chinese government. [4]

(b) With reference to Extract 1:

(i) Explain why China is likely to have a comparative advantage in the production of "low-cost manufacturing goods". [2]

(ii) Explain how China's "relentless economic growth" over the past three decades has resulted in an inefficient allocation of resources. [4]

(iii) Using the concept of the circular flow of income, explain how a fall in government spending on infrastructure will affect China's equilibrium level of national income. [4]

(c) With reference to Extract 2, and using AD/AS analysis, comment whether currency depreciation will cause a rise in inflation rate in the China economy. [6]

(d) **(i)** Using Table 2, compare the current account balances of the UK and China over the period shown. [2]

(ii) Discuss whether the advantages of globalisation to an economy such as the UK outweigh the disadvantages. [8]

[Total: 30]

Question 2 **Future of Public Libraries**

Extract 5: The economic value of public libraries

The economic contributions of public libraries are twofold – direct and indirect. The direct economic contribution that public libraries can make includes educational benefits and improved wellbeing for individuals from reading. On the other hand, there are wider educational and social impact of libraries. Public libraries can contribute to long term processes of human capital formation and social cohesion of communities.

Source: *Information Today, Europe*, 5 June 2014

Extract 6: Libraries are changing

As technology advances into every aspect of modern life, traditional public libraries are experiencing a major shift, from being housed strictly in buildings and having physical books, to moving onto the internet. There are four main ways by which libraries are changing:

- ***Libraries are being shaped by fiscal budget cuts*** - Public libraries have continued to struggle in many countries, like in US, particularly since the 2008 Global Financial Crisis. In many cases, governments have scaled back on the opening of new branches and library services so that the money could be used for alternative purposes. And yet, during the recession, more people rely on libraries for entertainment, employment opportunities, and as a resource for internet access. In fact, the public library saw a rise in the loans for the books about technical knowledge to upgrade and how to better write resumes to find jobs. Computer terminals were constantly used to search for jobs available.

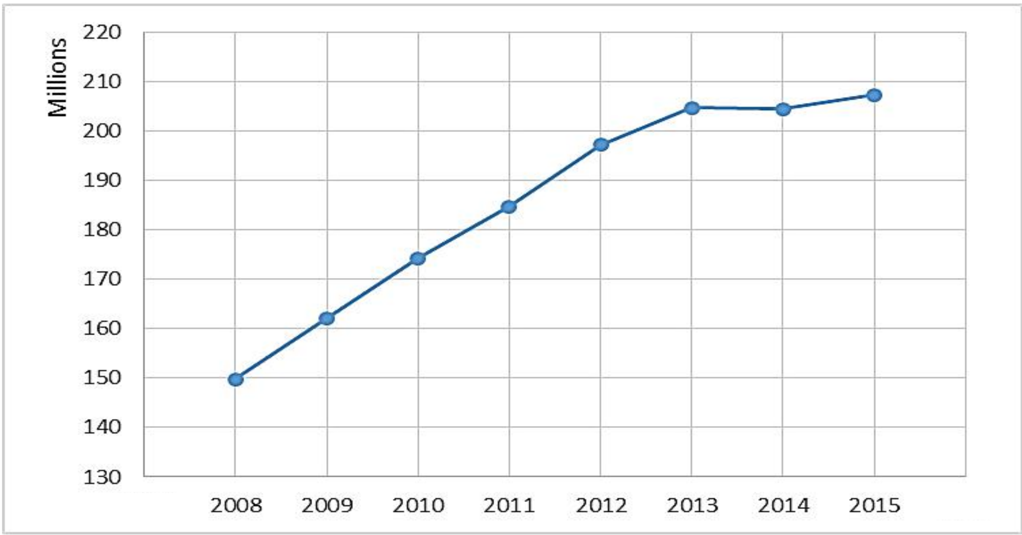
- ***Libraries are becoming technological hub*** - As the internet becomes the main means to obtain information, public libraries are transforming themselves from mere physical buildings into technological spaces. When looking at technology use in public libraries, researchers have found that patrons are increasingly thinking of libraries as community spaces that allow access to technology and as a source of digital literacy for various demographics.

- ***Expanded access through information sharing*** - Digital Libraries provide useful interactions between information and users - easing the global dissemination of information. Information sharing has the power to bolster educational equality across the world. For instance, the United Nations Educational, Scientific and Cultural Organization's (UNESCO) "Information for All Programme" (IFAP) is providing access to over 25,000 titles and is equipped with on-line connections to a worldwide network of libraries.

- ***Printed books still dominate reading despite the growth of e-books*** - The popularity of electronic books (e-books) is rising, but printed books remains the foundation of many people's reading habits. The number of e-book users is growing, but, surprisingly, not to the extent that e-books have replaced printed versions. This trend is expected to change as e-reader ownership expands, but the love affair with an actual book is not expected to vanish completely. Nothing quite compares to the smell of a book.

Source: *The Global Citizen Organization*, 15 January 2015

Figure 1: Government Subsidy for Public Libraries in Singapore (SGD)



Source: National Library Board, Singapore

Extract 7: Singapore redesigning library spaces

National Library Board (NLB) of Singapore had been redesigning library spaces where books, programmes and cafés co-existed to create a seamless learning environment for library users. NLB also introduced a digital library to make learning borderless. At Pixel Labs at Jurong Regional Library, a "tinkering lab", visitors use the facilities for free and are allowed to take home the 3D models they make. Launched last year by NLB and Infocomm Media Development Authority (IMDA), the lab is the first such dedicated venue in a library for exploring new technologies.

At Woodlands Regional Library and Bedok Library, seniors aged 50 and above can sign up for digital media courses run by librarians from the library board. The courses teach basic computing skills, as well as how to access the board's e-resources and e-books. Seniors also learn the functions of mobile devices such as iPads and popular apps such as Facebook. The affordable course fee ranges from $4 to $10. For early childhood educator Tavana Zulliani-Ramachandra, 60, who signed up for several digital media courses at the Woodlands Regional Library and Bedok Library, from an e-entertainment course, she was really happy to learn to book air tickets and overseas accommodation online and learn how to connect with her grandchildren with WhatsApp.

In 2014, smart work centres or flexible mobile workstations were launched at Jurong Regional Library, Toa Payoh Library and Geylang East Library. Next year, another centre will come up at the revamped Tampines Regional Library. These come with a whole suite of business functions and resources such as Wi-Fi, meeting rooms and high-definition video-conferencing services. Ms Catherine Lau, assistant chief executive of public library services, says the library board has been moving away from a cookie-cutter approach to make sure each library caters to its community.

Source: The Straits Times, 20 November 2016

Questions

(a) **(i)** Explain the two characteristics of a public good. [2]

(ii) Explain why public library is not a public good. [2]

(b) Extract 6 mentions that "the number of e-book users is growing, but, surprisingly, not to the extent that e-books have replaced printed versions".

With the help of a demand and supply diagram, explain the extent of change in the equilibrium quantity of the printed books in these circumstances. [4]

(c) **(i)** With reference to Extract 5, use a PPC diagram to explain how public libraries can affect long-term economic growth of a country. [2]

(ii) With reference to the extracts, explain how more public libraries can improve a country's current standard of living. [4]

(d) With reference to Extract 6, explain and comment whether public libraries can help to deal with the main causes of unemployment in the US. [6]

(e) **(i)** With reference to Figure 1, summarise the trend of subsidies for public libraries in Singapore over the period 2008-2015. [2]

(ii) Discuss the view that a government should allocate more resources to public libraries to bring about a more efficient allocation of resources. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3 The most essential feature of a free market is the reliance on the price mechanism for resource allocation.

(a) Using examples, explain how the price mechanism allocates scarce resources among competing needs in a free market. [10]

(b) Discuss the view that government efforts to intervene in the working of the free market through indirect taxation inevitably create more problems than they solve. [15]

4 There are conflicts between the macroeconomic objectives of governments. Thus, governments need to set priorities in order to decide which policies to adopt.

(a) Explain the possible conflicts that exist between the macroeconomic objectives of governments. [10]

(b) Discuss the extent to which supply-side policy can achieve the macroeconomic objectives of the Singapore government. [15]

END OF PAPER

Copyright acknowledgments:

Question 1 Extract 1:	@ *The end of China's economic miracle*; Euromonitor International, 16 March 2014; http://eandt.theiet.org/magazine/2014/04/the-strike.cfm @ *Hard times return as China bids to bring its economic miracle to an end*; The Guardian, 25 January 2015; https://www.theguardian.com/world/2015/jan/25/china-bids-bring-economic-miracle-end-hard-times
Question 1 Extract 2:	@ *China depreciation sparks currency war fears*; Reuters, 12 August 2015; http://uk.reuters.com/article/markets-asia-forex-idINKCN0QH0C920150812
Question 1 Extract 3:	@ *The global impact of Chinese depreciation*; Huffington Post, 11 August 2015; http://www.huffingtonpost.co.uk/michael-martins/how-the-chinese-devaluati_b_7971276.html
Question 1 Extract 4:	@ *Globalisation and UK manufacturing – Opportunities and threats*; July 2014; Kreston Reeves LLP, 21 September 2015; http://www.krestonreeves.com/news-and-events/21/09/2015/globalisation-and-uk-manufacturing-the-opportunity-and-threats
Question 1 Table 1:	@ The World Bank Group, accessed 21 July 2017; http://data.worldbank.org/country/china
Question 1 Table 2:	@ The World Bank Group, accessed 21 July 2017; http://data.worldbank.org/country/china
Question 2 Extract 5:	© The economic value of public libraries; Information Today, Europe, 5 June 2014; http://www.infotoday.eu/Articles/News/InfoToday-Europe-Blog/The-economic-value-of-public-libraries-97507.aspx
Question 2 Extract 6:	© Five Ways Libraries Are Changing In the Digital Age ;The Global Citizen Organization, 15 January 2015; https://www.globalcitizen.org/en/content/five-ways-libraries-are-changing-in-the-digital-ag/
Question 2 Extract 7:	© *Library users can now watch movies, play music and do 3D printing*; The Straits Times, 20 November 2016; http://www.straitstimes.com/lifestyle/entertainment/now-screening-at-the-library
Question 2 Figure 1:	© https://www.nlb.gov.sg/Portals/0/Reports/fy15/; accessed 21 July 2017

2017 C2 Preliminary Exam
H1 Economics (8819/01) – Case Study Question 1

Suggested Answers

<table>
<tr><td>(a)</td><td colspan="2">Using the data in Table 1, identify and explain why <u>two</u> indicators that might have been of concern to the Chinese government.</td><td>[4]</td></tr>
<tr><td></td><td colspan="3">The Chinese government seeks to achieve the key macroeconomic goals of (i) sustained growth, (ii) price stability, (iii) low unemployment and (iv) a healthy BOP. Any indication that such goals are not being achieved would thus be a concern to the government.

Growth rates, while positive throughout this period, have decreased significantly over the years, i.e. the rise in production of goods and services in China has been falling. Growth has nearly halved in 2015 as compared to 2005. If this trend continues, it may have negative implications for Chinese households' material well-being.

Unemployment rate has increased over the years, and is slightly higher in 2015 compared to 2005. This suggests that resources are not being used efficiently in production. It may also imply loss of income tax revenue that may be collected, as well as a greater burden for the government, which may have to provide welfare support to the unemployed.

[2m for each indicator: 1m for identification, 1m for explanation]</td></tr>
<tr><td>(b)</td><td colspan="3">With reference to Extract 1:</td></tr>
<tr><td></td><td>(i)</td><td>Explain why China is likely to have a comparative advantage in the production of "low-cost manufacturing goods".</td><td>[2]</td></tr>
<tr><td></td><td></td><td colspan="2">China has a comparative advantage in the production of low-cost manufacturing goods if it is able to produce such goods at a <u>lower opportunity cost</u> than other countries. [1m]

Given that China is endowed with <u>"rich natural resources" and a large population, it possesses an abundance of raw materials and "cheap labour"</u>. Hence the opportunity cost of producing low-cost manufacturing goods is likely to be relatively low. [1m]</td></tr>
<tr><td></td><td>(ii)</td><td>Explain how China's "relentless economic growth" over the past three decades has resulted in an inefficient allocation of resources.</td><td>[4]</td></tr>
<tr><td></td><td></td><td colspan="2">Strong demand for Chinese low-cost manufactured goods generated a <u>negative externality in production</u>. [1m]

The increase in set-up of factories with low-cost manufacturing production activities created <u>external marginal costs (EMC) in the form of "choking smog", which affected third parties, such as local communities</u> whose health outcomes were worsened, and did not receive compensation for receiving such spillover effects.
[1m for explanation of EMC with evidence]

The presence of EMC creates a <u>divergence between private and social marginal costs, where SMC = PMC + EMC</u>. The socially efficient quantity of manufactured goods should be where SMC meets SMB, however, producers consider only PMC and PMB in determining the level of production. [1m]</td></tr>
</table>

		There is thus an **<u>overallocation of resources</u>** of the production of manufactured goods, resulting in a **<u>welfare loss</u>** to society. **[1m]**	
	(iii)	**Using the concept of the circular flow of income, explain how a fall in government spending on infrastructure will affect China's equilibrium level of national income.**	**[4]**
		The circular flow of income is used to explain how production of the national output and level of income in an economy is driven by expenditure. When **Income = Expenditure = Output, the economy is in equilibrium**. With a **fall in government spending on infrastructure**, **<u>injections in the form of government spending (G) would decrease</u>**. **[1m]** Hence, **withdrawals exceed injection** and this will set in motion a process to bring the economy back to equilibrium. In a 2-sector economy, the **households** are both the **consumers** of goods and services, as well as **providers of the factors of production** (i.e. land, labour, capital and entrepreneurship) to the firms. The **decrease in G** would lead to a **decrease in production** of goods and services. **Firms would then hire less factors of production and reduce payment of factor incomes**. This further reduces income for households employed in the consumer goods industry, who will spend less additional income on consumption depending on their marginal propensity to consume **(MPC)**. **[1m]** This **<u>cycle of *fall* in spending and re-spending</u>** on consumption will continue until the decrease in income becomes negligible and the **total <u>withdrawals equal to the reduced initial injections</u>**. **[1m]** At that point, national income will stop falling and equilibrium has been reached. The **<u>eventual decrease in national income</u> would be a multiple of the initial decrease in G**, depending on the size of the multiplier. **[1m]**	
(c)	**With reference to Extract 2, and using AD/AS analysis, comment whether currency depreciation will cause a rise in inflation rate in the Chinese economy.**		**[6]**
	In August 2015, the Chinese renminbi depreciated by nearly 2% against the US dollar (Extract 2). Currency depreciation would make Chinese exports cheaper in terms of foreign currency, while imports from other countries would be more expensive in terms of renminbi.		

Thesis: Rise in inflation rate	Anti-thesis: No rise in inflation rate
<u>Impact on demand-pull inflation</u> - Assuming $PED_X > 1$, a fall in prices of Chinese exports in foreign currency would result in a more-than-proportionate increase in quantity demanded of exports. This would imply a rise in external demand for Chinese exports and cause **a rise in China's export revenue** in yuan. - Assuming $PED_M > 1$, a rise in prices of imports in yuan would result in a	- China's currency depreciation has significant unintended consequences, contributing to **"global financial instability"** (Extract 3), which may slow global recovery. It may also create a **"currency war"** (Extract 2). Other Asian economies, which compete against China in producing cheap manufactured goods, may engage in competitive depreciation. Thus, China's exports may not enjoy a rise

more-than-proportionate fall in quantity demanded of imports. This would result in **a fall in China's import expenditure** in yuan. - Overall **(X-M) increases**, causing AD curve to shift right. GPL will increase, leading to **demand-pull inflation**. **Impact on cost-push inflation** - A rise in the price of imported raw materials in yuan will **increase the cost of production**, shifting SRAS curve upwards. This results in a rise in GPL and hence **cost-push inflation**.	in price competitiveness, i.e. AD and inflation may not rise. - Moreover, China is also moving away from an export-led growth strategy to a **consumption-led growth strategy** (Extract 1). According to Table 1, X forms an increasingly lower proportion of China's AD, i.e. from 34.5% in 2005 to 22% in 2015. The extent of increase in AD due to currency depreciation might be small, and the likelihood of demand-pull inflation is limited. - Moreover, China's unemployment rate has been rising over the years and was above 4% in 2015. This would suggest that China is **not facing supply bottlenecks** yet, and the likelihood of demand-pull inflation occurring is low. - China is also relatively rich in natural resources (Extract 1) and is likely to have a **low dependence on imports of raw materials**. Thus, any increase in cost-push inflation due to currency depreciation is also likely to be limited.

Synthesis / Evaluation

According to Table 1, China has been experiencing slowing growth in recent years. Consequently, inflation has been falling from 5.4% in 2011 to 1.4% in 2015. Currency depreciation may halt or perhaps even reverse this trend, but it is unlikely that it will result in an unacceptably high rate of inflation in China.

Mark Scheme

L3 5 – 6	**Excellent analysis** and balanced discussion of the impact of currency depreciation on China's inflation rate using the AD/AS framework, supported by appropriate use of case evidence. A justified conclusion is required for the top mark.
L2 3 – 4	**Shows understanding** of the impact of currency depreciation on China's inflation rate using AD/AS framework, but answer may contain errors or lack development. Analysis may be lopsided. Incorrect or limited use of case evidence.
L1 1 – 2	**Some knowledge** of the impact of currency depreciation on China's inflation rate. Answer is mostly irrelevant or contains conceptual errors.

(d)	(i)	**Using Table 2, compare the current account balances of the UK and China over the period shown.**	**[2]**
		UK's current account experienced an **increasing deficit** while China's current account experienced an **increasing surplus** over the period of 2011 to 2015. **[2m]**	
	(ii)	**Discuss whether the advantages of globalisation to an economy such as the UK outweigh the disadvantages.**	**[8]**

Globalisation refers to the integration of national economies through trade of goods and services, foreign direct investment, capital flows, spread of technology and labour migration.

Advantages of globalisation	Disadvantages of globalisation
Globalisation brings about a number of invaluable benefits. - Firstly, trade in goods and services brings about increased standards of living. By **specialising in services** in which the UK has a comparative advantage, i.e. lower opportunity cost, (Extract 4) and trading these with developing countries for low-cost manufactured goods – in which it does not have a comparative advantage – the UK can enjoy an increased quantity of goods and services available for consumption. Consumers would also enjoy reduced prices of manufactured goods in shops. Trade would thus let the UK to **consume beyond its production possibility curve**, allowing consumer access to a greater variety of goods and services, raising material well-being. - Moreover, globalisation would have "promoted competition" and working relationships between firms (Extract 4). **UK firms would be more likely to innovate** and seek greater economic efficiency by reducing costs of production, resulting in lowered prices of goods. This would benefit consumers greatly.	However, globalisation also brings about serious problems. - In a globalised and interconnected world, the UK is **vulnerable to external shocks**. For instance, the UK is heavily reliant on China as it is both a major import and export market (Extract 3). Thus, it is likely to experience a significant fallout following China's decision to devaluate its currency. - Globalisation has also resulted in a **worsening of the UK's current account deficit** over the years (Table 2), as the UK grows increasingly reliant on imports from the rest of the world. All else held constant, this would result in a worsening of its balance of payments. - Finally, according to Extract 4, the UK has experienced significant **unemployment**, especially in the manufacturing sector, as a result of British firms closing down in the face of increased competition from China and other Asian countries,

Synthesis / Evaluation

It may be argued that globalisation continues to offer valuable benefits which would not be easily replicated via other means. The problems of globalisation in the UK, while significant, can in fact be mitigated using appropriate means, e.g. training and education to reduce unemployment, diversification of trading partners to reduce its susceptibility to external shocks etc. The UK government may thus need to take greater steps to address such problems, such that they do not outweigh the benefits of globalisation.

Mark Scheme

L3 7 – 8	**Excellent analysis** and balanced discussion of both the advantages and disadvantages of globalisation, with appropriate contextualisation and use of case evidence. A justified and well-reasoned conclusion is provided.
L2 4 – 6	**Shows understanding** of the advantages and/or disadvantages of globalisation, but answer may contain errors or lack development. Analysis may be lopsided, i.e. considers only the benefits of globalisation. Incorrect or limited reference to UK context and case evidence.
L1 1 – 3	**Some knowledge** of the advantages and/or disadvantages of globalisation. Answer is mostly irrelevant or contains conceptual errors.

HCI Prelims - CSQ2

Suggested Answers

a(i) **Explain the two characteristics of a public good.** [2]

- Non-excludable in consumption is when it is impossible or prohibitively expensive to exclude non-payers from consuming it. (1m)

- Non-rivalry in consumption is when the consumption by one does not reduce the amount available to or affect the quality for others. (1m)

a(ii) **Explain why public library is not a public good**. [2]

The public library is a private good because :

1) It is possible to charge for the entrance to the library by means of having a membership system since it is prevent non-paying people from entering into a traditional public library with a physical building and an entrance gantry. Payers could be check via their membership card for access of the place and services.

2) The service is excludable as when one person borrowed the physical book or use a space for reading newspaper or a book or sitting to study in a seat in the library, the quantity and quality is diminished. Too many people in the library may also result in higher noise level which might affect the quality of the experience.

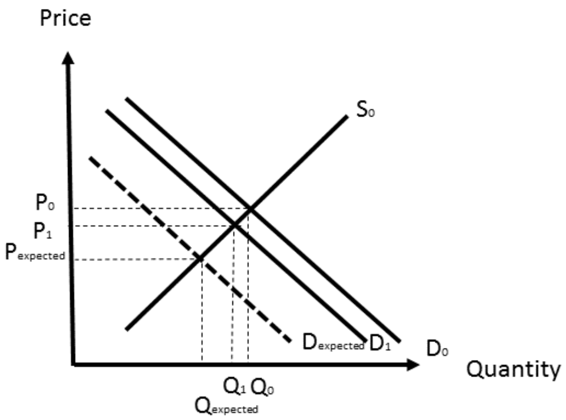
1m for illustration of each of the characteristics

b **Extract 2 mentions that "the number of e-book users is growing, but, surprisingly, not to the extent that e-books have replaced printed versions".** [4]

With the help of a demand and supply diagram explain the extent of change in the equilibrium quantity of the printed books in these circumstances.

It is expected that printed books and e-books are substitutes / in competitive demand. (1m) Evidence : ' electronics books have replaced printed versions'

However the extent of fall in demand (if any) of printed books are surprisingly small as the two are actually not good substitutes (1m) as people still enjoy the tangible feel of a printed version. Evidence : ' nothing compares to the smell of a book' / ' print remains the foundation of many people's reading habits'



(1m for consistent diagram)

As such, instead of demand falling to Dexpected, demand only fall to D1. (1m) The fall in equilibrium quanity is also only at Q1 compared to Qexpected .

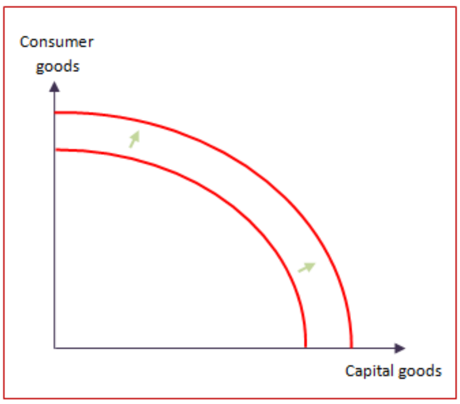
c(i) **With reference to Extract 1, use a PPC diagram to explain how public libraries can affect long-term economic growth of a country.** [2]

i) Funding public library is like a form human capital investment. This will help to <u>improve the quality of human resource in the long run (1m)</u> i.e. better and more educated workforce, more creative workforce etc. As such it will contribute to potential growth and thus shift the PPC outwards

Evidence :

- Extract 1 → 'contribute to long term processes of human capital formation, the maintenance of mental and physical wellbeing for adult and children'

- Extract 3 → 'dedicated venue in a library for exploring new technologies'



(1m)

c(ii) **With reference to the extracts, explain how more public libraries can improve a country's current standard of living.** [4]

	Material aspects (2m)	Non material aspects (2m)
Current SOL	- Library could help to generate economic activities in the community area that they are located in. Increase in economic activities will lead to increase in national income. Thus there will be increase in the income of average residents i.e increase in purchasing power. Extract 5: 'support local economic development through business advice and support for individuals, micro businesses and SMEs.' - Library could help to improve the human capital formation and acquiring of digital technological skills. This will increase LRAS to increase national income. Thus there will be increase in the income of average residents i.e increase in purchasing power.' Extract 5 : 'contribute to long term human capital formation' Extract 6: ' allow access to technology and a source of digital literacy'	- Library could provide a community space for the people to have leisure activities, and for people from diverse background to interact n thus greater social inclusivity' Extract 1: 'libraries can be main tenants in mixed-use residential developments and potentially boosting the buzz, image and profile of a neighborhood' Extract 5 : 'the maintenance of mental and physical wellbeing for adult and children, social inclusivity and cohesion of communities.' Extract 7 : 'it wants to build greater ownership within the community for libraries and bind them with more social interaction towards national resilience.' – Reduction of income inequality for the various income group by improving literacry rate and thus better able to find job Extract 6: ' for various demographics' Extract 6: 'information sharing has the power to bolster educational equality across the world' - Improve leisure and inter generation gaps through the courses held in the library.

d **With reference to Extract 6, explain and comment whether public libraries can help to deal with the main causes of unemployment in the US.** [6]

Thesis : Public library is able to help	Anti-thesis : Public library is unable to help
Public library may help in the case of **structural unemployment**. People could use the library to read up and learn new knowledge which may help them to upgrade themselves. They might be do online course using the Internet access. Evidence: ' as a resource for internet access' and 'rise in the loans for the books about technical knowledge to upgrade' Public may help in the case of **frictional unemployment** to be able to present themselves better and provide more information to prospective employers via better resume. They could also help to facilitate the job search by providing computers. Evidence: a rise in the loan on books on ' how to write better resumes to find jobs' and 'Computer terminals were constantly at use to search for jobs available'	It is **cyclical unemployment** as it is the 2008 Global Financial Crisis and the recession thereafter. Thus the reason is due to a lack of demand and thus AD is falling. As such it will be impossible for public library itself to help AD to rise and thus to recover.

Descriptor	Marks
Level 3 Well-developed discussion of whether public library can and cannot help. Place explanation in context of evidences. Justified conclusion.	5 - 6
Level 2 Good / under-developed explanation of Unemployment in US and how public library can/ cannot help. Place explanation in context of evidences. Lop-sided answers.	3 - 4
Level 1 Inaccurate/superficial explanation of unemployment in US and how public library might help.	1 – 2

e(i) **With reference to Figure 1, summarise the trend of subsidies for public library in Singapore.** [2]

Overall there is an increase (1m) in a decreasing rate (1m).

e(ii) **Discuss the view that a government should allocate more resources to public library to bring about a more efficient allocation of resources**. [8]

Government should help as there issues of positive externalities and income inequality but are constrained by the government budget.

Thesis 1 : Government should allocate more resources to public library because public library is a source of positive externalities (can identify that it is also a merit good) .

- The **Private Marginal Cost (PMC)** measures the cost to producers from an additional unit of library services produced such as the cost of rental for the library, cost of purchasing the books or subscription to the various news providers (print or online), the cost of the tables and chairs and bookshelves etc.

- The **Private Marginal Benefit (PMB)** measures the benefit to consumers from an additional unit of library services consumed such as the knowledge and leisure gained from the reading of books and also when the individual make use of the library and its services.

- However **consumption of library service** generates **external benefits** to **third parties** who are not part of the consumption process.

- For each unit of library services consumed, individuals will be more productive in the workforce with the acquiring of new technologies, there will be growth of SMEs that will strengthen the domestic economy for example Singapore, cultivation of a culture of creativity and innovation. The library services also helps to close the inter-generational gaps and foster social cohesion from the promotion of interaction. This also positively translates into a more productive and creative workforce for the economy with a stable macroeconomic environment.

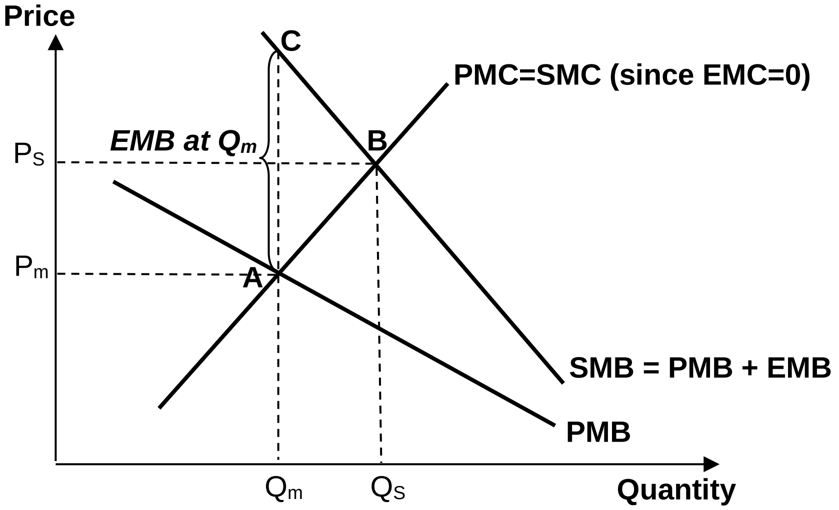
Evidence:
- Extract 5 : "Public libraries can contribute to long term processes of human capital formation and social cohesion of communities. "
- Extract 6: "libraries as community spaces that allow access to technology and as a source of digital literacy for various demographics"
- Extract 7 : "At Pixel Labs at Jurong Regional Library, a "tinkering lab", visitors use the facilities for free and are allowed to take home the 3D models they make."
- Extract 7 : ",can sign up for digital media courses run by librarians from the library board. The courses teach basic computing skills, as well as how to access the board's e-resources and e-books. "
- Extract 7 : "learn how to connect with her grandchildren with WhatsApp."
- Extract 7 : "smart work centres or flexible mobile workstations were launched ……These come with a whole suite of business functions and resources such as Wi-Fi, meeting rooms and high-definition video-conferencing services."

- Hence in this case of a **positive consumption externality**, library services consumers are not concerned about the external benefits to others but only their own private benefits as the external benefits are unpriced by the price mechanism and not included in the **private benefit**s.

- As such, the free market has "**over-priced**" the consumption of library services which will lead to an **inefficient allocation** of resources and hence **market failure**.

- For each **additional** unit of library services, the **social marginal benefit (SMB) includes the private marginal benefit (PMB) of the vaccine consumed plus the external marginal benefit (EMB)** to third parties. Hence the actual benefit borne by the society is represented by the SMB, which takes into account the full benefits to society of an extra unit of library services. SMB = PMB + EMB.

External benefit from consuming library services



- As seen above, the presence of an external benefit causes a **divergence** between private and social benefits, with **SMB above PMB** as SMB = PMB + EMB.

- Assume that library service consumption yields no negative externality, EMC=0. Thus, PMC=SMC.

- Assuming perfect competition, **market equilibrium** quantity of library is **Q_m,** where **PMB = PMC,** as consumers and producers of library services only consider their own benefits and costs.

- However the **socially efficient** quantity of library services should be at **Q_S** where **SMB=SMC**, where the full costs and benefits and costs to society are considered. Q_s is more than the market equilibrium quantity, Q_m where PMB = PMC. Thus there is **underconsumption** of library by the quantity $Q_S – Q_m$

- Area Q_SQ_mCB is the total social benefit forgone due to the underconsumption $Q_S – Q_m$.
- Area Q_SQ_mAB is the total social cost not incurred for the underconsumption $Q_S – Q_m$.

- Since total social benefits forgone exceeds the total social costs not incurred for underconsumption Q_S – Q_m, area ABC represents the **deadweight welfare loss** due to underconsumption of $Q_S – Q_m$.

<u>Thesis 2:</u> Government should allocate more resources to public library because public library is can help to reduce income inequality issues.

In a market economy, the ability of individuals to consumer goods depends on their income and wealth. The market system will not respond to the needs and wants of those with insufficient economic (dollar) votes to have any impact on market demand because what matters in a market based system is **<u>effective demand</u>** (willingness and ability to pay) for goods and services. Consequently, goods and services do not necessarily flow to those who need them the most e.g. food for the starving poor or homes for the homeless. It favours those with the buying or purchasing power. The free market system thus fails to provide for those without the means to pay for goods and services. However, whether this is fair is a normative issue and depends on the individual’s value judgement.

Thus the presence of public library is a way to help the people with less income to be able to access the same amount of knowledge as the others who are able to afford subscription for private libraries or able to purchase books for private collection.

Evidence: “Information sharing has the power to bolster educational equality across the world.”

For the case of Singapore, the library also allow for free access to new technologies or affordable IT course.

Evidence: “visitors use the facilities for free” and “The affordable course fee ranges from $4 to $10” in extract 7.

Antithesis : However there might be budgetary constraints. Given that the government budget is finite, government may have to shift the budget away for other purpose.

Evidence → Extract 6: “Public libraries have continued to struggle in many countries, like in US, particularly since the 2008 Global Financial Crisis. In many cases, governments have scaled back on the opening of new branches and library services so that the money could be used for alternative purposes.”

The government might need to conduct expansionary policies in order to revive the economy in times of recession or even spend on other aspects like more on healthcare on an aging population like SG. These other objectives might have more priority over the public library. As such, a trade off may be necessary.

Conclusion: Government should continue to fund the public libraries to provide their services especially for the reason of positive externalities. Yet given that there might be more important objectives in considerations, the respective governments may not increase in amount of funding to the public library due to their own current conditions. However, there should not be a decrease in the amount of funding at least.

Level	Descriptor	Marks
L3	A **well-developed discussion** on whether the government should fund public library. Need to include fully explained positive externalities and income inequality. Need to be based on the good use of evidences from the extracts and data.	5-6
L2	An **under-developed/lop-sided discussion** on whether the government should fund public library. Should have at least some explanation of positive externalities and might not have improvement of income inequality.	3-4
L1	Some knowledge of how positive effects of public library and constraints that the government might have to fund public library	1-2
E2	For an **evaluative assessment based on economic analysis** on whether the government should fund public library	2
E1	For an **unjustified assessment** on whether the government should fund public library	1

3. The most essential feature of a free market is the reliance on price mechanism for resource allocation.

a) Using examples, explain how the price mechanism allocates scarce resources among competing needs in a free market. (10)

b) Discuss the view that government efforts to intervene in the working of the free market through indirect taxation inevitably create more problems than they solve. (15)

Part (a)

INTRODUCTION

Scarcity is the fundamental economic problem of having seemingly unlimited human wants in a world of limited resources. Consumers have **unlimited wants**, which refer to the desire for ever higher levels of consumption of goods and services. However, this is impossible in reality, as consumers and producers are constrained by **limited resources** (land, labour, capital and entrepreneurship). Hence, producers have to make choices on how to allocate scarce resources in a free market via the price mechanism.

BODY

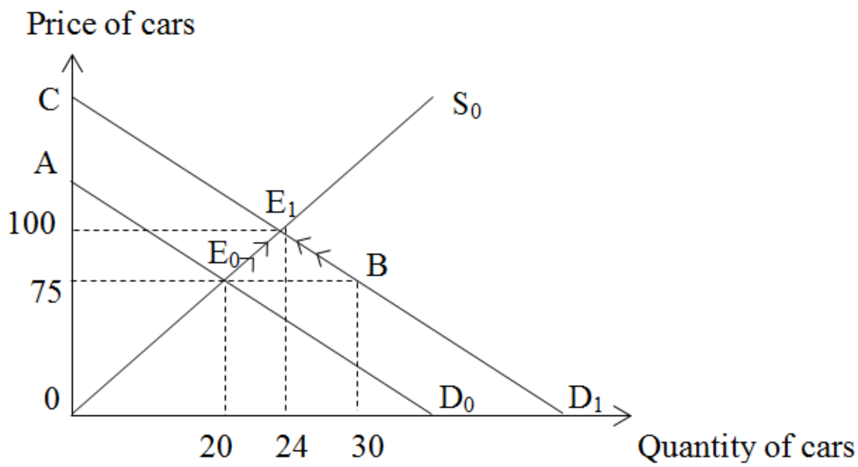
In the price mechanism, the three key roles of "price", i.e. **signaling, incentive and rationing functions** will help producers answer the three fundamental questions of - ***'what and how much to produce', 'how to produce'*** *and* ***'for whom to produce'*** the goods and services.

- ➢ Price acts as a **signal** between consumers and producers to allocate scarce resources
- ➢ Consumers signal to the producers their ***preference*** for a particular good or service through the price they are willing and able to pay for it.
- ➢ The higher the consumer's preference for the good, the higher the price they are willing and able to pay.
- ➢ This is the ***signalling function*** of the price mechanism.
- ➢ These preferences are transmitted to producers, who have to decide according to their willingness and ability to sell (i.e. supply).
- ➢ Hence, opportunity costs are incurred because the usage of resources to produce one type of good or service means that the production of another type of good or service has to be forgone.

- ➢ For example, the raw material steel can be used to produce either cars or bicycles. Producers therefore have to make choices among the alternative uses of the scare resources.
  Since the producer's objective is to maximise profit, they will produce the goods that fetch the highest price. This is the ***incentive function*** of the price mechanism.
- If consumers signal their higher preference for cars as compared to bicycles through the higher price they are willing to pay for cars compare to bicycles, producers will allocate more resources towards producing cars.
- Therefore, through the price mechanism, goods and services are produced according to consumers' willingness and ability to buy (i.e. demand), thus it reflected consumers' preferences.
- This helps to solve the problem of ***'what to produce'.***

- ➢ The incentive function will also mean that producers will use the most efficient (least-cost) way to produce these goods and services, to avoid wastage of resources. Hence, price mechanism ensures productive efficiency is achieved. This helps to solve the problem of ***'how to produce'.***

- ➢ On the other hand, the ***rationing function*** of the price mechanism will solve the problem of ***'how much to produce'*** and ***'for whom to produce'***
- ➢ This can be illustrated by considering situations where there are shortages (quantity demanded is more than quantity supplied) and surpluses (Qd is less than Qs).
- ➢ Using the market for cars as an illustration, the diagram below shows that initially consumers have to pay a price of $75,000 for each car. At this unit price, the total quantity of cars demanded is 20,000. Car makers respond to this by channeling resources towards the production of 20,000 cars.



When consumers have a stronger preference and/or a greater willingness and ability to purchase cars, demand for cars increase from D_0 to D_1. At the same price $75,000, there is a shortage of 10,000 cars at point B. This shortage puts upward pressure on car prices. Producers respond to this by channeling more resources towards the production of 4,000 more cars (movement from point E_0 to E_1), since producers now stand to receive a price of higher than $75,000 for each car. Yet as the price increases, some consumers may realise that they are unwilling or unable to pay the higher price, hence total quantity of cars demanded falls by 6,000 (movement from point B to E_1). The market thus reaches a new equilibrium where quantity demanded equals quantity supplied at a higher price $100,000.

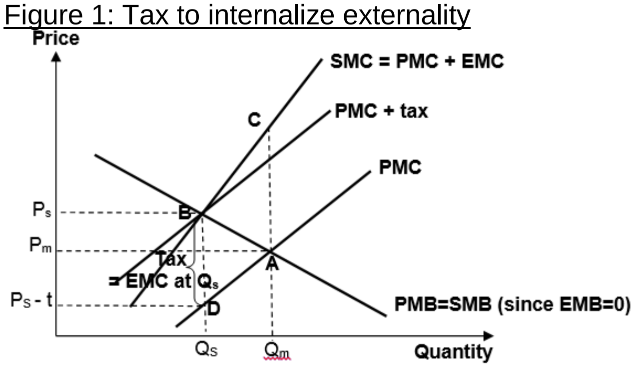
The ***rationing function*** of the price mechanism hence ensures that the limited cars produced are rationed out only to those consumers who are most willing and able to pay for it.

CONCLUSION
This is how the price mechanism allocates scarce resources among competing needs in a free market that needs no planning and functions as if an "invisible hand" is guiding the resource allocation. However, despite the fact that pursuit of self-interest enables the economy to produce more goods and services efficiently, it does not completely remove the problem of limited resources and unlimited wants. This is because as long as available resources are finite and human wants or desire to consume goods and services are infinite, scarcity would always remain a problem.

Level		Descriptors
L3	7-10	Excellent analysis based on thorough knowledge of price mechanism, with strong application. The roles/functions of “price” in price mechanism are well explained, with the use of relevant illustrations.
L2	5-6	Understanding of price mechanism demonstrated with some evidence of application. The roles/functions of “price” in price mechanism are undeveloped. (e.g. only two aspects are explained.) Some reference to examples.
L1	1-4	Descriptive answer with inadequate economic analysis. Answer contains basic errors.

Part (b)

<table>
<tr><td colspan="2">Suggested Answer for Q3(b)</td></tr>
<tr><td colspan="2"><u>Introduction</u>
Define key term: Indirect taxation is imposed on producers with the aim of raising equilibrium price and reducing quantity exchanged.
State approach: This essay aims to discuss the view that government efforts to intervene in the working of the free market through indirect taxation inevitably create more problems than they solve</td></tr>
<tr><td colspan="2"><u>Body</u></td></tr>
<tr><td>Thesis: Indirect taxation can help to achieve allocative efficiency in the presence of market failure such as negative externality.</td><td>Anti-thesis: Indirect taxation has limitations (create problems/unintended consequences)</td></tr>
<tr><td><u>Indirect taxes internalizes negative externalities to achieve allocative efficiency</u>

<u>Figure 1: Tax to internalize externality</u>

In the cases of negative production externalities and negative consumption externalities, the good or</td><td><u>Problems of using indirect tax to internalize EMC</u>
Lack of information: Even if a government decides to impose a tax equal to EMC at Q_s, there will still be a problem of measuring those costs in monetary terms, and apportioning blame. If the government over-estimates or under-estimates the external costs, then the problem of resource misallocation cannot be resolved through taxation. In fact it may lead to further DWL.
Unfeasible to use different tax rates: Each producer or consumer produces varying types and amounts of externality. However, it would be extremely difficult and expensive to</td></tr>
</table>

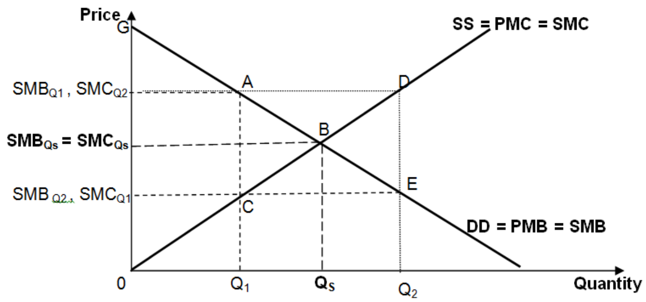
service is overproduced / overconsumed by (Qm – Qs) as the third parties are not compensated for the external costs (external marginal cost, EMC) they incur. Using the example of cars usage that generates negative externalities **in consumption**. The existence of an external marginal cost (EMC) results in a divergence between private and social costs. Car drivers will only consider their **PMC** such as the cost of petrol, car, insurance etc. The **PMB** of car usage includes increased convenience and comfort, shorter travelling times. However, car usage creates EMC such as traffic congestion, lost time, air and noise pollution. This affects **third parties**, such as residents who live near roads who suffer health problems and businesses which bear an "increased cost of doing business" due to higher transportation costs, who do not receive any compensation for bearing such costs.
• Qm is the market equilibrium quantity where PMC=PMB, while Qs is the socially efficient quantity where SMC=SMB.
• There is an overconsumption of (Qm – Qs) units of cars.
• Thus, deadweight welfare loss of area ABD arises, resulting in market failure.
• If the **government were to impose an indirect tax** on producers corresponding to the EMC at Q_S (distance BD) on each unit of cars, the private marginal cost (PMC) will shift upwards so that the new PMC (i.e. PMC + tax) coincides with the PMB at Q_S.
• Thus, socially efficient quantity Qs, where full social costs and benefits are taken into account (i.e. SMC=SMB), is achieved.
 	
• **If** the tax accurately reflects the external marginal cost (TAX=EMC),
  ○ producers now in effect paying for the use of the environment as the price they are receiving is now lower at P_S – t, compared to P_m before the tax.
  ○ consumers are now in effect paying for the external cost they impose on others as the price they are paying is now higher at P_S, compared to P_m before the tax.
• **The externality has then been internalised or priced in.**
	measure and impose different tax rates on different firms or consumers. It would add on to the administrative costs of imposing the taxes.
	
	Evaluation:
	• Despite its problems, a Pigouvian tax like this is a market-based approach which allows the producers and consumers to decide what and how much to produce, as long as they take into account full social costs and benefits.
	• Moreover, the monetary cost of paying taxes incentivises producers and consumers to seek ways to reduce the external costs.

Governments can also improve the equity of outcomes through indirect taxation – **Optional point as Equity is less emphasized in H1 syllabus**	**In the absence of market failure** however, government's imposition of indirect taxation will only disrupt the working of the free market.

Government can also improve the equity of outcomes through indirect taxation via the redistribution of income. The classic Singapore example is the GST voucher introduced in Budget 2012. The government imposes a 7% GST and since the rich pays a higher amount of GST in absolute terms, the government is able to use the tax revenue to fund the GST voucher scheme for the poorer Singaporeans.

Also, such revenue raised through indirect taxes can also be used by the government to fund education and retraining programs for the unskilled workers, who are typically the lower income groups, to raise their labor productivity and hence their wages.

Figure 2: Socially Efficient level of Good X using marginalist principle



In the absence of market failure, DD = PMB = SMB and SS = PMC = SMC.

- At Q_S, SMB=SMC. Hence the quantity of good X produced is socially efficient and social welfare is maximised. I.e. An allocative efficient amount of resources are used to produce the socially desirable quantity of Good X.
- At Q_1, $SMB_{Q1} > SMC_{Q1}$. Thus society values an **additional** unit of Good X <u>more</u> than the **additional** cost that will be incurred in its production. And this is the situation faced for any quantity of Good X that is <u>less than</u> Q_S. Hence, social welfare is not maximized and there is room for improvement in social welfare if the quantity of Good X is <u>increased</u> until Q_S. So at Q_1, there is <u>under</u>production/consumption of the good.
- At Q_2, $SMB_{Q2} < SMC_{Q2}$. Thus society values an **additional** unit of Good X <u>less</u> than the **additional** cost that will be incurred in its production. And this is the situation faced for any quantity of Good X that is <u>greater than</u> Q_S. Hence, social welfare is not maximized and there is room for improvement in social welfare if the quantity of Good X is <u>decreased</u> until Q_S. So at Q_1, there is <u>over</u>production/consumption of the good.
- **Any imposition of tax when there is <u>no</u> market failure will shift the PMC curves upwards and results in a market equilibrium quantity less than Q_S, resulting in underconsumption or underproduction.**

<u>Other discussion points (tackling broader contexts of Indirect Tax – Just briefly explain for Macro aspects will do as the main focus of question is still Micro – Intervention in "Free Market"):</u>

<u>Micro aspects</u>

➢ Indirect tax impose excessive tax burden on consumers - when dd is relatively inelastic

<u>Macro aspects</u>

➢ Indirect taxes, like GST can help to raise tax revenue for government expenditure which can promote both micro (e.g. merit good) and macroeconomic objectives (growth)

➢ However, indirect tax like GST can have contractionary effect for economy (opp cost - worsening growth) and regressive in nature (worsening equity)
➢ Effects need to be carefully weighed

Justified Conclusion

- While the market may fail to achieve allocative efficiency due to market failure, government intervention in terms of indirect taxation is necessary to bring about better outcome for societal welfare, like in the case of negative externalities.
- However, as analysed above, indirect taxation may bring about unintended consequences like further welfare loss when the externalities is small/negligible.
- In the broader sense, an economy wide indirect taxation like GST while bringing about benefits like improved government budget balance, may have regressive effect, which worsens income distribution.
- It would be difficult to conclude in a sweeping manner that indirect taxation does “more harm than good”, given that the circumstances and context of the implementation would vary from country to country.
- Hence, the benefits and costs of government efforts to intervene in the working of the free market must be weighed carefully in the unique circumstances of each economy

Level		**Descriptors**
L3	9-11	There is excellent analysis of how government intervention through indirect taxation works to correct negative externalities in context of free market. There is excellent breadth and depth of discussion on the effectiveness and potential problems associated with indirect taxation in free market. (Scope of discussion can go beyond externalities.) Answer is well supported by good exemplifications and illustrations.
L2	6-8	There is some understanding of negative externalities and how government intervention through indirect taxation works to correct the externalities. However there is lack of scope and/or depth in the answer. Explanation may be under-developed and may lack logical presentation.
L1	1-5	Descriptive answer with inadequate economic analysis. Answer contains basic errors.
E2	3-4	Substantiated judgment
E1	1-2	Unsubstantiated judgment OR Largely unsubstantiated judgment

4. There are conflicts between the macroeconomic objectives of governments. Thus, the governments need to set priorities in order to decide which policies to adopt.

a) Explain the possible conflicts that exist between the major macroeconomic objectives of governments. (10)

b) Discuss the extent to which supply side policy can achieve the macroeconomic objectives of Singapore. (15)

<u>Part (a)</u>

Introduction:

The 4 major macroeconomics objectives of government include the pursuit of sustained economic growth, full employment, price stability and balance of payments equilibrium. In practice, the government's role in managing the economy is often complicated by conflicts that exist in terms of pursuing these goals. Thus, governments often have to balance trade-offs and set priorities.

Body:

Explain the macroeconomic objectives:

- Sustained economic growth refers to economic growth that is neither too fast nor too slow relative to the economy's potential output i.e. where actual growth is supported by potential growth, such that economic growth is non-inflationary.

- Full employment refers to an economy experiencing low cyclical unemployment or at the natural rate of unemployment (which is made up of frictional and structural unemployment) usually between 4 – 6% unemployment rate in most larger countries.

- Price stability refers to low inflation where a sustained rise in general price levels of a given basket of goods and services is under control e.g. 2% (which is mild inflation)

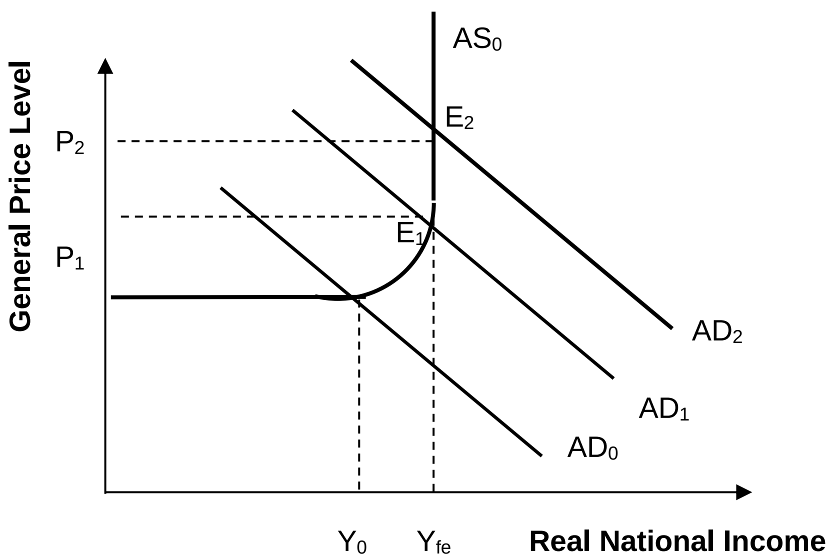
- Balance of payments equilibrium is usually taken to mean that the trade and capital flows into and out of the country are equal over a number of years. A country is in a stable and self-sustaining position if either its current account remains in balance over reasonable periods of time, or any imbalance is matched by long-term capital flows.

Explain the conflicts that exist between them:

(1) Economic growth/ low unemployment and price stability – Most important one!

- As governments pursue economic growth to create sufficient jobs for the labour force (preventing unemployment), growing too fast may inevitable conflict with price stability as it might cause overheating or create inflationary pressure.
- Using AD/AS analysis, when the economy approaches the full employment level (i.e. near the vertical portion of the LRAS curve), the pursuit of growth through expansionary fiscal and monetary policy will result in supply capacity constraints in the short-run and lead to higher demand-pull inflation.
- With reference to Figure 1, pursuing rapid growth implies that the government has to boost AD through expansionary policies such as increasing government spending or cutting direct taxes to stimulate private consumption and investment expenditure.
- Thus, in the short run, the AD could rise faster than the potential output causing demand-pull inflationary pressures illustrated by the rightward shift of the AD function from AD_0 to AD_1 to AD_2.
- In this instance, the economy "overheats" and prices rise from P_0 to P_1 to P_2 as there is insufficient unused capacity to produce more output to meet the rising demand.

Figure 1: Rapid growth at the expense of demand-pull inflation



Cost-push inflation: Governments of open economies may use depreciation of their currency to make exports more price competitive during recessions in order to boost growth. While this policy helps to improve net exports and hence actual growth, it makes imports more expensive. If these imports are required in the production of goods and services, imported inflation arises**. (to elaborate using the SRAS analysis)**

(2) Economic growth and BOP equilibrium

Governments can pursue actual growth via expansionary monetary policy (i.e. lowering interest rates). However, this results in hot money outflow which worsens the Financial account and hence the BOP, possibly resulting in a deficit.

(3) Economic growth and structural unemployment

Open economies which seek to grow by developing a new comparative advantage (e.g. capital-intensive manufacturing) after having lost their former comparative advantage (e.g. in labour intensive production) to emerging economies, are likely to use supply side policies to restructure the economy. By doing so, low-skilled workers are likely to face a loss of jobs due to mismatch of skill set with the requirements of the new jobs offered.

(4) Price stability and BOP equilibrium

Governments which seek to control cost-push inflation by appreciation their currency are likely to face the problem of less price competitive exports and cheaper imports, resulting in the balance of trade and hence the BOP worsening, possibly leading to a deficit.

Level		**Descriptors**
L3	7-10	There is excellent explanation of the 4 macroeconomics objectives. At least three possible conflicts of macroeconomics objectives are well analyzed, with the use of relevant examples (or link to the use of macroeconomics policies).
L2	5-6	The explanation of the macroeconomics objectives and the possible conflicts among them is underdeveloped. Only one to two possible conflicts of macroeconomics objectives are well explained. The macroeconomics objectives were not well defined.
L1	1-4	Descriptive answer lacking in economic analysis. Lack understanding of the conflicts between macroeconomic objectives. OR Mostly conceptual errors.

Part (b)

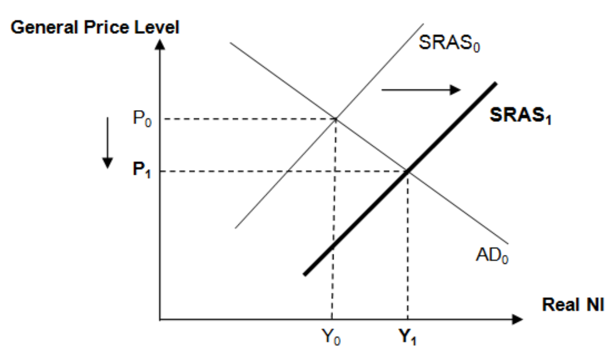
Introduction
Singapore adopts both short run and long run supply side policies (briefly define SR SSP and LR SSP).

Singapore is a small and open economy, heavy reliant on trade and imported raw materials – supply side policy is an important instrument that is used to achieve non-inflationary growth (sustained growth), lower inflation, reduce various forms of unemployment as well as to improve our BOP through increasing the price competitiveness of our export.

Thesis 1: ***Short run supply side policy*** can be effective to achieve ***economic growth, reduce cyclical unemployment and improve BOP.***

- Short-run supply-side policies primarily target at reducing business costs usually during situations such as recession or inflation.
- They are usually stop-gap measures that yield only temporary results.
- For instance, one option used by the government on multiple occasions is the CPF system. The CPF system being a compulsory savings plan requires both the employees as well as the employers to make monthly contributions to each employee's CPF account.
- The CPF effectively drives a wedge between (effective) wages and labour costs. Traditionally, higher wages imply higher labour costs while lower wages imply lower labour costs.
- In times of recession, the government can reduced the employer's CPF contribution, effectively lowering labour costs of all firms without hurting employees' take home pay. This helped to trim wage costs and allow many firms to retain a large portion of their work force with ***minimal retrenchments and hence cyclical unemployment.***
- The outcome is illustrated by an increase in the short-run aggregate supply (SRAS) curve, increasing output and lowering general price level.

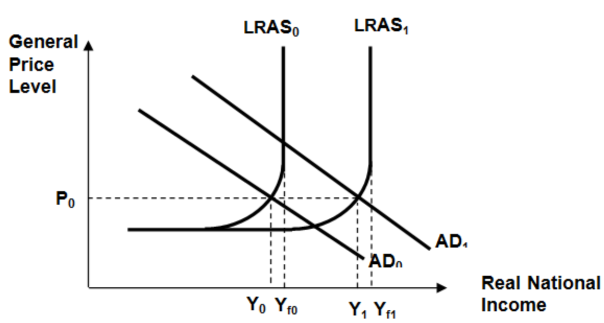
Figure 1: Short-run supply-side policies work to reduce GPL and raise Y



Anti-thesis 1: Short run supply side policy is ***ineffective to achieve economic growth, reduce cost-push inflation, reduce cyclical unemployment and improve BOP.***

- In the situation of recession, supply side policies do not solve the root of the problem which is demand-deficiency, although it helps to reduce the output gap and keep some businesses from going bust, thus saving some jobs.
- Allowing employers to cut CPF contribution is likened to slaughtering the 'sacred cow'. The CPF is meant to be a safety net for the people in terms of financing housing/medical and savings for retirement. Such cuts may result in some lower income households unable to pay their monthly housing loans via CPF and have to use cash for top-ups.
- While wage cuts are not possible in many other countries, they have been proven to be workable for Singapore due to the close working tripartite relationship between Management, Trade Unions and the Singapore government.

Impact on Output These short run supply side policies enable the national income to increase from Y_0 to Y_1 leading to ***actual growth*** of the economy while mitigating cyclical unemployment. **Impact on business cost** The lowering of cost of production (specifically wage costs) for firms can also boost the price competiveness of Singapore's export, hence ***improving our BOP***.	
Thesis 2: Long-run Supply side policy can be effective to ***reduce structural unemployment***. • The Singapore government funded upgrading courses to help structurally unemployed persons pick up new skills like language skills, IT skills, management skills as well as entrepreneurial skills. Some examples include courses provided by the **Continuing Education and Training Centres (CET)** which is accredited by Singapore Workforce Development Agency (WDA). With the newly-acquired skills, workers would be able to increase their labour productivity and hence enable firms to lower their unit cost of production. This is may be an added incentive for firms to retain workers during times of recession. • Initiatives such as the **Skills Development Fund (SDF), as well as the Lifelong Learning Endowment Fund and Workfare Training Support Scheme** provide subsidies to firms who sent their workers for re-training or upgrading courses to retain their employability. • In 2015, the government introduced new initiatives to support life-long learning and deepening of skills. The **SkillsFuture Credit ($500 grant)** is available for all Singaporeans above 25 to enhance their skills in work related areas.	**Anti-Thesis 2:** Long-run Supply side policy is ***ineffective to reduce structural unemployment***. **(1) Attitude, attitude and age of workers** • The main concern with such a policy lies in the **attitude, aptitude and age** of the workers who were sent for the courses. • Without a good attitude towards learning, an aptitude and flair for learning new skills, and the ability to internalise the skills set learnt quickly, the level of productivity may not have increased as desired and hence render the policy less effective. • Usually there is great resistance in acquiring new skills, especially among older workers. • Furthermore, workers who are lacking in basic education and literacy may find the acquisition of new skills to be extremely difficult. **(2) Willingness of employers** • While the government dishes out subsidy for training, the success of these programmes depends on the employers' willingness to allow their employees to miss work and go for training. • Also, employers may not be willing to reemploy elderly workers and train them and would probably be prepared to pay only very low wages. **(3) Strain on budget** • The cost of providing or subsidising training can impose a burden on the government budget. • For example in Singapore, whether the government can afford to keep on

	drawing down on past public sector surpluses to finance such spending may be questionable. The shrinking labour force reduces government's ability to collect taxes and the ageing population increases demand on government's welfare spending. Less government reserves would reduce government's ability to fight future economic downturns.
Thesis 3: Long-run Supply side policy is effective to ***<u>reduce demand-pull inflation</u>***. • Demand-pull inflation is a result of excessive demand while facing with a supply bottleneck. Thus, besides using contractionary fiscal or monetary policies to dampen AD, it is necessary to increase the economy's productive capacity ***<u>through long run supply side policies.</u>*** • One unique way in Singapore is to allow more foreign workers to enter Singapore to complement the local workforce. This allows the LRAS (as well as the SRAS) to temporarily shift rightwards, creating more capacity to meet the rising demand. One advantage of this **buffer labour policy** is that when AD is low, these foreign workers would return to their home countries and hence do not contribute to Singapore's unemployment. **Figure 2: Long-run supply-side policies work to attain non-inflationary growth**  • With reference to Figure 2, the use of long-run supply-side policies shifts the LRAS curve from $LRAS_0$ to $LRAS_1$. There is growth in the potential capacity of the economy. As a result, the full employment level of national income rises from Y_{f0} to Y_{f1}. • As a result, the economy experiences an increase in output from Y_0 to Y_1 with little or no impact on general price level (as shown in the diagram above) and ***<u>non-inflationary economic growth</u>*** is achieved.	**Anti-Thesis 4:** Long-run Supply side policy is ***<u>ineffective to reduce demand-pull inflation</u>***. • One limitation of supply side policies is that it takes times to bear fruit.

Overall evaluation & Conclusion

Supply side policies in Singapore are primarily used to achieve non-inflationary growth, reduce various forms of unemployment as well as to improve our BOP through increasing the price competitiveness of our export. The role of SSPs is to complement the demand side of the economy. At the end of the day, it is not possible for an economy to keep on growing (i.e. generating more output) simply by spending or boasting demand. The economy must have enough productive resources of the right type so that producers can continuously draw upon these resources to churn out those goods and services that are in demand. Nonetheless, SSP has its limitations like its inability to deal with cost-push inflation in Singapore, and thus SSP should be augmented with policies like GRAMA to better achieve various macroeconomic aims.

Level		**Descriptors**
L3	9-11	There is excellent analysis of how both short run and long run supply side policies help to achieve the various macroeconomics objectives. There is good knowledge of supply side policies used in the Singapore context as well as their limitations Analysis of how supply side policies achieve at least three macroeconomics objectives.
L2	6-8	There is attempt to explain how both short run and long run supply side policies help to achieve the various macroeconomics objectives of Singapore. However, there is lack of examples of policies used in the Singapore context. Analysis of how supply side policies achieve two or less macroeconomics objectives.
L1	1-5	Descriptive answer lacking in economic analysis. OR Mostly conceptual errors.
E2	3-4	Substantiated judgment of effectiveness of supply side policies in achieving the various macroeconomics objectives of Singapore.
E1	1-2	Unsubstantiated judgment OR Largely unsubstantiated judgment of effectiveness of supply side policies in achieving the various macroeconomics objectives of Singapore.

ECONOMICS 8819/01

Paper 1 **25 August 2017**

3 hours

Additional Materials: Writing Paper and Cover Page

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/tape.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Please begin each question on a **fresh sheet of paper**.

At the end of the examination, **submit each question separately**.

Attach a **cover page** to **each case study question in Section A and essay in Section B.** Write the **corresponding question number** on the cover pages.

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.

You are advised to spend several minutes reading through the data before you begin writing your answers.

You are reminded of the need for good English and clear presentation in your answers.

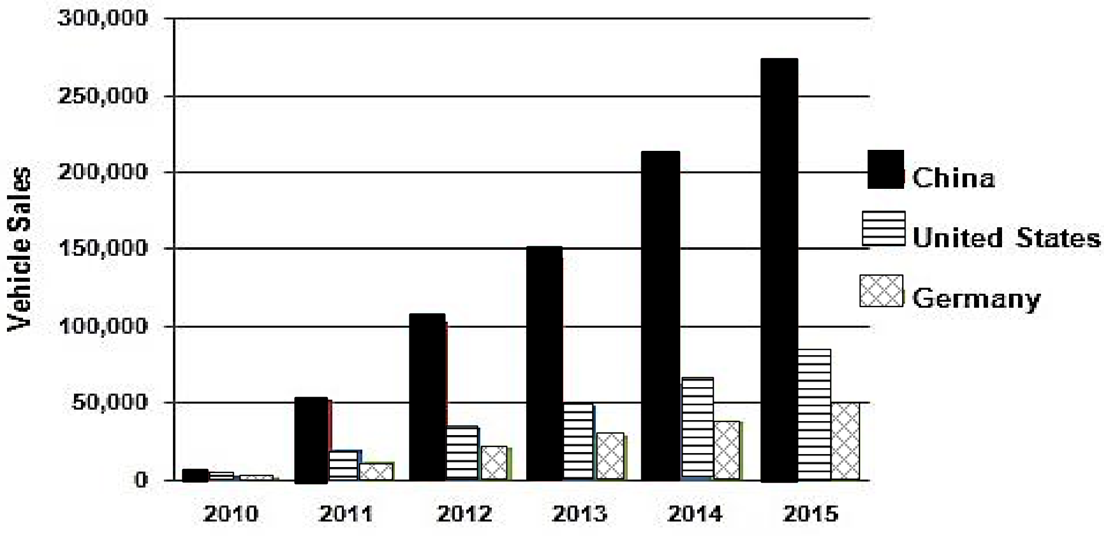
Section A

Answer **all** questions

Question 1

Sustainable Road Transport and Clean Energy Economy

Figure 1: Battery Electric Vehicle Sales



(Source: Pike Research)

Extract 1: Electric Car Sales Are Surging

The number of electric vehicles on the road rocketed in 2016 after being virtually non-existent just five years ago, according to the International Energy Agency (IEA).

Registered electric vehicles on roads worldwide rose 60 percent from the year before. "China was by far the largest electric car market, accounting for more than 40 percent of the electric cars sold in the world and more than double the amount sold in the United States," an IEA report wrote. "It is undeniable that the current electric car market uptake is largely influenced by the policy environment."

Countries and cities are looking to electric vehicles to help tackle their air pollution problems. In order to limit global warming to below 2 degrees Celsius, the world will need 600 million electric vehicles by 2040, according to the IEA.

Rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars with BP Chief Economist Spencer Dale forecasting that an electrical vehicle's "cool factor" could spur sales to 450 million by 2035.

Source: https://www.bloomberg.com, 7 June 2017

Extract 2: Move from fuel duties to road pricing

UK Transport Minister Norman Baker said a national system of road pricing was inevitable. He explained that the drift towards electric and cleaner cars would force the UK Treasury to look at replacing the billions of pounds it is likely to lose through traditional carbon tax revenues. Mr Baker wants a "revenue neutral" system of road pricing in which there would be no difference in overall costs for the average motorist. Hence, the vehicle excise duty would be scrapped and fuel duties lowered to offset the costs of the new charges from road pricing. He said, “It wouldn’t be an extra tax, it would be just a different way of raising money. You could have a charge per mile for roads like motorways. You could then offset that by abolishing road tax and by reducing fuel duty so that they would even out. That seems to me to be entirely equitable and sensible environmentally.”

A deeper look into trends also shows traffic on the roads is set to increase again in the coming decades, exerting pressure on the UK’s road infrastructure and exacerbating the problems of congestion and pollution. Therefore, Mr Baker also expressed his wish for policy makers to examine increasing expenditure on improving UK’s road network, which is essential to promote economic growth.

Source: http://www.express.co.uk, accessed 28 Jul 2017

Extract 3: The need for sustainable road transport

The transport sector contributes around one quarter of Europe’s greenhouse gas emissions, thereby contributing to climate change. With government funding like subsidies, the electric vehicles has the potential to contribute to a considerable decarbonisation of the future road transport sector and improved efficiency in resource allocation.

Increasing the numbers of electric vehicles can significantly reduce direct carbon emissions and air pollutants from road transport. However, these positive effects can be partially offset by additional emissions caused by the additional electricity required to power the vehicles and continued fossil fuel use in the power sector. Higher emissions would result from the associated fossil fuel combustion in the electricity-generating sector if reductions in electricity demand are not made in other sectors by energy efficiency improvements. Overall, the avoided carbon emissions in the road transport sector can outweigh the higher emissions from electricity generation in EU. In countries with high shares of fossil fuel power plants, this is not the case.

The difference in emissions of air pollutants from the road transport sector and electricity generation cannot be compared directly in terms of their respective impacts on health. Emissions from road transport occur at ground level and generally in areas where people live and work, such as in cities and towns, so much of the population is exposed to them. In contrast, power stations are generally outside cities, in less populated areas. As a result of this lower exposure, a shift of emissions from the road transport sector to the power generation sector can therefore be beneficial for health.

Source: http://www.airqualitynews.com, 26 June 2017

Extract 4: Creating the Clean Energy Economy

There is good reason to expect the move towards developing the electric automobile industry to bring about benefits and improvements in living standards in the US. Though it might likely lead to some job losses in other sectors, like the oil industry, increasing adoption of electric vehicles can drive job creation in a host of industries. More efficient automobiles require more technology in the design and production process. Many jobs would be created in industrial sectors closely tied to auto manufacturing, advanced batteries, and research and development.

Moreover, electric vehicles are much cheaper to operate than conventional vehicles. Drivers who switch to electric vehicles will have more disposable income to spend in other sectors of the economy, such as housing and services. Spending in these sectors keeps more wealth moving within local economies and will drive job creation in sectors not immediately connected to producing electric vehicles. Direct jobs are created through increased production by firms that make electric vehicle components and infrastructure. Indirect jobs are those tied to firms that supply to these direct producers. Further, higher employment in direct and indirect jobs leads to more spending in the broader economy. These create induced jobs in industries like food, clothing, and entertainment.

Additionally, electric vehicles can reduce an economy's reliance on foreign oil and lead to massive amounts of wealth staying local and creating jobs. Savings on petrol can add up to significant benefits to local economies. A study by the California Electric Transportation Coalition found that each dollar saved from petrol spending and spent on other household goods and services generates 16 jobs in the state.

Source: http://www.iedconline.org, accessed 28 July 2017

Questions

(a) Compare the battery electric vehicle sales of China, US and Germany from 2010 to 2015. [2]

(b) With reference to Extract 1 and using demand and supply analysis, explain how "rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars". [4]

(c) With reference to Extract 2:

(i) Analyse the likely impact of both lower fuel duties and the introduction of road pricing on UK's government revenue. [5]

(ii) Explain how increasing expenditure on improving road network to address the problems of congestion and pollution can promote economic growth. [3]

(d) With reference to Extract 3, comment on the extent to which government subsidy for electric vehicles can lead to "improved efficiency in resource allocation". [6]

(e) Extract 4 mentioned that the US is moving from the oil industry towards the electric automobile industry.

(i) With the aid of a diagram, explain how the opportunity cost of producing electric automobile in the US might be affected by such a move. [2]

(ii) Discuss the view that "there is good reason to expect the move towards developing the electric automobile industry to bring about benefits and improvements in living standards". [8]

[Total: 30]

Question 2

ASEAN: Growth and Unemployment

Table 1: Macroeconomic Statistics for Selected Asian Economies, 2015

	Philippines	Singapore	Burma	Indonesia	Vietnam
GDP per Capita (US$)	2878	53629	1194	3336	2107
Nominal GDP Growth (annual %)	6.1	1.9	7.3	4.9	6.7
Unemployment (% of total labour force)	6.3	1.7	0.8	6	2.1
Population Growth (%)	1.6	1.2	0.4	1.2	1.1
% change in CPI	1.4	-0.5	10.8	6.4	-0.2
Current Account of Balance of Payments (US$ billion)	7.2	53.7	-2.4	-17.5	0.90
Net inflows of foreign direct investment (US$ billion)	5.6	70.5	4.0	19.7	11.8

Source: http://databank.worldbank.org

Extract 5: As Driver of World Economic Growth, Asia's Vulnerabilities Emerge

Asia will continue to be the driving force in world economic growth in 2015, according to a recent outlook report from the Asian Development Bank. Southeast Asia's two most populous countries, Indonesia and the Philippines, are projected to be the fastest-growing economies within the ASEAN+6 group, according to OECD.

Underpinning economic growth in Asia is not only the rise in domestic demand, particularly for middle-income countries such as Thailand and Malaysia, but also an increase in foreign investment in less developed countries such as Vietnam where manufacturing output growth is particularly strong as foreign-invested factories boost the production of goods for export.

Despite this impressive growth, Asia faces several major challenges. One is the uncertainty of China and India's growth outlook in the long term and their capacity to implement policy reforms. Slowing economic growth in China may dampen trade prospects of other Asian countries such as Vietnam, where China is a major trading partner, while continued low global commodity prices will reduce export earnings for countries with key sectors in oil and agriculture.

Source: Adapted from The Asian Foundation, 27 October 2015

Extract 6: Opportunities and fears as Asean prepares for a single market

South-east Asian marketplace home to 620 million people with a $2.4 trillion (£1.5tn) economy is poised to follow the European Union's lead and declare itself a single market this year.

The EU-styled economic market aims to ease tariffs, increase investment and labour flows and open borders by December across 10 countries: Burma, Brunei, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and Vietnam – a move that has already attracted significant investment to the region.

The variance among its economies, however, means certain countries already benefit more from the united marketplace than others, a report has found. Singapore remains the preferred regional base for 80% of multinational companies thanks to its international finance hub and open markets. Up-and-coming economies with strong manufacturing pulls such as Indonesia and Burma are expected to profit as well.

A growing middle class across the region also means healthy domestic markets, and as the cost of labour in China rises, the potential for Asean – and its pool of both skilled and unskilled workers – increases as well.

But Asean's focus on trade could ultimately prove problematic for the region's 620 million citizens, say activists. Companies are profiting from investment-friendly protection measures at the expense of citizens. "What's potentially at risk in such an arrangement are national regulations protecting rights of local communities, extending protection to workers, and stopping industrial pollution that make people near factories or mines sick," says Phil Robertson, of Human Rights Watch.

Source: https://www.theguardian.com, 3 February 2015

Extract 7: Southeast Asia, huge opportunity, significant challenges

Southeast Asian nations must double their productivity to see continued economic growth, according to a new report by global management consulting firm McKinsey & Company. According to Dr. Thompson, many countries had previously relied on an expanding labour force to fuel growth.

Now that many workers have already shifted from agriculture into higher-value sectors, such as manufacturing, the way to tackle the potential slowdown, according to Thompson, is to find significant improvements in productivity. "Productivity remains at worryingly low levels in most Southeast Asian countries, which hampers their ability to continue to raise living standards for its people," the report says.

In the report, two paths identified to improving productivity and securing the region's ongoing prosperity are capturing a greater share of global flow of goods, services and finances across borders and deploying disruptive technologies across a range of industries and sectors.

With its proximity to India, China and Japan, ASEAN is well positioned geographically to benefit from global trade flows. Dr. Thompson points out that as labour costs in China increase, there is an opportunity for ASEAN countries to capture some of that manufacturing business.

Mobile internet, big data, the Internet of Things, the automation of knowledge work and cloud technology – according to the McKinsey report, are five technologies that have the potential to create between US$220 billion and US$625 billion in annual economic impact by 2030. Although there is a huge appetite for technology among consumers – the region ranks third in the world in terms of mobile phone usage – adoption in business has been slow.

Governments who seize the opportunity could "leapfrog" ahead, according to the report. But it also warns that while these technologies could help accelerate a country's progress, they are likely to cause disruption in the labour market as certain jobs become obsolete due to automation. This means that governments must be ready to provide support and retraining to equip people with the skills required to participate in a newly digital economy.

Source: https://www.futurereadysingapore.com, 7 April 2015

Questions

(a) Explain **two** macroeconomic indicators from Table 1 that you would use to justify that Philippines' economic performance is better than Indonesia, both internally and externally. [4]

(b) Table 1 shows that Vietnam registered positive GDP growth with negative change in CPI.

Using AD-AS analysis, explain why despite a strong positive GDP growth, there was a negative change in the consumer price index in Vietnam. [4]

(c) With reference to Extract 5, analyse how both 'slowing economic growth in China' and 'continued low global commodity prices, would affect Singapore's balance of payment. [5]

(d) Explain why ASEAN's move towards EU-styled economic market mentioned in Extract 6 has attracted investment into the region. [3]

(e) To what extent does economic theory explain why Singapore is the preferred regional base for multinational companies while countries such as Indonesia and Burma are preferred for manufacturing industries? [6]

(f) Extract 7 suggested two ways in which ASEAN countries can improve productivity and secure the region's ongoing prosperity.

Discuss the challenges faced by a more developed ASEAN economy such as Singapore and a less developed ASEAN economy such as Vietnam in adopting the two ways. [8]

[30 Marks]

Section B

Answer **one** question in this section.

3 In a free market, prices of agricultural products is known to fluctuate widely compared to manufactured consumer goods. In the event of market failures, governments influence market price through indirect tax or subsidy to bring about more efficient allocation of resources.

(a) Explain why prices of agricultural products fluctuates widely compared to manufactured consumer goods. [10]

(b) Discuss the view that influencing market prices through indirect tax or subsidy is the most effective method to bring about more efficient allocation of resources when the market fails. [15]

4 Governments usually have a few macroeconomic objectives to meet, however, it is often challenging to achieve these objectives simultaneously due to conflicts between them.

(a) Explain why government tend to have a low rate of unemployment and a low rate of inflation as macroeconomic objectives. [10]

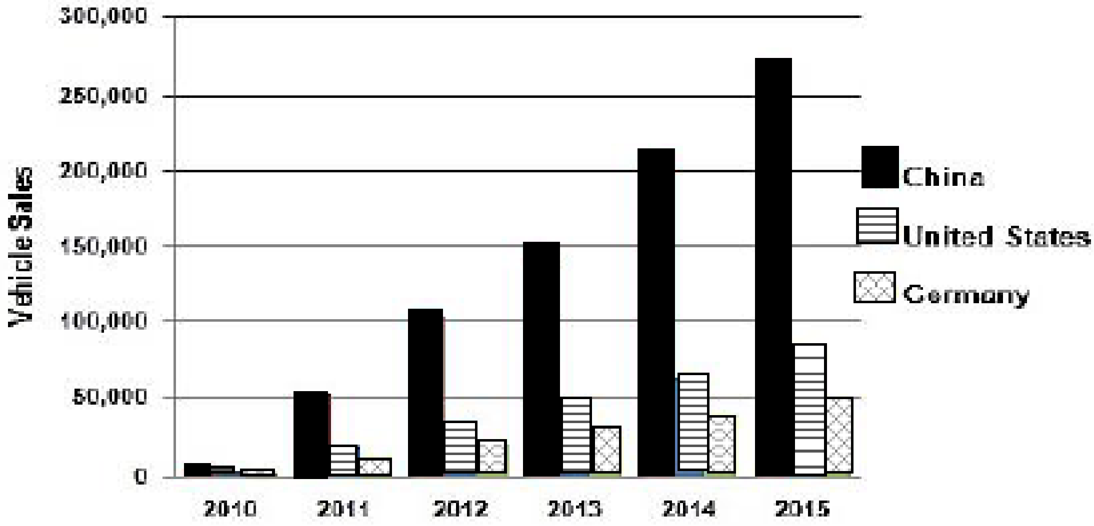
(b) Discuss whether conflicts in pursuing macroeconomic objectives is the main reason why Singapore government need to choose a mix of policies to achieve these objectives simultaneously. [15]

- End of Paper –

Question 1

Sustainable Road Transport and Clean Energy Economy

Figure 1: Battery Electric Vehicle Sales



(Source: Pike Research)

Extract 1: Electric Car Sales Are Surging

The number of electric vehicles on the road rocketed in 2016 after being virtually non-existent just five years ago, according to the International Energy Agency (IEA).

Registered electric vehicles on roads worldwide rose 60 percent from the year before. "China was by far the largest electric car market, accounting for more than 40 percent of the electric cars sold in the world and more than double the amount sold in the United States," an IEA report wrote. "It is undeniable that the current electric car market uptake is largely influenced by the policy environment."

Countries and cities are looking to electric vehicles to help tackle their air pollution problems. In order to limit global warming to below 2 degrees Celsius, the world will need 600 million electric vehicles by 2040, according to the IEA.

Rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars with BP Chief Economist Spencer Dale forecasting that an electrical vehicle's "cool factor" could spur sales to 450 million by 2035.

Source: https://www.bloomberg.com, 7 June 2017

Extract 2: Move from fuel duties to road pricing

UK Transport Minister Norman Baker said a national system of road pricing was inevitable. He explained that the drift towards electric and cleaner cars would force the UK Treasury to look at replacing the billions of pounds it is likely to lose through traditional carbon tax revenues. Mr Baker wants a "revenue neutral" system of road pricing in which there would be no difference in overall costs for the average motorist. Hence, the vehicle excise duty would be scrapped and fuel duties lowered to offset the costs of the new charges from road pricing. He said, "It wouldn't be an extra tax, it would be just a different way of raising money. You could have a charge per mile for roads like motorways. You could then offset that by abolishing road tax and by reducing fuel duty so that they would even out. That seems to me to be entirely equitable and sensible environmentally."

A deeper look into trends also shows traffic on the roads is set to increase again in the coming decades, exerting pressure on the UK's road infrastructure and exacerbating the problems of congestion and pollution. Therefore, Mr Baker also expressed his wish for policy makers to examine increasing expenditure on improving UK's road network, which is essential to promote economic growth.

Source: http://www.express.co.uk, accessed 28 Jul 2017

Extract 3: The need for sustainable road transport

The transport sector contributes around one quarter of Europe's greenhouse gas emissions, thereby contributing to climate change. With government funding like subsidies, the electric vehicles has the potential to contribute to a considerable decarbonisation of the future road transport sector and improved efficiency in resource allocation.

Increasing the numbers of electric vehicles can significantly reduce direct carbon emissions and air pollutants from road transport. However, these positive effects can be partially offset by additional emissions caused by the additional electricity required to power the vehicles and continued fossil fuel use in the power sector. Higher emissions would result from the associated fossil fuel combustion in the electricity-generating sector if reductions in electricity demand are not made in other sectors by energy efficiency improvements. Overall, the avoided carbon emissions in the road transport sector can outweigh the higher emissions from electricity generation in EU. In countries with high shares of fossil fuel power plants, this is not the case.

The difference in emissions of air pollutants from the road transport sector and electricity generation cannot be compared directly in terms of their respective impacts on health. Emissions from road transport occur at ground level and generally in areas where people live and work, such as in cities and towns, so much of the population is exposed to them. In contrast, power stations are generally outside cities, in less populated areas. As a result of this lower exposure, a shift of emissions from the road transport sector to the power generation sector can therefore be beneficial for health.

Source: http://www.airqualitynews.com, 26 June 2017

Extract 4: Creating the Clean Energy Economy

There is good reason to expect the move towards developing the electric automobile industry to bring about benefits and improvements in living standards in the US. Though it might likely lead to some job losses in other sectors, like the oil industry, increasing adoption of electric vehicles can drive job creation in a host of industries. More efficient automobiles require more technology in the design and production process. Many jobs would be created in industrial sectors closely tied to auto manufacturing, advanced batteries, and research and development.

Moreover, electric vehicles are much cheaper to operate than conventional vehicles. Drivers who switch to electric vehicles will have more disposable income to spend in other sectors of the economy, such as housing and services. Spending in these sectors keeps more wealth moving within local economies and will drive job creation in sectors not immediately connected to producing electric vehicles. Direct jobs are created through increased production by firms that make electric vehicle components and infrastructure. Indirect jobs are those tied to firms that supply to these direct producers. Further, higher employment in direct and indirect jobs leads to more spending in the broader economy. These create induced jobs in industries like food, clothing, and entertainment.

Additionally, electric vehicles can reduce an economy's reliance on foreign oil and lead to massive amounts of wealth staying local and creating jobs. Savings on petrol can add up to significant benefits to local economies. A study by the California Electric Transportation Coalition found that each dollar saved from petrol spending and spent on other household goods and services generates 16 jobs in the state.

Source: http://www.iedconline.org, accessed 28 July 2017

Questions

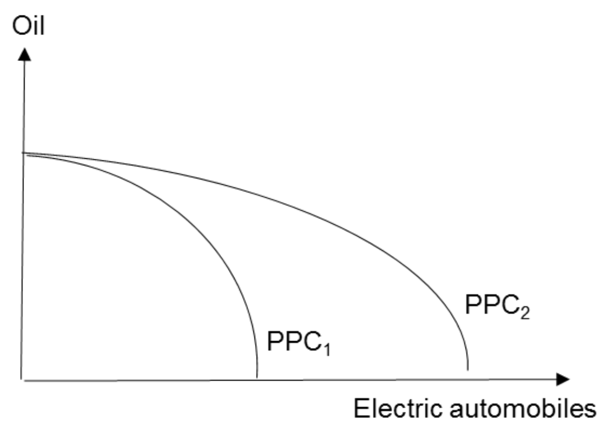
(a)		Compare the battery electric vehicle sales of China, US and Germany from 2010 to 2015. Answers: Any two from below - China consistently has the highest amount of battery electric vehicle sales, followed by the United States and Germany from 2010 to 2015. [1] - China experiences the greatest increase in battery electric vehicle sales each year from 2010 to 2015 as compared to the United States and Germany. [1] - The battery electric vehicle sales increase in all three countries. [1]	[2]
(b)		With reference to Extract 1 and using demand and supply analysis, explain how "rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars". Answer: Increase in DD for electric cars → shortage (Qd > Qs) at prevailing price → upward pressure on price [2] → higher expected profitability of selling higher-priced electric cars → producers increase the Qs of electric cars [2]	[4]
(c)		With reference to Extract 2,	
	(i)	Analyse the likely impact of both lower fuel duties and the introduction of road pricing on UK's government revenue. Answer: - Lower fuel duties → increase SS of fuel → lower price of fuel leads to less than proportionate increase in Qd (given fuel is a necessity for driving cars, PED of fuel <1) → the small gain in revenue from the increase in Qty is insufficient to cover the fall in fuel duty→ fall in govt tax revenue [2] - Introduction of road pricing → increase in govt tax revenue [1]	[5]

		- Increase in tax revenue from road pricing > fall in tax revenue from lower fuel duties (since PED of road usage <1, Qd fall less than proportionate to the increase in cost of road usage) → overall govt revenue increases [2] Revenue remains the same also accepted. (however is unlikely the case in reality to be the same although govt try to make it revenue neutral)	
	(ii)	Explain how increasing expenditure on improving road network to address the problems of congestion and pollution can promote economic growth. Answer: - Increase G and I (due to greater inflow of FDIs) → increase AD → increase RNY (Up to 2m) - Improved road network → lesser productive time wasted on the road due to ease of congestion problem; healthier workforce due to less pollution created → higher efficiency and productivity → increase productive capacity → increase AS → increase RNY (Up to 2m)	[3]
(d)		With reference to Extract 3, comment on the extent to which government subsidy for electric vehicles can lead to “improved efficiency in resource allocation”. Answer: <u>Govt subsidy for electric vehicles can improve efficiency in resource allocation</u> - Use of diesel cars generate negative externalities in consumption due to high amount of air pollutants emitted → existence of MEC causes divergence between MPC and MSC → Qe > Qs of diesel cars → allocative inefficiency - Govt subsidy for electric vehicles → lowers unit COP → increase supply of electric vehicles → lowers price → cause more consumers to switch from diesel cars to electric vehicles → higher consumption/ usage of electric vehicles→ reduce extent of negative externalities and hence DWL due to lesser usage of diesel cars → reduce allocative inefficiency <u>Govt subsidy for electric vehicles may not improve efficiency in resource allocation</u> - Burning of fossil fuels to generate electricity to power electric vehicles generate carbon emissions and air pollutants (extract 3) → existence of MEC as negative externalities are generated from consumption of electric vehicles → allocative inefficiency since MSC>MSB at Qe - Govt failure e.g. imperfect info → may not provide optimal amount of subsidy to increase production/consumption of electric vehicles to Qs <u>Comment on the extent</u> - The avoided emissions in road transport is likely to outweigh the carbon emissions from electricity generation (as power plants are usually located	[6]

		in less populated areas (extract 3) → lesser MEC) → overall efficiency in resource allocation should improve - Depends on whether firms continue to burn fossil fuels or switch to use alternative cleaner fuels to generate electricity to power electric vehicles	

Level of Response Mark Scheme (LORMS)		
L2	For a balanced and well-developed answer, explaining how govt subsidy for electric vehicles may AND may not improve efficiency in resource allocation. Answer is well-contextualised supported by evidence from the extracts. Insightful comment on the <u>extent</u> to which govt subsidy for electric vehicles improves efficiency in resource allocation.	4 – 6
L1	For an undeveloped answer that attempts to explain how govt subsidy for electric vehicles may AND may not improve efficiency in resource allocation. Answer may contain inaccuracies and conceptual errors. Max 3m – For a one-sided well-developed answer.	1 - 3

(e)		Extract 4 mentioned that the US is moving from the oil industry towards the electric automobile industry.	
	(i)	With the aid of a diagram, explain how the opportunity cost of producing electric automobile in the US might be affected by such a move. Answer: US seeks to lower the opportunity cost of producing electric automobile to gain a comparative advantage – less alternative goods e.g. oil forgone to produce an additional unit of electric automobile (as seen from the outward pivotal shift from PPC_1 to PPC_2) [1]	[2]



PPC diagram [1]

	(ii)	Discuss the view that "there is good reason to expect the move towards developing the electric automobiles industry to bring about benefits and improvements in living standards". Answer: <u>Development of the electric automobile industry will improve SOL for most people</u> - Lesser emissions of air pollutants → cleaner environment improves non-material SOL - Increase in employment in sectors related to auto manufacturing, advanced batteries and R&D (extract 4) → more people earning income and able to afford more goods and services → increase material SOL - Electric vehicles are much cheaper to operate than conventional vehicles → drivers who switch to electric vehicles will have more disposable income to spend in other sectors of the economy, such as housing, food, clothing and entertainment (extract 4) → increase C - Greater investments by firms on the development of electric vehicles (increase I) - Adoption of higher technology in the design and production process → greater productivity and efficiency in production→ increase productive capacity → increase AS - Increase in AD (due to increase in C and I) and increase in AS → higher actual and potential economic growth. Increase in RNY means an increase in household's income and purchasing power to buy more goods and services → higher material SOL. The higher tax revenue collected by the government can be used to fund the provision of public and merit goods such as defence, healthcare → improve non-material SOL. <u>Development of the electric automobile industry may not improve SOL for certain groups of economic agents such as workers and producers in the oil related industries</u> - Loss of jobs for those working in oil related industries (extract 4) → structural unemployment as they may not have the relevant skills to work in electric automobile industry. These workers would suffer a loss of income and hence lower ability to afford goods and services → fall in material SOL. (Evaluation: However, if government provides them with training to equip them with the necessary skills to work in electric automobile industry, they may be able to regain employment and improve their material SOL.) - Producers in oil related industries also suffer a loss in revenue and profits and may shut down → fall in material SOL - Additional carbon emissions from electricity generation to power the electric vehicles → could worsen the non-material SOL. (Evaluation: However, as the power generation plants are generally located outside cities, in less populated areas, the citizens may not suffer	[8]

from the air pollution. And if firms switch to use alternative cleaner fuels to generate electricity to power electric vehicles instead of burning fossil fuels, the citizens' SOL may not fall.)

Conclusion

- Generally agree with the view that the move towards developing the electric automobile industry is expected to bring about benefits and improvements in material and non-material SOL for most people in the economy due to: (1) creation of greater job opportunities in various industries and the increase in RNY; (2) a cleaner environment since the reduction in carbon emissions in the road transport sector can outweigh the higher emissions from electricity generation especially in countries with fewer fossil fuel power plants (e.g. in EU).
- Only those working in oil related sectors are adversely affected due to loss of jobs. But, if they are able to equip themselves with the relevant skills to transit to other growing industries i.e. electric automobile, their SOL could improve.
- As govt allocate more resources to the development of electric automobiles industry, there will be less resources available to develop other sectors such as education and healthcare which are also important to raise overall SOL in a country.

Level of Response Mark Scheme (LORMS)		
L2	For a balanced and well-developed answer which clearly explains how the move towards developing the electric automobiles industry may AND may not bring about benefits and improvements in living standards. Answer is well-contextualised with the supporting evidence from the sources.	4 - 6
L1	For an undeveloped answer which attempts to explain how the move towards developing the electric automobiles industry may AND may not bring about benefits and improvements in living standards. Answer has some relevance with regard to the context, but otherwise not contextualised based on the given extracts. Max 3m – One-sided answer.	1 – 3
E1	For value judgements made that are supported by economic reasoning. 1m - For value judgements made incidentally or without any reasoning.	1 – 2

[Total: 30]

Suggested Answers

(a)	Explain **two** macroeconomic indicators from Table 1 that you would use to justify that Philippines' economic performance is better than Indonesia, both internally and externally.	[4]
	Inflation Rate (1.4% vs. 6.4%) Philippines (1.4%) has a lower % change in consumer price index (CPI) as compared to Indonesia (6.4%). The lower % change in CPI in Philippines reflects greater price stability and smaller changes in general price level in the internal economy, as compared to Indonesia. – **2m** **Current Account Balance (Surplus vs. Deficit)** Philippine has a current account surplus (+7.2Bn) as compared to Indonesia which has a current account deficit (-17.5Bn). The difference in current account position reflects a greater money inflow (income) than outflow (expenditure) which could stem from Philippine's more competitive exports as compared to Indonesia (since trade account takes up a large proportion of the current account). This reflects a stronger & healthier external economy. – **2m** Nominal GDP is not a good reflection of real national output (i.e. If inflation rates are higher than % change in nominal GDP, real output of an economy is actually falling).	
(b)	Table 1 shows that Vietnam registered positive GDP growth with negative change in CPI. Using AD-AS analysis, explain why despite a strong positive GDP growth, there was a negative change in the consumer price index in Vietnam.	[4]
	A strong positive GDP growth is likely a result of a rise in aggregate demand (AD) of the economy. As more resources are utilised, general price level increases with greater competition for the limited resources, ceteris paribus. However, there have been inflow of foreign direct investment (FDI) into Vietnam as well (Extract 5, para 2). Successful investments increase the productive capacity of the economy and increases the long run aggregate supply (LRAS) → GPL falls, ceteris paribus – **3m** **(Also acceptable:** Low global commodity (e.g. oil, raw material) prices are falling → cost of production ↓, causing the short-run aggregate supply (SRAS) to increase → GPL falls, ceteris paribus.) It is likely that the rise in LRAS outweighs the rise in AD which resulted in an overall fall in GPL. Hence, there was a negative change. – **1m** Max 2m – Without any reference to the case evidence. Max 2m - if answer is one-sided, only contains mitigating AD factors such as, X falling even though C and I rises	

(c)	With reference to Extract 5, analyse how 'slowing economic growth in China' and 'continued low global commodity prices, would affect Singapore's balance of payment.	[5]
	Slowing growth in China → Less increase in household disposable income → poor economic outlook/expectation of future economic performance → fall in demand for goods and services including foreign imports. Demand of exports from Singapore to China fall → fall in export revenue. This worsens the current account (X-M) and hence the balance of payment (BOP) account. Ceteris Paribus. Continued fall in global commodity (raw materials, primary goods) prices → is cheaper for Singapore to import these commodity goods → quantity demanded of import rises. A small country like Singapore is heavily reliant on imports, demand for imports is likely to be price inelastic (PED_m < 1). Given a fall in price → quantity demanded increases by less than proportion → import expenditure ↓. Relaxing the earlier assumption, the combine effect of export revenue ↓ and import expenditure ↓ implies that the final impact on current account and hence BOP is uncertain. **Analysis 1:** The fall in X can outweigh the fall in M. This is due to the fact that China is a major trading partner of Singapore (Extract 5, para 3). Therefore, China is responsible for a large proportion of Singapore's export. It is likely that a slow down in China will reduce our export revenue significantly, especially when other top importer of Singapore's exports are also Asian countries (e.g. Malaysia, Indonesia, Hongkong), and they are affected by China's slowing growth as well. As a result, X falls by a larger extent as compared to M → <u>Current account may worsen → detoriate BOP position. Ceteris paribus.</u> **Analysis 2:** Impact on BOP can also change if the financial and capital account position changes. The rise in investment in other less developed countries such as Vietnam (Extract 5, para 2) may imply that foreign firms may relocate from Singapore to these countries. As FDI falls, capital and financial account may worsen. <u>As a result, if the negative change in financial & capital account outweighs the positive change in current account → BOP position may worsen</u> **(Note:** Students just require one well-explained analysis to access L2)	

Level of Response Marking Scheme (LORMS)		
L2	For a well-developed answer which explains both the impacts of the two economic event on SG's BOP position. For an answer that demonstrates analysis of the	4 - 5

	possible overall change in BOP position based on logical economic reasoning.	
L1	For an undeveloped answer which attempts to explain the impacts of the economic event on SG's BOP. Answer may be largely irrelevant or contains conceptual errors.	1 – 3

(d)	Explain why ASEAN's move towards EU-styled economic market mentioned in Extract 6 has attracted investment into the region.	[3]
	The move towards a single market following the European Union (EU) economic integration removes trade barriers which increases trade flows, as well as mobility of labour and capital. From (Extract 6), **<u>Increase Capital Investment Flows</u>** Greater ease of investment flows (para 2) (i.e. lowering administrative cost, relaxing legislation, removing complicated business law) which reduces cost of relocating and operating in ASEAN region. Hence attracting investments. **<u>Increase Trade Flows</u>** Removal of tariff (para 2) can help firms in member countries of ASEAN to gain access to more markets. This implies a potential increase in demand for goods and services and hence growth in the region (para 3). Increase in investments in the region therefore have a greater returns which incentivises investors. **<u>Increase Labour Flows</u>** Firms can leverage on a greater pool of skilled and unskilled labour (Para 4), both to lower cost of production as well as improve productivity of firms. Again, greater returns on investments, hence investments flows in. Any 2 points with explanation to gain max 3m. Max 2m - If link to returns on investments as well as profit consideration of firms are missing.	
(e)	To what extent does economic theory explain why Singapore is the preferred regional base for multinational companies while countries such as Indonesia and Burma are preferred for manufacturing industries?	[6]

Question approach: Students have to first recognise the different advantages Singapore and countries such as Indonesia can provide to MNCs and Manufacturing based firms. They then need to draw the necessary link that the advantage stems from differences in opportunity cost, which underpins the theory of Comparative Advantage (C.A.) This is also the economic theory referred to in the question. Students then have to consider other reasons for such a decision not related to the theory of C.A.

Suggested Answer:

Thesis: Economic theory such as the theory of comparative advantage can account for Singapore being a preferred regional base for MNCs and Indonesia and Burma remaining preferred for manufacturing industries.

The incentive to these firms stems from the lower opportunity cost of conducting business in these countries as compared to other countries. In the case of Singapore, her knowledge based economy, coupled with a skilful labour force, makes it a suitable country for MNCs to setup their regional base which involves more planning and services related operations that are less labour intensive but requires more skillful labour.

On the other hand, countries such as Indonesia and Burma are suitable to be manufacturing hubs because of the labour-intensive nature of manufacturing, as compared to operating regional headquarters of MNCs. Since these less developed countries have a relatively large pool of labour which results in lower labour cost as compared to other countries, manufacturing industries incur lower opportunity cost in manufacturing goods in these countries, as compared to other countries.

Anti-thesis: However, there are other advantages/reasons to account for the choice of these destination that are not based on economic theory.

Business Environment & Govenance
To setup regional hubs or manufacturing bases in another country depends on the business environment and often the political stability of a country. Singapore for example is often a preferred destination for regional hubs precisely because of her positive business environment such as technology pervasivessness and efficiency in administrative processes as well as good govanance which stems from strong legal systems. Singapore's competition law is well-enforced and prohibits anti-competitive behaviour which helps to build a strong and vibrant competitive market. Intellectual property law on the other hand, safe guards the interest of innovative firms, and plays a vital role in spurring innovation.

Trade Policies & Diplomatic Ties
Government's approach to trade as well as diplomatic ties established with other countries are also huge incentives to firms to relocate. Being an international finance hub (extract 6, para 3) implies that financial

transactions can be done with many other countries if firms setup regional office in Singapore. In addition, due to singapore's openness to free trade (extract 6, para 3), firms have greater ease of gaining access to foreign markets opening up greater revenue and profits potential.

Evaluation: While economic theory such as comparative advantage accounts for firms' decision of relocating and setting regional headquarters or manufacturing bases, business environment which is largely shaped by government policies is largely to play a bigger role in firms' decision. This is because, changes in government policies can easily erode comparative advantages. Taxation laws for example can easily increase cost of operation in a country signficantly.

Level of Response Mark Scheme		
L2	For a balanced and well-developed answer which clearly explains reasons (both economic theory and others) for MNCs preference to set up regional base in Singapore and manufacturing industries in Indonesia and Burma. Answer is well-applied to the context of both developed country like Singapore and less developed countries like Indonesia and burma.	3 – 4
L1	For a undeveloped answer which attempts to explain reasons for MNCs preference to set up regional base in Singapore and manufacturing industries in Indonesia and Burma. Answer has little or no reference to the context of both developed country like Singapore and less developed countries like Indonesia and burma.	1 – 2
E1	Value-judgements made that are well-justified. Max 1m for value-judgements made incidentally or without economic justifications.	1 - 2

(f) Extract 7 suggested two ways in which ASEAN countries can improve productivity and secure the region's ongoing prosperity.

Discuss the challenges faced by a more developed ASEAN economy such as Singapore and a less developed ASEAN economy such as Vietnam in adopting the two ways. [8]

Question Approach: Students have to first identify the two ways mentioned in the passages; capturing greater share of trade flows and deploying disruptive technologies. Students then have to explain the **different challenges** faced by these countries in adopting these measures, based on the **different characteristics of these countries.**

Introduction: Identify the two ways

The two ways to improve productivity and secure prosperity as outlined in (Extract 7) are to capture a greater share of flows of goods and services and to leverage on technology. However, developed economy such as Singapore and less developed economy such Vietnam face different challenges in adopting the two ways.

Body: Explain the challenges Singapore and Vietnam may face in capturing a greater share of flow of goods and services.

In capturing a greater share of global trade flows, Singapore may find it more challenging as compared to Vietnam. This is because of the cost disadvantage that Singapore has as compared to Vietnam. With a smaller pool of labour and the lack of natural resources, it has always been a challenge for Singapore to enhance the price competitiveness of her exports. Vietnam on the other hand has cost advantages because of her relatively low cost of production (e.g. lower labour cost) which translates to more competitive prices. As she opens up her domestic markets, Vietnam will find it much easier to attract buyers and export her goods and services as compared to Singapore.

Thus, Singapore's challenge is to also move up the value chain and focus more on higher value-added goods and services in order to remain competitive. This can be brought about by continuous process and product innovation. Even being less price competitive, the higher quality goods could increase exports demand. Trade policies such as signing more Free Trade Agreements (FTAs) will also be important to expand Singapore's pool of export destinations and boost export revenue as more trade barriers are being removed. These can bring about economic growth and help Singapore remain prosperous

Body: Explain the challenges Singapore and Vietnam may face in leveraging on technology.

On the other hand, Vietnam may find it more challenging to leverage on disruptive technology to improve productivity and secure prosperity. Being a less developed economy, the lack of technological infrastructures coupled with a relatively low level of technological adoption may impede Vietnam's move towards leveraging on technology. Singapore on the other hand is well positioned to leverage on technology as a developed economy where technology is pervasive in many aspects of the economy. This can help firms lower unit cost of production and develop new areas of comparative advantage in order to remain prospers.

Vietnamese government may also lack the required funds to invest in cutting edge technology which adds to the lack of infrastructures. In addition, educational levels are relatively low and it takes time for the labour force to gain the ability to employ technology to improve productivity. In contrast, Singaporean government has the necessary funding to push for greater information technology innovation as it sets the vision of developing the country to a Smart Nation. In addition, Singapore has a relatively skillful labour force which can more easily adopt technology to improve productivity.

Evaluation: Regardless, capturing greater share of trade flows often entails opening up domestic markets, while employing disruptive technology could break down barrier to entry to markets. These results in greater competition and possibly challenges such as a rise in unemployment. This is because domestic workers may get displace from their jobs with greater competition. Displaced workers who cannot find jobs in another industry due to a mismatch of skills may also find themselves structurally unemployed. These are added challenges that both countries may have to face as they adopt these ways to improve productivity and bring about economic prosperity.

Level of Response Mark Scheme		
L2	For a well-developed answer which clearly explains the different challenges of both economies by considering the nature of the economies.	4 – 6
L1	For an undeveloped answer which attempts to explain the different challenges faced by the two economies. Max 3m for answers which only consider challenges in one economy or provide general challenges as a whole without differentiating them for different economies.	1 - 3
E1	Value-judgements made that are well-justified. Max 1m for value-judgements made incidentally or without economic justifications.	1 - 2

[30 Marks]

In a free market, prices of agricultural products is known to fluctuate widely compared to manufactured consumer goods. In the event of market failures, governments influence market price through indirect tax or subsidy to bring about more efficient allocation of resources.

Explain why prices of agricultural products fluctuates widely compared to manufactured consumer goods. [10]

Discuss the view that influencing market prices through indirect tax or subsidy is the most effective method to bring about more efficient allocation of resources when the market fails. [15]

a) Intro: The price of agricultural products tends to fluctuate widely because the demand and supply of agricultural products is price inelastic. In this essay, we will explain the factors that affect the PED and PES of both agricultural and manufactured goods.

Paragraph 1: The demand for agricultural goods such as grain is price inelastic because it is an important factor of production for the production of food products like biscuits. However, the demand for manufactured goods like electronic appliances is generally price elastic because these goods have low degree of necessity. Therefore, this causes the price of agricultural goods to fluctuate more widely than that of manufactured goods.

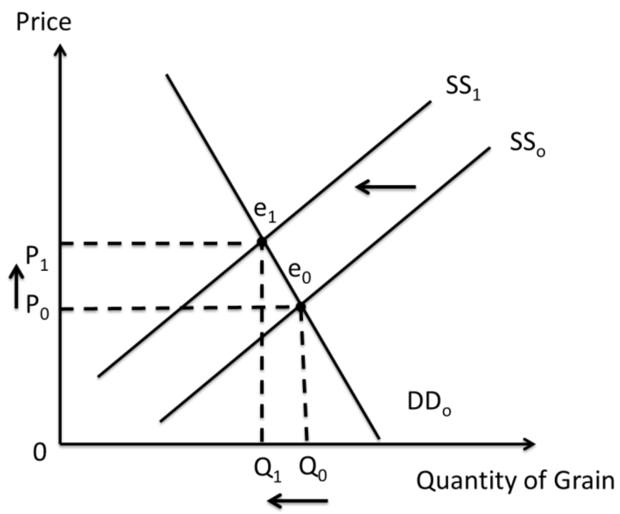
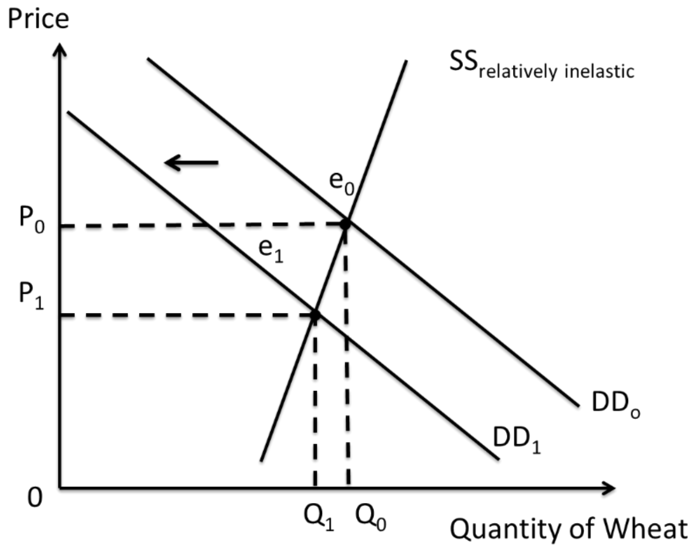


Figure 1: A Decrease in Supply of Grain

A fall in the supply of grain (SS_0 to SS_1) leads to a more than proportionate increase in the price of grain (P_0 to P_1) compared to quantity (Q_0 to Q_1). This explains the large fluctuations in the price of agricultural goods compared to manufactured goods.

Paragraph 2: The supply for agricultural goods is price inelastic because of the long gestation period compared to the production period for manufactured goods. Therefore, this causes the price of agricultural goods to fluctuate more widely than that of manufactured goods.



A fall in the demand for grain (DD_0 to DD_1) leads to a more than proportionate fall in the price of grain (P_0 to P_1) compared to quantity (Q_0 to Q_1). This explains the large fluctuations in the price of agricultural goods compared to manufactured goods.

Level	Descriptor	Marks
L3	Well-developed explanation of the factors that affect PED and PES. Excellent analysis of how PED and PES affects the fluctuation of prices. Well-developed examples to illustrate the above analysis.	7-10
L2	Under-developed explanation of the factors that affect PED and PES. Some analysis of how PED and PES affects the fluctuation of prices. Examples illustrate the above analysis to a limited extent. Max 5m for an essay that does not explain how PED and PES affects the fluctuation of prices.	5-6
L1	Vague description of PED and PES or some attempt to explain price changes with demand and supply shifts.	1-4

Question approach: The question requires candidates to explain how indirect tax or subsidy may influence market prices and correct market failure. Therefore, this should be the focus of the thesis paragraphs. Students should also consider different sources of market failure such as public goods, externalities and imperfect information.

b) Intro: The market may fail due to the presence of public goods, externalities or imperfect information. In event of this market failure, one policy the government can implement is an indirect tax or subsidy to ensure allocative efficiency. The government can also consider other policies such as public education or direct provision to help address the market failures.

Thesis: An indirect tax or subsidy is the best policy to ensure allocative efficiency in event of negative externalities and imperfect information.

In the case of a good with negative externalities, an indirect tax can be imposed on producers. This will increase the MPC for producers resulting in lower profitability. They are less willing and able to supply at each and every price level, hence supply falls. The market price of the good increases. As such, this will require producers to internalise the negative externality and reduce the level of over production in the market.
Evaluation: Whether taxes are effective depends on the PED of the good that results in negative externalities. For example, a tax on alcohol is ineffective because imposing a tax results in a less than proportionate fall in quantity demanded of alcoholic drinks (Q_0 to Q_1). However, a tax on air travel to reduce pollution is effective because imposing the same level of taxes results in a more than proportionate fall in quantity demanded of air travel.

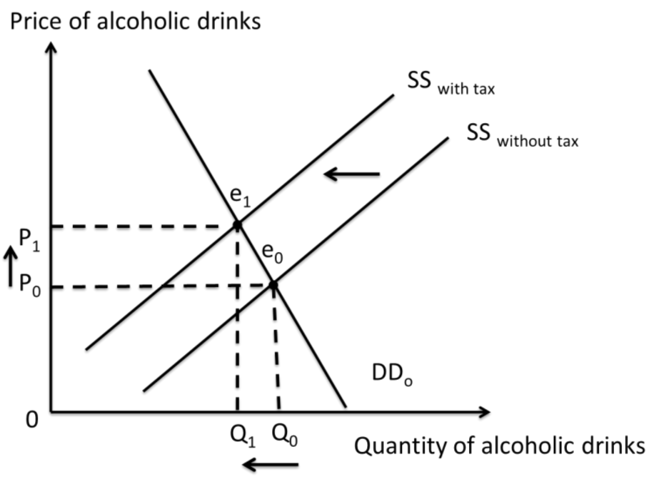


Figure 2: Indirect tax on alcohol

In the case of a merit good, there exists imperfect information because consumers do not know the full extent of the benefits of healthcare to themselves. For example, they may not know that going for cancer screenings when they are younger will reduce the risk of complications if the cancer is found when they are older. This means that the perceived MPB of treatments is lower than the actual MPB of treatments. As such, the quantity of healthcare consumed is at Q_m, which is less than the socially optimal level, Q_s. A subsidy will reduce the market price of healthcare treatments for consumers. For example in the case of healthcare, this will reduce the MPC for consumers because they pay less for treatments. (MPC $_{\text{without subsidy}}$ to MPC $_{\text{with subsidy}}$)

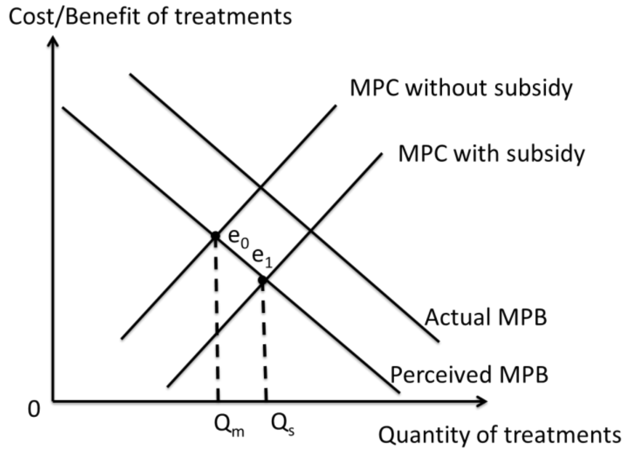


Figure 3: Merit good (healthcare)

As shown in Figure 3, consumers will consume healthcare when perceived MPB > MPC, up to the point where perceived MPB meets the new level of MPC, at Qs. This will mitigate the issue of under-consumption of healthcare due to imperfect information.

Evaluation: Whether subsidies are effective depends on whether the government is able to apply the correct amount of subsidy to raise the level of consumption. Furthermore, it may cause a strain on the government budget hence government should not rely on it to solve the market failure.

Anti-Thesis 1: An indirect tax or subsidy may not be the best policy to ensure allocative efficiency in event of negative externalities and imperfect information. Public education may instead be a better policy to correct the root cause of the problem and ensure a long term impact. In the case of a merit good like healthcare, public education will raise awareness of the importance of preventative measures like cancer screenings and inform the public that early diagnosis may reduce the risk of complications. Thus, the perceived MPB of healthcare treatments to consumers will increase and the quantity of treatments consumed will increase from Q_m to Q_s.

Evaluation: Public education may not have an immediate impact on raising the level of healthcare treatments as compared to subsidies because it takes time for consumers to change mindsets. However, it has benefits in the long run because a well-advertised campaign will pass down the practice of seeking early detection from one generation to another. Furthermore, an added benefit is that the government does not need to keep subsiding healthcare treatments.
Anti-Thesis 2: An indirect tax or subsidy is not the best policy to ensure

allocative efficiency in event of market failure due to public goods. Direct provision is a better policy to correct this market failure.

In the case of public goods, the price mechanism fails completely because there is no demand and no supply of the public good. A public good is both non-excludable and non-rivalrous. It is impossible or costly to prevent non-payers from enjoying the good or service therefore there is no willingness for consumers to pay for the good. Furthermore, the additional cost of providing the good or service is zero for each unit supplied. In a free market, this means that it is difficult for producers to charge a price. Hence, no provision of the good if left to the free market. As such, influencing market prices through an indirect tax or subsidy is completely ineffective at correcting the market failure. Instead, direct provision by government will ensure that the public good is enjoyed by the citizens of the country.

Evaluation: Whether a public good should be provided by the government depends on the extent of the benefits of the public good compared to the opportunity cost of spending government funds on the public good. For example, some local governments in the UK do not provide street lighting, preferring to employ cheaper measures such as cat eyes on the road and instead spend the limited government funds on more urgent uses such as unemployment benefits.

Conclusion: Whether the policy of indirect taxes and subsidies is the most effective will depend on the cause of the market failure. Furthermore, these policies may be effective in the short term but have limited long term impact, where another policy such as public education might be more effective.

Level	Descriptor	Marks
L3	Well-developed explanation of how <u>influencing market prices</u> through taxes and subsidies may correct the market failures in the case of merit/ demerit goods and goods with positive and negative externalities. Well-chosen examples illustrate how policies can correct the relevant market failures.	7-10
L2	Undeveloped explanation of explanation of how <u>influencing market prices</u> through taxes and subsidies may correct the market failures in the case of merit/ demerit goods and goods with positive and negative externalities. Examples illustrate how policies can correct the relevant market failures to a limited extent. Max 5m for an essay that does not consider the effects of how indirect taxes and subsidies on market prices.	5-6
L1	Vague description of taxes and subsidies with some attempt to explain how they can correct market failure. Explanation of market failures	1-4

	limited to only externalities.	
Level	Descriptor	Marks
E2	Balanced discussion of the effectiveness of policies and evaluative comments lead to a coherent judgement.	3-4
E1	Judgement without explanation. Scattered evaluative comments without any attempt to tie them into a meaningful conclusion.	1-2

4 Governments usually have a few macroeconomic objectives to meet, however, it is often challenging to achieve these objectives simultaneously due to conflicts between them.

(a) Explain why government tend to have a low rate of unemployment and a low rate of inflation as macroeconomic objectives. [10]

(b) Discuss whether conflicts in pursuing macroeconomic objectives is the main reason why Singapore government need to choose a mix of policies to achieve these objectives simultaneously. [15]

Draft1:

Suggested outline for Q4(a)

Low rate of unemployment and reasons
- definition and measurement
- efficient use of resources in an economy to produce a higher level of output - illustrate with a PPC – movement of a point closer to the PPC
- reduce poverty among those with zero income
- lower burden on public finance lower spending on financial assistance and additional revenue from direct and indirect taxes → funding to improve quality of SOL through provision of social amenities
- especially types of unemployment with longer term impact such as structural unemployment and youth unemployment

Low rate of inflation and reasons
- definition and measurement
- high inflation erodes the purchasing power of a given sum of money – c.p. – lower mSOL – greater impact on fixed income earners and retirees dependent on savings
- relatively higher general domestic prices as compared to trading partners - higher prices of goods produced domestically – reduces price competitiveness of domestically produced goods – lower demand for exports and higher demand for imports – lower AD and worsen BOT balance
- steady increase in prices → encourages firms to increase production as TR tend to increase faster than cost → promotes I → boost economic growth

Q4(a)

Knowledge, Application/Understanding and Analysis		
L3	• For an answer that contains well-developed explanation of low rate of unemployment and low rate of inflation and reasons for their choice as key macroeconomic objectives. • Reasons are supported by relevant economic concepts and tools. • Good explanation for both macroeconomic objectives is required to enter level 3.	**7-10**
L2	• For an answer that contains a descriptive explanation of both macroeconomic objectives and the reasons for their choice.	**5-6**
L1	• For an answer that contains limited knowledge of both macroeconomic objectives and / or reasons for their choice.	**1-4**

Markers comment

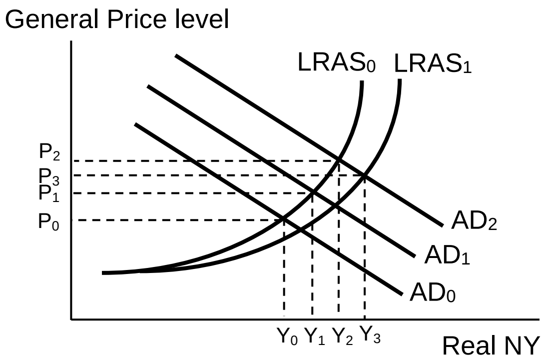
1) Most candidate were not prepared for consequence question on macroeconomic goals.
2) Several candidate mistaken higher employment for higher level of productivity or efficiency.
3) Most did not provide accurate definition for unemployment rate and inflation rate.
4) Generally weaker explanation on inflation
5) Concept errors – link low inflation to higher disposal income
6) Draw links between employment and economic growth through AD – should explain via multiplier effect
7) Several candidates define low inflation correctly as a steady increase in GPL but deduce that purchasing power of worker's income has increased. It is important to explain in terms of rise in nominal wages that is more than general price level.

(b) Discuss whether conflicts in pursuing macroeconomic objectives is the main reason why Singapore government need to choose a mix of policies to achieve these objectives simultaneously. [15]

Suggested outline for Q4(b)

Thesis: Explain why conflicts in these objectives necessitate the use of mix of policies to achieve macroeconomic objectives simultaneously

- Government attempts to achieve a lower rate of unemployment rate through expansionary demand management policies such as higher G - AD rises along upward sloping portion of AS curve (actual growth) from AD0 to AD2- when the Singapore economy close to full employment - competition for resources by producers bid up factor prices e.g. labour and land cost - translates into higher COP is then passed on to consumers through higher consumers prices – lower rate of unemployment – conflict with higher rate of inflation.



- The potential conflict require the use complementary supply side policy to achieve both lower employment rate and stable prices simultaneously. For instance, the government promotes lifelong learning and skills deepening through the SkillsFuture Credit (SFC) scheme which subsidies approved courses attended by workers. The scheme helps to improve productivity and relevance of skills among workers - increases the quality of our labour force - especially where Singapore being a small economy physically, has relatively small labour force and land area – continuously shift LRAS rightward from LRAS0 to

LRAS1. Since demand-pull inflation could occur due to productive capacity (i.e. LRAS) of the economy not increasing fast enough to accommodate increase in AD, if appropriate supply-side policies are adopted together with expansionary demand management policies – achieve low rate of inflation and low rate of unemployment simultaneously.

- However, the improvement in labor productivity requires a mindset shift among workers who might be used to viewing learning as something which ended when they completed their education. The decision of workers also involves opportunity cost such as time foregone for personal and work commitments.

- Successful supply-side measures also requires improvement quantity and quality of capital. The quality of capital stock, i.e. machines, in an economy increases when firms acquire new capital stock which are more technologically advanced; or undertake R&D to make their capital more efficient. The government can incentivise firms to do so through the Productivity and Innovation Credit (PIC) Scheme introduced in Singapore. The improvement in quantity and improve quality of capital – higher productivity – increase LRAS – helps Singapore achieve low rate of inflation and low rate of unemployment simultaneously.

- However, improvement in productivity through automation and labour-saving capital might increase the rate of structural unemployment, despite contributing to low rate of inflation. Adoption of newer technology which gives rise to new production methods and industrial trends, making existing skills obsolete fast and intensifying the need for workers to acquire newer and more advance level of skills. Workers who are less able to catchup with the pace of change in needs of production would add to the rate of structural unemployment.

- Hence, the Singapore government must ensure a mix of supply side policies to promote both efficiency as well as relevant skills in order to adequately address the production issue. This is on top of demand management policies to boost higher national spending for lower unemployment and

- However, time lag could pose a severe limitation to the ability of these policies in achieving these objectives simultaneously as supply side policies takes a longer time to take effect than demand management policies. For example, firms might need to wait for fixed assets to be fully depreciated before replacing newer capital. Generally, a well-coordinated mix of policies require substantial amount of information which often might not be easily available or would require additional resources to collate.

Anti thesis: <u>Explain other reasons that require the use of mix of policies to achieve low rate unemployment and low rate of inflation simultaneously.</u>

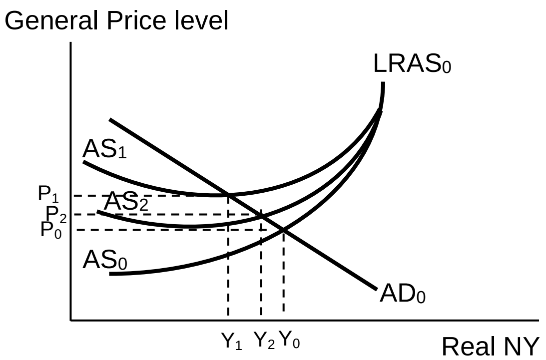
AT1: Small size and lack of natural resources necessitate both exchange rate policies and supply side policies

- Heavily import resources and final goods and services from overseas - increasing import prices is one main source of inflation in Singapore. (not due to full N)

- Use of exchange rate policy – stable and appreciating Singapore dollar against our major trading partners
  - helps to curb **imported inflation** in Singapore
    - reduces price of imported final goods and services – downward pressure on GPL directly
    - reduces price of intermediate goods and raw materials – reduces production cost – increase SRAS – downward pressure on GPL indirectly
  - helps improve economic growth and lower rate of unemployment
    - due to lack of domestic resources - exports have high import content → improved export price competitiveness – increase demand for exports - increase AD – higher economic growth and lower rate of unemployment
    - stable exchange rate – reduces currency exchange risk – promote inflow of long capital investments – increase AD and LRAS.

- However, exchange rate policy <u>alone</u> may not be sufficient achieving both low rate of inflation and low rate of unemployment simultaneously.
  - appreciation of Singapore dollar cannot be used substantially, hence cannot help to mitigate sharp increase in prices of imported factors of production – which translates into significantly higher COP - threatening export price competitiveness and unemployment rate.
  - <u>inflationary pressures from domestic sources</u> such as higher wages from a tight labour market and higher rental cost from limited supply of available land - cannot be addressed through appreciating the SGD.
  - stable, long-term appreciation alone is not sufficient to attract FDIs – importance of social, political and economic stability, good industrial relations and availability of infrastructure.

- Require additional policies:
  - SS side policies – producer subsidies to manage rising short run production cost from imported factors and domestic wages rental cost etc. Work together with appreciating Singapore to manage inflation and promoting export price competitiveness.



  - Infrastructure spending that promotes both AD and LRAS

Evaluation
Demand for SG's export and inflow of investment into SG depend on world income levels as well as the level of optimism in the world economy. These <u>factors are external</u> and cannot be influenced by domestic policies.

AT2: Low multiplier effect in Singapore require a mix of demand management policies to achieve higher economic growth and employment simultaneously

- The multiplier process is an important concept in explaining the impact of demand-management policies on national income and employment. During recession, infrastructural spending of $100m by the government, increases G thus raising AD. The increase in AD would then leads to a multiplied increase in national income via multiplier effect. The greater the size of the multiplier, the greater the impact on national income.

- However, demand management policies may not be adequate increasing national income in SG because of its small multiplier size. SG's multiplier is small because of our high marginal propensity to import (MPM) (due to lack of natural resources) and high marginal propensity to save (MPS) (due to compulsory CPF savings) → there is high marginal propensity to withdraw → any increase in AD will result in national income increasing by a smaller extent and reduce cyclical unemployment by a small extent for Singapore.

- As we have seen, what makes fiscal policy a potentially effective tool, especially if it takes the form of direct government expenditure might not generate enough spending to bring the Singapore economy out of recession and improve employment by a large extent.

- Hence, demand management policies that Singapore use includes exchange rate policy and fiscal policy. These policies, through a stronger impact on Aggregate Demand (AD) will have a larger influence the national income despite a small multiplier effect. The extent of the impact of increase in AD on national income and employment depends on the size of the multiplier.

Evaluation

The effectiveness of a mix of policies in overcoming a small multiplier effect depends on the cause of recession and unemployment. If the cause is due to a fall in external demand from our major exporting country or region, the deployment of expansionary fiscal policy might not be enough to bring about a recovery in economic growth and employment. Rather than a mix of policy, a more targeted approach might be to diversify the exports through trade agreements.

(Other possible anti thesis include other consideration such as budget constraints)

Conclusion

Overall, the conflicts in macroeconomic objectives are one of the reasons for the use of a mix of policies to achieve more than one macroeconomic objective simultaneously. For instance, the issue of full utilization of resources restricts the choice of government in having to manage inflation and possibly giving up a bit of economic growth and employment. However, the trade-off is often exacerbated by the characteristic of the economy. The limited resources in Singapore makes the economy more vulnerable to problem of inflation caused by caused by inadequate manpower and imported inflation. Hence, the main reason driving the use a mix of polices that complement each other to help Singapore achieve its macroeconomic objectives.

Q4(b)

Knowledge, Application/Understanding and Analysis

L3	• For an answer that contains well-developed explanation on why a mix of policies is required to macroeconomic objectives simultaneously. • Reasons must cover both conflicts in macroeconomic objectives and other reasons, and relevant to Singapore context to enter level 3.	**9-11**
L2	• For an answer that contains a descriptive explanation on why a mix of policies is required to macroeconomic objectives simultaneously. • Reasons are generally balanced with an attempt at application to Singapore context. • Max. 6 marks for a well-developed but 1-sided reasons.	**6-8**
L1	• For an answer that shows some knowledge of reasons why a mix of policies is required.	**1-5**
Evaluation		
E2	• For a judgement on the most important reasons and is justified with analysis.	**3-4**
E1	• For an attempt at a judgement on the most important reasons.	**1-2**

Markers comment

Many candidates did not clearly link conflicts in objectives to the need for a mix of policies.

Some candidates did not provide appropriate mix of policies. For instance, to resolve conflict between economic growth and inflation – an appropriate mix of policies should address both demand and supply constraint. An inappropriate mix would be a contractionary and expansionary demand management policies.

Many lacked anti thesis – resulted in significant loss of marks

Analysis was lacking in most responses. For instance, how the use of various policies could help govt achieve multiple objectives simultaneously.

Application was more prevalent with attempts to link to nature of Singapore's economy such as export and import reliance, small multiplier value, etc.

Jurong Junior College
2017 JC2 Preliminary Examination

ECONOMICS

Higher 1 **8819/01**

Paper 1

24 August 2017

3 hours

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.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Start with Section B essay question first. Spend 45 minutes on the essay question.
Begin essay answer for Section B and each case study answer for Section A on a fresh sheet of writing paper.
Attempt case study questions in ascending order of question sequence and indicate questions attempted clearly on answer sheet.

Fill in the necessary information on the cover sheet.

At the end of the examination, fasten all your work securely with the **cover sheet at the top.**
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **8** printed pages.

Section A

Answer **all** questions in this section.

Question 1

The Development of the Garment Industry in Bangladesh

Extract 1: What happens when fashion comes fast and disposable

Fashion cycles are moving faster than ever as compared to the past. A Quartz article in December revealed how both non-designer clothing brands like Primark, Gap, H&M and designer clothing brands like Armani Collection and Versace are churning out new styles more frequently, a trend dubbed "fast fashion" by many in the industry in the recent years. "It used to be 4 seasons in a year; now it may be up to 11 or 15 or more," says Tasha Lewis, a professor at Cornell University's Department of Fiber Science and Apparel Design.

More styles mean more purchases and that leads to more demand for cotton, linen and even polyester. Coupled with the decrease in world average yield for cotton through excess rainfall, drought and disease, this had set off an alarm in the fashion industry with an increase in price of cotton which will further push up their cost. Despite this, the US-based International Cotton Advisory Committee says it is no time to panic as it expects the global cotton production to bounce back in 2017.

Source: *National Public Radio*, 10 April 2016

Extract 2: Cotton produce on the rise

Traditional soybean growers of the state, who contribute to about 70% of the country's total output, are expected to shift to cotton lured by attractive prices and better demand. Soybean prices fell over 20% this year as against the same period a year ago on higher outputs and below expected exports of soybean. At the same time, cotton prices rose about 27% from a year ago in the same time period.
Kailash Agrawal, an agricultural expert said, "Areas under soybean cultivation will drop this year as farmers did not get good money for their produce. Farmers will thus be more likely to sow cotton this season."

Source: *The Times of India*, 24 April 2017

Extract 3: Pollution in Bangladesh, told in colours and smell

On the worst days, the toxic stench wafting through Genda Government Primary School is almost suffocating. Teachers struggle to concentrate, students often become lightheaded and dizzy. The odour arises from the polluted canal behind the school house where nearby garment factories dump their wastewater. Most of these factories export clothing to Europe, United States and even Asia. Bangladesh's garments and textile industries have contributed heavily to what experts describe - a water pollution disaster, especially in the large industrial areas of Dhaka, the capital. Many rice paddies are inundated with toxic wastewater and fish stocks are dying, threatening not only public health but agriculture.

Here in Savar, an industrial suburb of Dhaka, some factories treat their wastewater but many do not have treatment plants or chose not to operate them to save on utility costs. Few steps have been taken by the government to improve the environment issues and there is poor government regulation on proper waste disposal. "The garment industry is thriving on the under-pricing environmental externalities. There is a need to impose regulations on these factories to establish true price in the market." said Rizwana Hasan, a prominent environmental lawyer.

Source: *The New York Times*, 14 July 2013

Table 1: Bangladesh Economic Indicators

	2011	2012	2013	2014	2015	2016
Real GDP growth (%)	6.5	6.5	6.0	6.0	6.6	-
Unemployment Rate (%)	4.5	4.4	4.2	4.2	4.1	4.0
Consumer Price Index (2010=100)	110.7	117.6	126.4	135.3	143.7	151.6

Source: *World Bank*

Extract 4: Bangladesh garment-making success prompts fears for wider implications

Bangladesh garment industry has generated $28bn of exports in 2015 with a 10% growth from the previous year, according to Export Promotion Bureau data. The growth has been attributed by large clothing retailers increasing shift towards Bangladesh. Large clothing retailers have relocated their production to Bangladesh and have gradually reduced their use of Chinese factories. Bangladesh is currently one of China's biggest rival in terms of garment production.

Mark Anner, associate professor at Pennsylvania State University, found that the garment sector is continuing to grow based largely on its cost competitiveness. Despite the growth in sales and the overall Bangladeshi economy, the minimum monthly wage has remained at about US$67 since 2013 and income inequality continues to widen. But he added that the industry represented the best hope of employment for millions of poor, uneducated Bangladeshis, especially women, who make up 70% of the workforce.

Nazma Akter, founder of the Awaj union for women garment makers, said, "Economic growth has increased but standard of living is not improving. Pointing to the crowded shanty town beneath her Dhaka office, she added, "That's where the workers live — children are separated from their parents and people do not eat properly and are subjected to water pollution. The factories have improved but not the living conditions." More importantly, clothing retailers rely on a business model that thrived on the premise of low labour cost. In the long term, when Bangladesh loses its cost competitiveness like China, garment production may relocate to countries with even lower wages like Myanmar prompting fear of wider implications on the economy.

Source: Adapted from *Dhaka Tribune*, 14 July 2016 and *Financial Times*, 6 January 2017

Questions

(a) Using a demand and supply diagram, explain the reasons for the change in world price of cotton in 2016. [4]

(b) With reference to your own knowledge, analyse the impact on the market for designer and non-designer clothing due to the change in world price of cotton. [5]

(c) **(i)** Using a diagram, explain the opportunity cost for farmers in India when they choose to produce cotton as seen in Extract 2. [2]

(ii) Comment on the usefulness of opportunity cost in explaining the basis of trade. [3]

(d) With reference to Extract 3, explain how imposing regulations like forcing factories to treat wastewater can ensure that a true price is charged in the garment market. [6]

(e) Extract 4 mentions that "Large clothing retailers have relocated their production to Bangladesh and have gradually reduced their use of Chinese factories."

(i) Explain why large clothing retailers have relocated their production to Bangladesh. [2]

(ii) Discuss the extent to which large clothing retailers' relocation to Bangladesh is likely to lead to a long-term improvement in the workers' standard of living. [8]

[Total: 30]

Question 2

Economies of China and United States

Extract 5: Weakening of renminbi

China's central bank shocked markets on 11 August when it weakens its currency, the renminbi, by lowering its daily mid-point trading price to 1.87% weaker against the US dollar. A day later, the central bank sent shockwaves again with a second weakening of 1.62% against the US dollar. Fears have mounted of a regional currency war of competitive devaluation as China's moves come on the back of the softening of Japan's yen and the Korean won over the past year and after previous efforts to boost exports and growth failed. China's currency weakening is seen largely as a bid to boost their export competitiveness as export volume continue to weaken. However, this may risk creating other problems for the economy.

Cracks have also begun to appear in other areas in China: capital outflows have surged, bankruptcies are occurring more frequently and bad loans in the banking sector are rising. The central bank had reassured the financial markets that it was not embarking on a steady depreciation and it was just a "one-off weakening." Nonetheless, weakening of the renminbi by about 4% had dealt a blow to investors. They fear that a prolonged currency war that could damage world trade should the US and Japan retaliate and drive down the value of the dollar and yen as well.

Source: *The Guardian*, 12 Aug 2015

Table 2: Macroeconomic Indicators of United States

	2013	2014	2015	2016
Real GDP growth (%)	2.7	2.5	1.9	2.0
Rate of inflation (%)	1.5	0.8	0.7	2.1
Unemployment (%)	7.4	6.2	5.3	4.9
Current account balance (US$ billion)	-2.4	-2.2	-2.6	-2.6
Fiscal balance (% of real GDP)	-4.1	-2.8	-2.4	-3.2

Source: Various

Extract 6: America finally got a rate hike this year.

The US Federal Reserve has raised its target for short-term interest rates by 0.25 percentage points to a range of 0.50% and 0.75%. This move could be the first of many more. Some economists believe that the Fed will need to raise rates more often and perhaps at higher levels if President Donald Trump spends big on infrastructure which could cause prices to accelerate from its low levels.

"With the economy much closer to full employment now and a strong likelihood of a fiscal stimulus next year, we expect the Fed to accelerate the pace of interest rate hikes next year," says Paul Ashworth, chief US economist at Capital Economics.

Source: *CNN*, 15th December 2016

Extract 7: A more effective US trade policy is needed to level the playing field

Foreign government subsidies and other market-distorting policies have resulted in massive global steel overcapacity and significant levels of steel imports. This have caused the US numerous plant closures and thousands of job losses. Of particular note, China's steel industry remains state-owned and heavily subsidized. Other major offshore steel producers also continue to use subsidies, tariffs and investment restrictions to protect their markets and expand their steel production and exports. The United States must aggressively enforce US trade laws against injurious dumping and subsidies and respond to foreign government currency manipulation in order to combat unfair trade practices so as to preserve and strengthen her manufacturing base.

Source: *www.steel.org* assessed on 7 July 2017

Extract 8: Japan and European Union's huge new trade agreement

Japan and the European Union agreed on an outline for a massive trade deal on the eve of G20 meeting in Hamburg.

EU-Japan negotiations have already began in 2012 but then stalled. It was Donald Trump's election, and the inward turn America is taking, that spurred the EU and Japan to overcome their differences. Both want to show domestic audiences they can deliver signature deals that promise new economic opportunities. They also want to send a clear message internationally that the EU and Japan remain committed to a liberal, free-trading, rules-based world, and they will seek to shape it even if the US would not.

The agreement between Japan and the EU is currently very broad, and there are still plenty of details that need to be hammered out over the next several months before final ratification. But overall, it is designed to do what most free trade deals do: lower and eliminate trade barriers such as tariffs between countries. The core of the agreement aims to increase the flow of Japanese cars to Europe and of European food to Japan. For instance, the Europeans are expected to scrap a 10 percent tariff on passenger cars made in Japan, over a period of seven years. The Japanese, in return, are expected to lower duties on European agriculture products such as cheeses from the Netherlands. Tokyo is also likely to make it easier for European companies to bid for major government contracts, a move that could benefit train makers like Siemens of Germany and Alstom of France.

Source: *www.vox.com*, 7 July 2017

Extract 9: Trump's protectionism would not solve unemployment problem

One of US President Donald Trump's key strategies to help get more Americans into work is to introduce protectionist trade measures. The idea is that by raising taxes on goods imported from overseas, it will encourage businesses to bring jobs back to America as it is no longer economical to manufacture elsewhere and then ship to the US.

But Dr Nariman Behravesh, the chief global economist at IHS Markit, told Business Insider (BI) that this effort to try and solve the employment problem is, in fact, the biggest economic risk of 2017 globally.

He said, "If you look at the risks in the coming year, it is political uncertainty — vis-a-vis what Trump may do and what happens with Brexit. If we do go down the path of more protectionist measure, then it could massively impact the US economy, as well as the rest of the world.

According to an HSBC report released in December, if Trump goes ahead with his protectionist trade measures and with the combination of a "hard Brexit", it could kill US$1.2 trillion worth of global trade. That is because higher tariffs and other trade barriers will reduce the total amount of trade, which means less production and fewer jobs for all, including the Americans. It would also mean more expensive goods, as import taxes are factored into prices".

"For example, if Trump did raise tariffs and costs for Chinese goods, it would hit inflation and hurt poor people because they are typically the demographic that benefits from cheap imports. It hurts the people he says he wants to help. The single biggest challenge is to think about how Brexit and the election of Trump came about," Dr Behraveh said. "A lot of people are angry at being left behind because of technology and globalisation. This is because they feel that they are losing jobs to immigrants but do not have the kind of higher level skills to fulfil new roles being created."

Dr. Behravesh said that companies and governments should instead, "Invest in people's skillsets so that when society evolves through globalisation, workers will be able to cope and change roles without getting left behind."

Source: *Business Insider*, 16 January 2017

Questions

(a) **(i)** With reference to Extract 5 and with the aid of a diagram, explain the factors which could lead to the weakening of the renminbi in China. [4]

(ii) Discuss whether the weakening of the renminbi is beneficial to the Chinese economy. [8]

(b) Using data from Table 2, explain the change in standard of living for the United States from 2013 to 2016. [2]

(c) Extract 6 states that if President Donald Trump 'spends big on infrastructure', it would 'cause prices to accelerate from its low levels'.

Comment on the validity of this statement. [4]

(d) Explain the consequences to the US economy if prices accelerate from its low levels. [4]

(e) Discuss the appropriateness of President Trump's proposed protectionist policy in protecting and creating jobs for the people in US. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3 A resurgent US shale oil industry will see global crude oil supply growing faster than demand in 2018, dealing a blow to OPEC and other rival producers that have cut output to boost prices. The slowdown of the global economy has brought further shocks to the crude oil market.

(a) Using the concept of elasticity, explain how each of the above events impact the crude oil market. [10]

(b) In the oil-rich nations such as Venezuela and Iran, the production of crude oil is heavily subsidized. In contrast, in countries such as Germany and Australia, crude oil production is heavily taxed.

Assess the economic case for these two different approaches. [15]

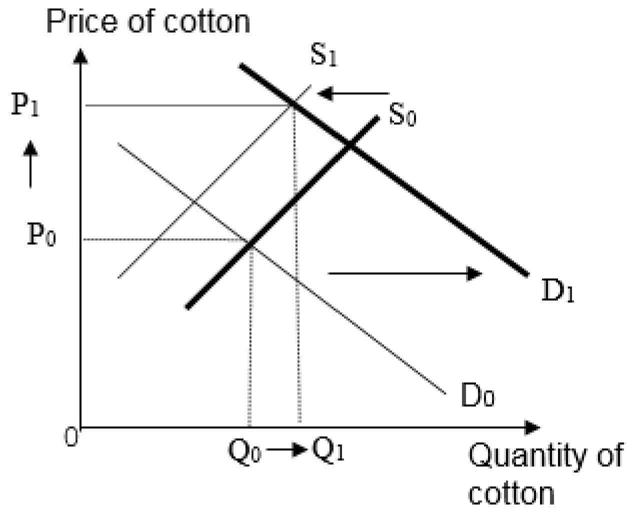
4 **(a)** Explain why current account deficits might be harmful for some economies but not others. [10]

(b) Discuss the view that an appropriate exchange rate policy is more useful than supply-side policies in correcting a current account deficit. [15]

Answers

a) Using a demand and supply diagram, explain the reasons for the change in world price of cotton in 2016. [4]

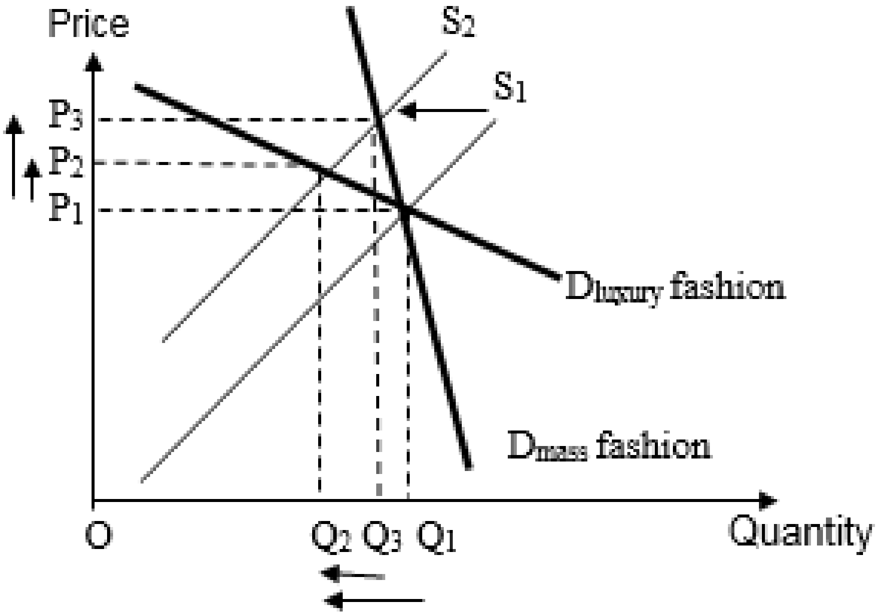
- Due to unfavourable weather conditions like drought and also diseases to the crops and with cotton being an agriculture good, supply has decreased in 2016. [1]
- On the other hand, demand for cotton has increased with the increase in fast fashion as seen in Extract 1. This means that people are starting to demand for more clothes. Since cotton is required to manufacture clothes, demand for cotton will also increase (derived demand) [1]
- With an increase in supply from S0 to S1 and increase in demand from D0 to D1, both will have an mutually reinforcing effect on price which leads to an increase in price from P0 to P1. [1]



(a) With reference to your own knowledge, analyse the impact on the market for designer and non-designer clothing due to the change in world price of cotton. [5]

- PED measures the responsiveness of quantity demanded of a good to a change in the price of the good itself, ceteris paribus.
- Demand for non-designer clothing tend to be price inelastic as it is a necessity and takes up a smaller proportion of income. In contrast the demand for designer clothing is more price elastic as it tends to be a luxury brand as it usually constitutes a larger proportion of income of the middle income group. [1]
- Due to an increase in world price of cotton, it is likely that supply for clothing will fall. Since cotton is required to make clothes, cost of production for both designer and non-designer clothing will increase. This means that supply curve shifts to the left from S1 to S2. [1]
- Due to its elasticity demand, when there is a fall in supply, designer clothing will experience a more significant fall in their quantity of fashion from Q1 to Q2 compared to Q1 to Q2 for non-designer clothing. On the other hand, designer clothing will experience a less significant increase in their prices from P1 to P2 as compared to P1 to P3 for non-designer clothing. [2 marks with diagram]
- However, there are also other factors that affect the extent of the change in price and quantity for both market. For example, there could be other demand factors such as increasing affluence

which leads to more preference for designer clothing. Hence the price of designer clothing might have increased more significantly due to increase in demand. [1]



(b) (i) Using a diagram, explain the opportunity cost for farmers in India when they choose to produce cotton as seen in Extract 2. [2]

- Opportunity cost is the next best alternative forgone when making a choice. [1]
- With reference to Extract 2, farmers in India have a choice of either producing soybeans or cotton. If farmers choose to produce more cotton eg move from Point B on the Production Possibility Curve to Point C on the Production Possibility Curve, farmers must forego producing more soybeans.

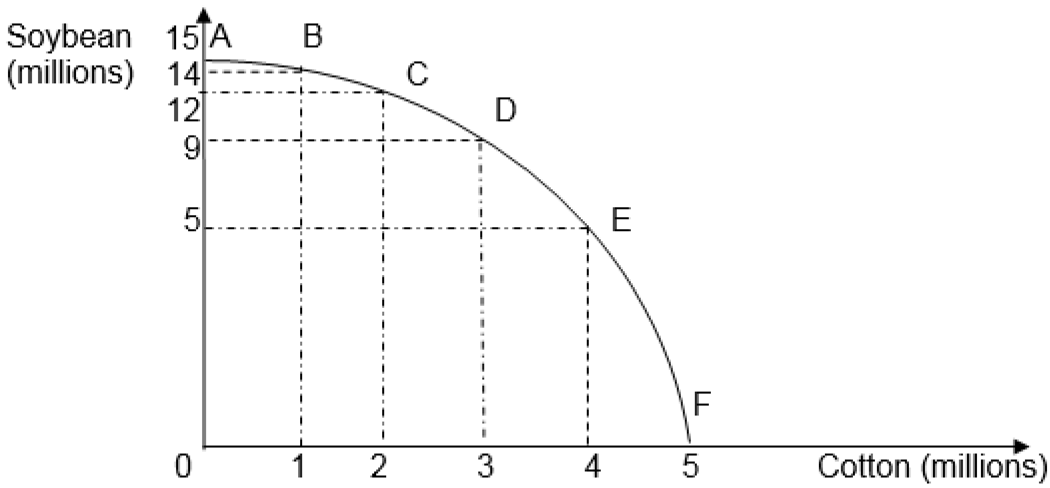


Figure 3: The Production Possibility Curve

(c)(ii) Comment on the usefulness of opportunity cost in explaining the basis of trade.

- The opportunity cost of producing good X in a country is the amount of the other good Y which has to be sacrificed in order to produce an additional unit of X. Hence each country will have a different relative opportunity due to the differences in factor endowments of the different countries.

- The opportunity cost is thus useful in explaining the basis of international trade – the Theory of Comparative Advantage which states that trade between nations is beneficial to both, in terms of an increase in output and consumption, if there is a difference in relative opportunity cost and with each country specializing according to its comparative advantage

- However, the opportunity cost might not be useful in explaining the basis of trade as it assumes that there is no trade restrictions. If there is trade restriction such as tariffs and quotas, it may limit trade. For example, the rise in prices of imports may offset the price differential between countries from specialisation, thus making it not profitable to trade even if the country has a lower opportunity cost. [accept any other limitations for CA]

(c) With reference to Extract 3, explain how imposing regulations like forcing factories to treat wastewater can ensure that a true price is charged in the garment market. [6]

Identify the market failure: As seen in Extract 3, the **external cost** is the loss of livelihood of fishermen affected due to the decrease in the fish population, the destruction of marine life and the eco system and the health problems cause to the nearby citizens as factories dump their wastewater into the nearby rivers.

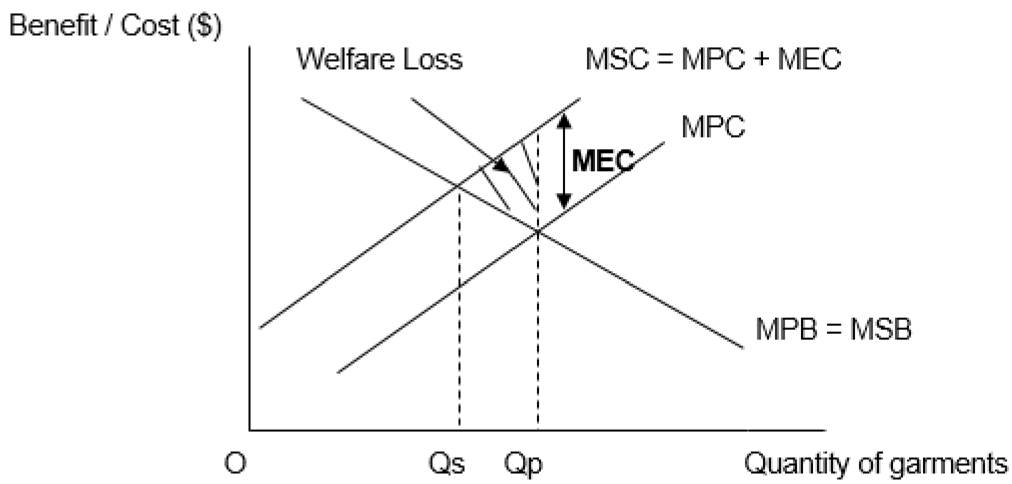


Figure 2: Market Failure due to production of garments

Due to the presence of negative externalities in the production of garments shown by the MEC at a particular level of output, MSC will be greater than marginal private cost (MPC), i.e. MSC>MPC. Since producers will only consider their private costs and benefits while ignoring the external costs to the third parties, they will price at OPe, where MPB=MPC, charging a price OP1. However, the socially optimal level of price occurs at OPs where MSC=MSB. Since OPe is lower than OPs, it means that there is under-pricing in the production of the garment market.

Hence the Bangladesh government can to impose government legalisation to regulate the garment factories to treat the wastewater the river. The government can pass legislation to prohibit or regulate behaviour that generates external costs. For example, it can establish laws to force garments factories to bear the costs of proper disposal of wastewater or treat the wastewater before emitting into the river. Such actions force the firms, under the threat of legal action, to bear all the costs associated with their production. Again, such regulations incur cost and cause MPC to shift to the left to MSC, increasing the price to the socially efficient level at OPs. This will help to achieve a more efficient relocation of resources.

(d) Extract 4 mentions that "Large clothing retailers have relocated their production to Bangladesh and have gradually reduced their use of Chinese factories."

(i) Explain why large clothing retailers have relocated their production to Bangladesh. [2]

Large clothing retailers are moving production towards Bangladesh due to the low wages of the workers. Since garment production is a labour intensive industry, wages will form a large portion of their cost of production. With lower wages in Bangladesh, firms will be able to enjoy a lower cost of production.

(ii) Discuss the extent to which large clothing retailers' relocation to Bangladesh is likely to lead to a long-term improvement in the workers' standard of living. [8]

The standard of living (SOL) of a country refers to the level of economic and social well-being of the population within the country. SOL includes the quantitative and qualitative aspects of living. The quantitative aspect refers to the amount of goods and services available for consumption. On the other hand, the qualitative aspect includes infant mortality rates, quality and quantity of health care and leisure, quality of the environment, quality of the public transport system, crime rates and educational level etc

<u>Thesis: Large clothing retailers' relocation towards Bangladesh will lead to a long-term improvement in the workers' standard of living</u>

- As seen in Table 1, GDP growth of Bangladesh has been increasing since 2011 > Increase GDP > Link to higher material SOL

- Generate more jobs > Higher employment > Link to higher material SOL

- Employment and rising income > workers to provide education for themselves and their children, > enhance their skills and increase their literacy rate > Improve long-term SOL in terms of higher productivity and better prospect of a higher wage job.

<u>Anti-Thesis: Large clothing retailers' relocation towards Bangladesh will not lead to a long-term improvement in the workers' standard of living</u>

- However, as seen in Extract 2, many of these garment factories are not treating their wastewater before dumping into the rivers > Further worsen the water pollution problem in the country > Affect non-material SOL especially in the long-term with health problems like suffocation and dizziness resulting from the water pollution.

- Income inequality is widening > Workers might not have benefited from the increase in real GDP as the increase in income is concentrated on the hands of the minority producers > In the long run, it may lead to social unrest due to unequal opportunities which may further worsen the long-term standard of living.

- In order for the worker's long-term standard of living to be improved > Current trend of large clothing retailers relocation towards Bangladesh must persist > Seems unlikely as the large clothing retailers are motivated by profits and would relocate to any countries that has lower wages

<u>Conclusion</u>

- Large clothing retailers are shifting towards Bangladesh because of the lower wages and that the minimum monthly wage has remained since 2013 > Long-term standard of living is not likely to improve as the wages might remain the same and might even decline if the retailers were to relocate away from Bangladesh in future.

- Need for government intervention to force these retailers to provide education opportunities or adhere to a form of structural training programmes > Workers will be able to acquire new skills to move onto other higher paying jobs .

L3	Well-developed explanation of how large clothing retailer shift towards Bangladesh will affect the long-term standard of living for the workers together with strong use of case study evidence and a reasoned assessment.	6-8
L2	Under-developed explanation of how large clothing retailer shift towards Bangladesh will affect the long-term standard of living for the workers together with use of case study evidence and a weak assessment. <u>Maximum 4 marks</u> for answers which explain only the quantitative or the qualitative aspect of standard of living <u>Maximum 5 marks</u> for answers without reference to long-term standard of living	3-5
L1	For an answer that show descriptive knowledge of how large clothing retailer shift towards Bangladesh will affect the long-term standard of living for the citizens	1-2

J2 H1 Suggested Answers for Case Study Q2

(a)(i)With the aid of a diagram, explain the factors which could lead to the weakening of the renminbi in China. [4]

Factor 1: Government policy

- The Chinese government have devalue the renminbi (RMB) to rise their export price competitiveness.
- Speculators will expect RMB to be weaker
- Demand for RMB fall

Factor 2: Short-term capital outflow

- capital outflow from the Chinese economy
- the capital outflow from China leads to a rise in supply of RMB on Forex.

Insert diagram

Explanation of factors – 3m Diagram – 1m

Max 2m if factors are not from extract + correct diagram

(ii)Discuss whether the weakening of the renminbi is beneficial to the Chinese economy. [8]

Introduction

The weakening of the RMB would have both positive and negative impact on the Chinese economy. In this case, the Chinese government devalue the RMB to boost their export price competitiveness.

Thesis: Weakening of the renminbi is beneficial to the Chinese economy

- When the RMB depreciates, the prices of Chinese exports become cheaper and its imports become more expensive
- Given that demand for China's exports and imports are price elastic
- This will result in an increase in export revenue and a decrease in import expenditure.
- The rise in net exports will lead to an increase in AD
- In addition, a depreciation could lead to an increase in foreign direct investment inflow as investors find it relatively cheaper to invest.

Overall, the improvement in both the current and capital account may lead to a BOP surplus. The rise in (X-M) and I will lead to an increase in NY through the multiplier process .

Anti - thesis: Weakening of the renminbi is not beneficial to the Chinese economy

- Weakening of RMB would make imports more expensive.
- increase the cost of production for firms
- Short-run aggregate supply falls and result in cost-push inflation.
- However, this is likely to be a small problem for China as she is well-endowed with resources and is not heavily dependent on imports.

- A weaker RMB can also quicken the withdrawal of short-term capital from China
- Further worsening of capital account.

- The scenario of competitive devaluation might also happened.
- As such, weakening of the RMB may not be beneficial to the Chinese economy.

<u>Conclusion</u>
In conclusion, whether the weakening of RMB is bad or not for China depends on the nature of economy, the magnitude and the causes of the weakening as well as the priority of the government at that particular point of time.

- Make use of CS evidence to support stand

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed answer that analyses how the weakening of the RMB will impact the Chinese economy, with strong use of case study evidence and a reasoned assessment.	6 – 8
L2	Under-developed answer that analyses how the weakening of the RMB will impact the Chinese economy. Max 4m for a one sided answer	3 – 5
L1	For an answer that show descriptive knowledge of how the weakening of the RMB will impact the Chinese economy	1 – 2

(b) Using data from Table 3, explain the change in standard of living for US from 2013 to 2016. [2]

US have been having positive real GDP per capita growth. This means that real income level have been rising for the average American citizen and they have an increase in their ability to purchase goods and services. With this, they are able to enjoy a higher quantitative standard of living.

Any relevant point on either quantitative or qualitative SOL – 2m

(c) Extract 6 states that if President Donald Trump 'spends big on infrastructure', it would 'cause prices to accelerate from its low levels'.

Comment on the validity of this statement. [4]

- Aggregate demand in the country increases.
- Given that the US economy is already close to full employment
- Producers will have to compete for the use of the scarcer resources
- The higher cost of production will be passed on to consumers in the form of higher prices **[2m]**

- However, infrastructure spending by the government has benefits on the US economy as it increases the quantity of capital goods in the economy.

- In the long run, productive capacity of the US economy will rise, causing LRAS to increase.
- Sustained economic growth is achieved and US economy is able to achieve non-inflationary economic growth. **[2m]**

(d) Explain the consequences to the US economy when prices accelerate from its low levels. [4]

Fall in C, I, EG and employment

- When inflation is high and moves in an erratic manner, business uncertainties about future costs of production and revenues increase
- Producers are less willing to make long-term commitments and this discourages investments
- Fall in investment which decreases aggregate demand leading to a fall in national income and hence economic growth. + This will mean that the employment opportunities in the US will fall

Healthy BOP

- Higher export prices – leading to fall in export revenue (assuming PED>1)
- On the other hand, imports become relatively cheaper than US domestic goods. Thus demand for imports rises, resulting in a rise in import expenditure.
- Fall in export revenue and a rise in import expenditure
- current account balance worsen and this may cause a BOP deficit.

2m for each relevant point explained

(e) Discuss the appropriateness of President Trump's proposed protectionist policy in protecting and creating jobs for the people in US. [8]

Introduction

US is currently having high unemployment rate of 4.9% and a persistent trade deficit.

Thesis: Tariff is appropriate in protecting and creating jobs for the people in US.

- The justification for protectionism by the US is to protect their domestic industry and to safeguard their employment.
- Using the US steel industry as an example, when a tax is imposed on imported steel, it would make the price of imported steel more expensive.
- Hence, US resident will switch to domestic sources of steel.
- The increase in domestic steel production generates employment.

- This also helps to buy time for the US to restructure its economy more gradually and allows time for the effects to be observed.
- Hence, US export can grow to be more competitive in price and/or quality in the international market.

In the case of the US, it was mentioned in Extract 7 that she is facing unfair trade practices that is hurting her domestic companies and employment.

Anti- Thesis: Tariff is inappropriate in protecting and creating jobs for the people in US.

- Higher price imports will lead to inflation in the economy and raise the cost of living for the people.

- Such an approach also does not solve the root cause of unemployment if it is due to structural weaknesses. For example, as stated in Extract 8, it says that there is a mismatch of skills between the US workers and the new jobs being created.

- Increase in the cost of production of industries that use the product as an input, for example in the case of a tariff on steel.
- This makes some industries to experience a rise in cost of production thus making them less competitive.
- Hence, jobs are lost instead of created.

- Furthermore, protectionist policies breed complacency in protected firms and they will be discouraged to be more cost efficient and also to be more innovative.

- Protectionism by the US will also make her trading partners poorer as their export revenue falls.
- With a falling income, the trading partners' consumption and demand for imports will fall which leads to the demand for the US exports falling too.

- US action may also invite retaliation from her trading partners in the long run.

<u>Conclusion</u>
President Trump's proposed protectionist policies is appropriate for helping to protect and create jobs in the US but is only so in the short run in the face of unfair trade practices. This is because the cost far outweigh the benefits of doing so in the long run.

- Support with CS evidence

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed explanation of whether tariff can help protect and create jobs in the US or not, with strong use of case study evidence and a reasoned assessment.	6 – 8
L2	Under-developed explanation of whether tariff can help protect and create jobs in the US or not. Max 5m for answers that do not link to the protection and creation of jobs Max 4m for a well-developed one-sided answer.	3 – 5
L1	For an answer that show descriptive knowledge of how tariffs can help protect create jobs in the US.	1 – 2

J2H1 Prelim Essay Question 3

A resurgent US shale oil industry will see global crude oil supply growing faster than demand in 2018, dealing a blow to OPEC and other rival producers that have cut output hoping to boost prices. The slowdown of the global economy has brought further shocks to the crude oil market.

(a) Using the concept of elasticity, explain how each of the above events impact the crude oil market. [10]

(b) In the oil-rich nations such as Venezuela and Iran, the production of crude oil is heavily subsidized. In contrast, in countries such as Germany and Australia, crude oil production is heavily taxed.

Assess the economic case for these two different approaches. [15]

Suggested Answer

Intro:

Both increase in the production of shale oil and slowdown of global economic growth has impacted the price and quantity of crude oil. The extent of the impact brought above by each of the above event is caused by price elasticity of demand and supply of crude oil respectively.

Body

Event 1: Increase production of shale oil:

With US increasing production of shale oil at a large scale→ Increase SS

Increase SS + PED concept → draw graph to explain the impact on the crude oil market.

Event 2: With the slowdown of global economy

Slowdown of global ec → fall in dd for crude oil

Fall in SS + PES concept → draw graph to explain the impact on the crude oil market.

Conclusion

In conclusion, the individual impact of the above event is different on the crude oil market, assuming ceteris paribus assumption. However, often time, the governments would intervene in the crude oil market to bring about intended microeconomic and macroeconomic objectives.

Marking Scheme (a)

Knowledge, Application, Understanding and Analysis		
L3	Well-developed explanation of both the individual event and elasticity concepts impact the crude oil market.	**7 – 10**

L2	Under-developed explanation of both the individual event and elasticity concepts impact the crude oil market.	**4 – 6**
L1	For an answer that shows descriptive knowledge of the impact.	**1 – 3**

(b) In the oil-rich nations such as Venezuela and Iran, the production of crude oil is heavily subsidized. In contrast, in countries such as Germany and Australia, crude oil is heavily taxed.
Assess the economic case for these two different approaches. [15m]

<u>Introduction</u>

As shown in the preamble, governments from different economies intervene with different economic policies in the crude oil market. This is due to these governments having different macroeconomic and microeconomic objectives.

<u>Germany's and Australia's approach</u>

- Explain negative externality using the diagram below
- Explain how indirect tax would correct the negative externality.

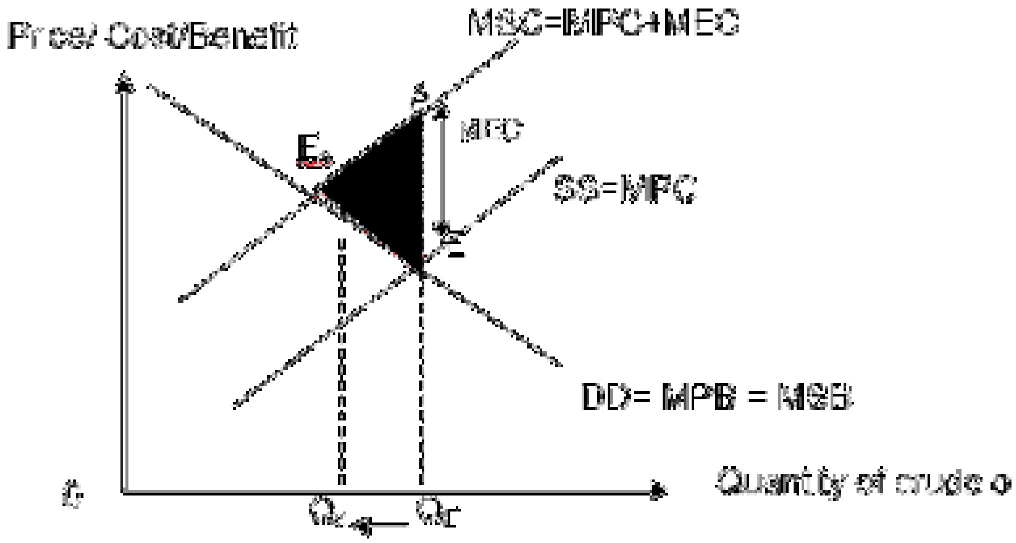


Figure 1: Negative externality in production resulting in over-production

<u>Venezuela's and Iran's approach</u>

Explain how the policies help Venezuela and Iran to achieve their macroeconomic and microeconomic objectives. Some macroeconomic objectives which the government want to achieve are economic growth, low unemployment, etc.

Some of the objectives which can be covered are: economic growth, unemployment and income inequality.

Conclusion

- A stand to conclude the economic analysis behind the two different approaches taken by different government.
- Justify on your stand and further evaluate on the two different approaches using time period.

Marking Scheme (b)

Knowledge, Application, Understanding and Analysis		
L3	For a well-developed explanation for these different government approaches in the crude oil market.	**9 – 11**
L2	For a descriptive explanation for these different government approaches in the crude oil market.	**6 – 8**
L1	For an answer that shows a descriptive knowledge for these different government approaches in the crude oil market.	**1 – 5**
Evaluation		
E2	For an evaluative assessment based on economic analysis.	**3 – 4**
E1	For an unexplained assessment or one that is not supported by economic analysis	**1 – 2**

(a) Explain why current account deficits might be harmful for some economies but not others. [10]

(b) Discuss the view that appropriate changes in exchange rate are more useful than supply-side policies in correcting a current account deficit. [15]

Part (a) Answer Outline

- Define a current account deficit in an economy.
- Explain internal and external consequences of a current account deficit.
- Explain the considerations as to why some current account deficits may not be harmful

Marking Scheme

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation why current account deficits might be harmful for some economies but not others.	7 – 10
L2	Descriptive explanation why current account deficits might be harmful for some economies but not others.	4 – 6
L1	For an answer that shows descriptive knowledge of the limitations of economic indicators.	1 – 3

(b) Discuss the extent to which appropriate changes in exchange rate is more useful than implementing supply-side policies when achieving a healthy balance of payment. [15]

Part (b) Answer Outline

Introduction

- Governments often seek to correct a current account deficit due to the adverse consequences that it could bring as mentioned in part (a). Thus governments try to correct it by implementing supply-side policies or exchange rate policies in order to improve it.

- However, adopting appropriate changes in exchange rate is more useful for some governments while others prefer to implement supply side policies, and the usefulness of each policy to achieve a healthy current account would depend on the time period, root cause of the initial CA deficit and constraints faced by the government.

Body

- To correct the CA deficit, the government can allow its currency to depreciate by selling its currency in the foreign exchange market. With **depreciation of the exchange rate**, exports would be relatively cheaper in terms of foreign currency. If demand for exports is price elastic, there would be a more than proportionate increase in quantity demanded of exports. This would lead to a rise in export revenue. On the other hand, imports would be relatively more expensive in terms of domestic currency. If demand for imports is price elastic, there would be a more than proportionate decrease in quantity demanded of imports. This would lead to a fall in import expenditure. Overall, the rise in export revenue and fall in import expenditure would mean a rise in net exports. Ceteris paribus, the current account would improve, allowing a government to correct a CA deficit.

- However, managing the exchange rate has some challenges as the government needs to know when to intervene, what exchange rate they should aim to maintain, and how persistently they should try to maintain that rate. However, they may not have up-to-the-minute and reliable information about the state of the global economy and the various interactions in the foreign exchange market.

- If a currency iweakens, it can lead to higher prices of imports and bring about imported inflation in an economy. The increase in prices of imported raw materials will increase COP and assuming producers pass on the cost increase to consumers in terms of higher prices, cost push inflation will occur. This increase would also partially offset any fall in price of exports due to depreciation.

- Some governments may choose to implement **supply-side policies** in order to improve CA by either (a) reducing the cost of production of exports or (b) increasing the demand for the country's exports by improving the quality of exports.

- Governments can use interventionist approach by increasing spending on education and skills training in order to increase labour productivity, which would in turn reduce unit labour costs and allow exports to be priced lower and more competitively internationally. Assuming the demand for exports is price elastic, the decrease in price will lead to a more than proportionate increase in quantity demanded of exports. Hence, export revenue rises. Ceteris paribus, net exports will increase, resulting in an improvement in the current account.

- For example, India introduced its Skill India campaign in 2015 with an aim to train over 400 million people in India in different skills. By training and re-skilling workers, workers would have skills relevant for the workplace, thus increasing their productivity.

- The government can also use supply-side policies that increase and encourage R&D and innovation that help to improve the quality of goods and services produced by firms. This would improve the non-price competitiveness of exported goods and services, resulting in a rise in demand for exports and a rise in export revenue. Ceteris paribus, net exports will increase, resulting in an improvement in the current account and correcting any deficit.

- The Productivity and Innovation Credit Scheme was introduced in Singapore's Budget 2010 to encourage businesses to invest in productivity and innovation by providing cash pay-outs or tax deductions for spending in these areas. In Budget 2017, it was announced that more than $80 million would be made available for programmes to strengthen corporate capabilities, particularly in promoting digitalisation for small- and medium-sized enterprises (SMEs). These include industry digital plans on the technologies to use at each stage of growth, as well as advice and funding support when piloting emerging information and communications technology (ICT) solutions

- However, the success of skills retraining or knowledge upgrading depends on the level of education, age and personal inclination. The less educated or older workers may not have the ability to learn new skills or they are not receptive towards the need for re-training. Some may just be resistant to the idea of a job change. Supply side policies usually take effect in the long run and can be costly to finance.

- In order to assess the usefulness of each policy, the government would need to consider various criteria. Firstly, if a government's objective is to boost long-term export competitiveness, supply side policies would be more useful instead of exchange rate policies as the productivity gains from supply-side policies tend to lower costs of production for firms in the long run due to production processes being made more efficient.

- In contrast, exchange rate policy in which the currency is devalued often leads to a currency war in which a country's trading partners retaliate by devaluing their countries as well, as seen in the example of Vietnam and China above. Furthermore, depreciation of a currency would mean that imported raw materials would be more expensive, and this would in turn increase the cost of production for firms. This would limit the long-term effectiveness of exchange rate policies in boosting export competitiveness.

- However, if a government's objective is to boost export competitiveness in the short-term, such as when a government faces a substantial CA deficit that needs to be addressed quickly then appropriate changes in the exchange rate policy would be more useful than supply side policies in order to bring about a more immediate positive impact on net exports. In contrast, supply-side policies tend to face significant time lags in implementation. For example, improving the quality of human capital through education and training is unlikely to yield quick results. In addition, the benefits of deregulation can only be seen after new firms have entered the market, and this may also take a long time.

- Another criterion would be the root cause of a country's CA deficit. If the deficit is due to loss of comparative advantage, then supply-side policies to promote innovation and the design of new products and improvement of technology can be rather important.

- However, if the initial CA deficit was due primarily to competitive devaluation of currency in trading partners, exchange rate policies may be preferred over supply-side policies since there would be less of a need to boost quality of exports.

Conclusion and Evaluation

- In conclusion, whether **exchange rate are more useful than supply-side policies in correcting a current account deficit** depends on the characteristics and conditions of an economy.

- Supply side policy is more useful for governments if they are unable to weaken their currency. Elaborate. Another constraint that is faced in implementing exchange rate policy would be the trilemma that exists between the ability to set interest rates, the ability to fix exchange rates as well as free capital movement. Elaborate.

- However, appropriate changes in the exchange rate would be more useful over supply-side policies if they have a weak fiscal position resulting from large and persistent budget deficits in the past. Supply-side policies such as subsidies or tax incentives for R&D or even spending on skills upgrading tend to be very costly; such policies would worsen a government's fiscal position or may even require a government to borrow extensively to fund its spending, which would impose a burden on future generations.

Marking Scheme

Part (a)

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation why current account deficits might be harmful for some economies but not others.	7 – 10
L2	Descriptive explanation why current account deficits might be harmful for some economies but not others.	4 – 6
L1	For an answer that shows descriptive knowledge of the harmful effects of current account deficits.	1 – 3

Part (b)

Level	**Knowledge, Application, Understanding and Analysis**	**Marks**
L3	For a well-developed explanation of how supply-side policies and exchange rate policies may help a government to correct current account deficit. Answer uses well-reasoned criteria of judgment to assess the reasons why some governments prefer to implement supply-side policies while others choose to adopt appropriate exchange rate policies in order to correct current account deficit.	**9 – 11**
L2	For a descriptive explanation of how supply-side policies and exchange rate policies may help a government to correct CA deficit. Answer compares the effectiveness and limitations of supply-side policies with those of exchange rate policies.	**6 – 8**
L1	For an answer that shows a descriptive knowledge of supply-side policies and exchange rate policies.	**1 – 5**
Level	**Evaluation**	**Marks**
E2	For an answer that makes some attempt at an evaluative appraisal about the other considerations of a government.	**3– 4**
E1	For an unsupported judgment about the other considerations of a government.	**1 – 2**

Class Adm No

Candidate Name: ______________________________

H

millennia institute

2017 Promotional Examination II

Pre-University 2

H1 ECONOMICS **8819/01**

Paper 1 **28 August 2017**

3 hours

Additional Materials: Answer Paper

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 staples, paper clips, highlighters, glue or correction fluid.

Section A
Answer **all** questions.

Section B
Answer **one** question.

You are reminded of the need for clear presentation in your answers.

Begin answer for Section B on a fresh sheet of paper.

At the end of the examination, fasten your answers to the two sections **separately with the cover page on top of Section A**.

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.

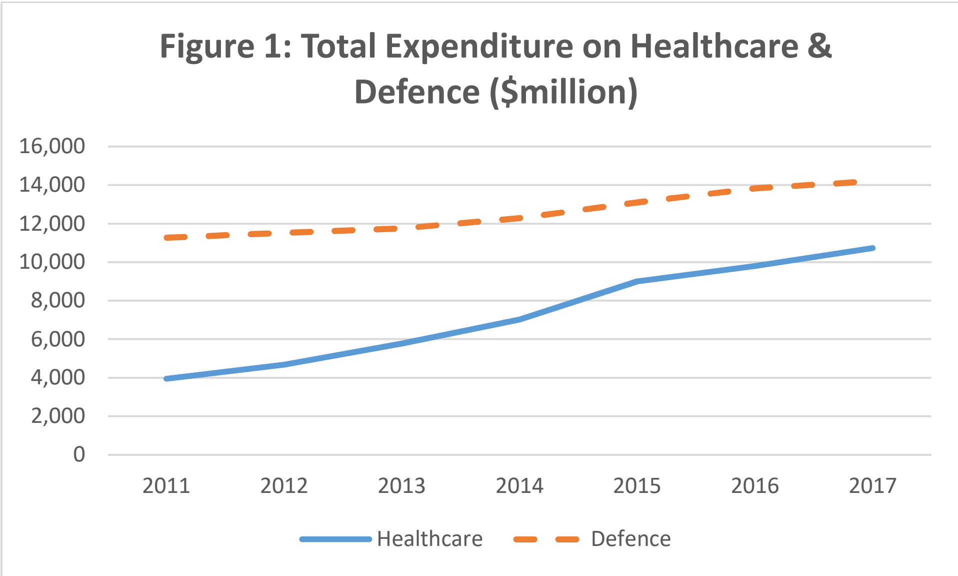
This question paper consists of **8** printed pages.

Section A

Answer **all** questions in this section.

Question 1

Government Expenditure in Singapore



Source: World Bank, 2017

Extract 1: Singapore's Spending on Defence

Singapore will continue to spend on national defence, which is considered a public good, to build a defence capability that will keep potential enemies at bay, Defence Minister Ng Eng Hen told Parliament yesterday.

"In other words, we will avoid sharp spikes unless security risks require drastic increased spending," he said during the Committee of Supply debate on the Ministry of Defence. This approach has delivered, over time, a strong Singapore Armed Forces (SAF) respected by even advanced Western militaries, according to Dr Ng.

The defence budget, which hit a record high of $12.56 billion for the financial year 2014-15 and is the single biggest government expenditure this year, has come under scrutiny during the current debate on the Budget.

Source: Business Times, 7 March 2014

Extract 2: Rising Healthcare Costs

Total healthcare costs of the elderly in Singapore are projected to rise tenfold over the next 15 years to US$49 billion annually, a report by Marsh & McLennan Companies' (MMC) new Asia Pacific Risk Center said.

Assuming the current medical cost inflation remains constant, Singapore is expected to spend an average of US$37,427 on healthcare for every elderly person - defined as someone aged 65 and above - by 2030. This makes Singapore's spending the highest in the region, ahead of Australia at US$30,827. That is because Singapore has a rapid aging population and by 2030, one in four Singaporeans will be aged 65 years and above.

MMC estimates that elderly healthcare across the Asia-Pacific will cost more than US$20 trillion between 2015 and 2030. This means that on an annual basis, elderly healthcare expenditure in the region is projected to hit US$2.5 trillion by 2030, five times more than that in 2015.

Healthcare financing aside, manpower is another pressing issue. The report said the region will face a shortage of 18.2 million professional long-term caregivers, and massive investments in both infrastructure and human capital will be needed to meet future demand.

Source: Business Times, 25 August 2014

Extract 3: Measures to tackle healthcare issues in Singapore

Minister in Prime Minister's Office Grace Fu said even as the government is prepared to shoulder a larger share of healthcare costs, the need for Singaporeans to continue making co-payments, will remain. This is known as the 'Subsidies plus 3M framework[1]'. Speaking at a dialogue session with Ang Mo Kio residents as part of a ministerial visit on Sunday, Ms Fu said this will promote self-reliance and avoid fiscal problems seen in other countries.

Issues concerning healthcare dominated the dialogue. Some wanted to know if more subsidies can be provided to help Singaporeans cope with rising medical costs. Ms Fu said: "We can have a 20 per cent subsidy or 80 per cent subsidy, but if the total medical bill is very big, any subsidy given will still mean a lot of money for the residents to pay."

To help lower- to middle-income families, they can apply for the Community Health Assist Scheme, which provides them with subsidies at participating private GP and dental clinics. They can also receive subsidies for various long-term care services, such as at day rehabilitation centres, for home care and in nursing homes.

The war on diabetes received a boost yesterday with the launch of the second season of the National Steps Challenge Campaign. An initiative by the Health Promotion Board (HPB), it aims to get 250,000 Singaporeans to be more physically active by rewarding participants with points based on the number of steps they take. The war on diabetes was declared in April by Health Minister Gan Kim Yong, to tackle the problems it poses to the more than 400,000 diabetics here, as well as the yearly $1 billion drain it places on the country's healthcare system.

Source: The Straits Times & Channelnewsasia, 14 April 2013

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[1]3M Framework
Medisave: Personal healthcare savings account to help pay for one's medical expenses
Medishield: Insurance which pays for large hospital bills and selected outpatient treatments
Medifund: Subsidies to help those unable to afford payment for their medical bills

Extract 4: Singaporeans to benefit from subsidised health screening

In a move to detect medical problems early, the Government is launching a highly subsidised national health screening programme to test for up to five common conditions. The effort is part of the larger narrative to raise health levels of Singaporeans through early intervention and healthier lifestyle choices - while keeping costs in check.

One key move involves early detection of the major health problems that afflict Singaporeans. From Sept 1, all Singaporeans aged 40 and above can get tested for diabetes, cholesterol, blood pressure and cervical cancer, for $5 at most, at the 950 Community Health Assist Scheme (Chas) clinics across the island. Those older than 50 can also get tested for colorectal cancer at no extra cost. Without the subsidy, these tests would cost around $100.

Pioneers can get tested for free, while Chas card holders will pay $2. Younger Singaporeans, aged between 18 and 39, are also eligible for testing if they are at risk of diabetes.

Colorectal surgeon Dennis Koh said detecting cancer early makes a difference in the outcomes. He added: "Spending money now on prevention will result in spending less later on treatment."

This appeared to be in tune with the thinking of the Health Minister, Mr Gan, and his colleagues, who discussed the Ministry of Health's (MOH) budget of $10.7 billion for this year and gave an update on the Healthcare 2020 masterplan.

Pointing to the worrying finding that obesity rates among Singaporeans aged 18 to 39 doubled between 1992 and 2013 - from 4.2 per cent to 8.4 per cent - Mr Gan said the war against diabetes, and towards health, must start with the individual. "A healthy diet is half the battle won," he added. The Health Promotion Board will spend $20 million over three years, starting on July 1, to get more food manufacturers to use healthier ingredients.

Another move is to build three more hospitals island-wide. Senior Minister of State for Health Amy Khor said that with this additional move, the home and community care network is being strengthened to treat people where they live. MOH will increase day and home-care services by 40 per cent by 2020. About 900 more community care nurses will be added to the current 4,900. Overall, MOH will need over 9,000 more employees over the next three years and is rolling out schemes - like sponsoring course fees - to attract Singaporeans to take up these jobs.

Source: The Straits Times, 10 March 2017

Questions

(a) (i) With reference to Figure 1, compare the trend of government expenditure on healthcare with that on national defence from 2011 to 2017. [2]

(ii) Explain how the trend shown will affect the government's budget position. [2]

(b) Explain the need for the Singapore government to provide national defence in Singapore. [4]

(c) Using the concept of opportunity cost, explain one effect on the government arising from the increase in defence expenditure. [2]

(d) Using Extract 2, explain why the price of healthcare is expected to rise sharply in the free market. [4]

(e) Assess whether market inefficiency is the main reason for government intervention in the healthcare industry in Singapore. [8]

(f) Discuss whether the use of a highly subsidized national health screening programme is the best policy that the Singapore government should adopt to address healthcare issues. [8]

[Total: 30]

Question 2

Issues on Trade and Globalisation

Extract 5: Impact of Brexit on Singapore

Following the Brexit[2] vote, the British pound has declined sharply in value, and the US dollar and Yen have strengthened in global markets. Other Asian currencies including the Singapore dollar also weakened against the US dollar, as is typical when there is a sudden increase in risks in the markets.

Until the future trade and investment relationships between the UK and EU are formally settled, the uncertainties will likely reduce investments and economic growth in the UK, and to some extent in Europe as well. They will present another headwind for Singapore in a generally subdued global economic outlook for the next few years.

As of now, Ministry of Trade and Industry does not expect these developments on their own to result in a significant reduction in growth in Singapore over the short term or the next few years. However, if a European slowdown coincides with other factors, such as a sharper than expected slowdown in China or the US, we will see a more major impact on our economy.

What happens over the longer term following Brexit is even less predictable, and a deeper concern. The World Bank released a report stating that the Brexit Referendum outcome has marked a “historical shift in trade policy attitudes”, that could impair global economic growth. If we do indeed see a shift towards protectionist policies worldwide, it will have major implications for Singapore, which thrives on an open global trading system.

Source: Ministry of Finance, Singapore, Tharman Shanmugaratnam*,* 2016

Extract 6: Protectionist measures against China

China has criticised “extreme” tariffs on its exports amid concerns in Beijing that Donald Trump will embark on a policy of protectionism as US president. Trump has pledged to hit Chinese goods with tariffs of up to 45% because cheap imports are “killing” US manufacturers.

China’s Ministry of Commerce says it has already been hit with a record number of retaliatory trade measures from rival economies and trading blocs in 2016. These included an increase in European Union steel tariffs as Brussels moved to protect the struggling industry from “dumping” of cheap Chinese steel. “Trade disputes are becoming increasingly politicised, measures are increasingly extreme and final tariff rates are relatively high,” said Ministry spokesman Sun Jiwen.

Economist Peter Navarro accused “cheating China” of destroying both American factories and lives by flooding the US with illegally subsidised and “contaminated, defective and cancerous” exports.

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[2] Brexit refers to the withdrawal of United Kingdom from the European Union. The European Union is an economic and political union of 28 countries based in Europe. There is free trade, free flow of capital and free movement of labour in the European Union.

While Trump has repeatedly blamed China for undermining US manufacturing, European officials have also accused the People's Republic of China of unfair trade practices, such as flooding the market with cheap goods backed by state subsidies.

Source: The Guardian, 5 January 2017

Extract 7: Globalisation a job creator and wage booster for Singapore

In some countries, globalisation is viewed as a monster that wrests jobs from workers.

But in Singapore, Prime Minister Lee Hsien Loong sees it as a creator of jobs and booster of workers' wages. This is because as a globalised nation, "we can play a role which is servicing the region, which is servicing the world". In doing so, "we can have jobs in Singapore which are better paying for a wide range of our people", said Mr Lee in an interview with Australia's ABC Radio National yesterday.

On the strategic shifts in Asia, he sees China's growth and influence in the region continuing to grow. For example, the One Belt, One Road (OBOR)[3] initiative is a constructive way for China to integrate with other countries. Proposed by Chinese President Xi Jinping, the development strategy focuses on building connectivity and cooperation with China's neighbours. Mr Lee said Singapore supports the OBOR initiative as well as the Asian Infrastructure Investment Bank, another China-led project to support infrastructure building in the Asia-Pacific region.

In the 12th China-Singapore Forum which looked at how China and Singapore can cooperate on the OBOR initiative, former government chief economist Tan Kong Yam said that Singapore can offer expertise that determines how well a project succeeds.

Singapore Business Federation chief executive Ho Meng Kit noted that some 60 per cent of projects in some Asian countries are already financed mainly by Singapore-based banks, and the Republic has a deep ecosystem of logistics, project development and service firms.

Mr Ho said China can consider setting up a planning office in Singapore so OBOR projects can tap the island's expertise.

Source: The Straits Times, 11 May 2017 & 11 June 2017

Table 2: US trade balance with China

Year	US imports from China (in billions of USD)	US exports to China (in billions of USD)
2011	417	104
2012	426	111
2013	440	122
2014	486	124
2015	503	116

Source: World Integrated Trade Solution, World Bank, 2017

[3] The One Belt, One Road initiative is an investment in infrastructure projects which includes the building of ports, railways and power grids in central, west and southern Asia, as well as Africa and Europe.

Questions

(a) With reference to Table 2, describe the trend of US trade balance with China from 2011 to 2015. [2]

(b) Explain the changes in the trends of US's imports and exports. [2]

(c) With reference to Extract 5, explain the impact of Brexit on

(i) the US's exchange rate [2]
(ii) the Singapore economy. [2]

(d) (i) Explain what is meant by the term "protectionism". [2]

(ii) With demand and supply analysis, explain how tariffs on cheap Chinese imports will stop "killing US manufacturers". [4]

(iii) Discuss whether countries should impose protectionist measures in circumstances such as those described in Extract 6. [8]

(e) Using the case material and your own relevant knowledge, assess the likely impact of globalization on the Singapore's economy. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3 (a) Using examples, explain the concepts of price elasticity of demand and price elasticity of supply. [10]

(b) Discuss the extent to which the price elasticity of demand determines the effectiveness of an indirect tax imposed in the market for demerit goods. [15]

4 (a) Explain the main consequences of a persistent and large balance of payments deficit on an economy. [10]

(b) Discuss the view that supply-side policies are the most effective means of dealing with a balance of payments deficit. [15]

Answer Scheme for Q1

(a)	**(i)**	**With reference to Figure 1, compare the trend of government expenditure on healthcare with that on national defence from 2011 to 2017.**	**[2]**
		Government expenditure for both healthcare and defence have been increasing. [1] Amount spent on defence is always higher than that of healthcare OR Expenditure on healthcare increased faster than expenditure on defence [1] *1m – general trend* *1m – refinement*	
	(ii)	**Explain how the trend shown will affect the government's budget position.**	**[2]**
		Government's budget is revenue – expd of the government. [1] ceteris paribus, since G ↑, government's budget would move towards deficit unless there are lowering of expenditure elsewhere or a rise in government's revenue. [1]	
(b)		**Explain the need for the Singapore government to provide national defence in Singapore.**	**[4]**
		National defence is a public good which is non-excludable and non-rival. Non-excludability means that it is impossible to exclude non-payers from enjoying the protection from national defence. This creates a possibility of free-riding. As such, there will be no willingness to pay for national defence. This causes a lack of effective demand for national defence. Without an effective demand, producers would not produce national defence. [2] Non-rivalry in consumption means that the protection from national defence enjoyed by one consumer does not diminish the protection enjoyed by other consumers. This means that the marginal cost of providing the protection from national defence to another is zero. The government would hence provide the good free so that allocative efficiency is reached at P = MC = 0. [2] *2m – Explanation of how non-excludability of national defence causes non-provision by market* *2m – Explanation of how non-rivalry in consumption of national defence causes governments to have to provide the good for free*	
(c)		**Using the concept of opportunity cost, explain one effect on the government arising from the increase in defence expenditure.**	**[2]**
		Opportunity cost is the next best alternative forgone. [1] Increase in healthcare costs will result in an increase in government spending on healthcare and more resources will be channeled there. The opportunity cost of increased spending on healthcare is the benefit to society that could have been generated if the government had spent on the next best alternative developmental area such as education or infrastructure or national defence (either 1) [1] *1m – definition of opportunity cost* *1m – explaining opportunity cost incurred from increasing healthcare expenditure*	

(d) **Using Extract 2, explain why the price of healthcare is expected to rise sharply in the free market.** **[4]**

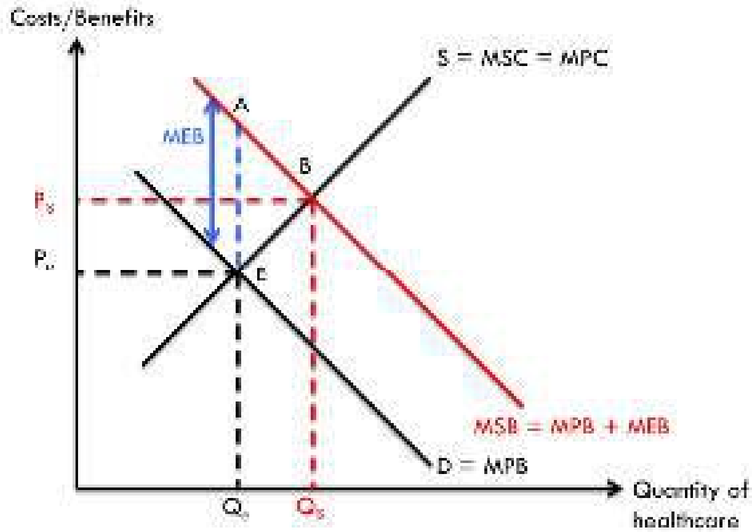
- Rise in DD for healthcare due to aging population/greater awareness [1]
- Fall in SS due to shortage of manpower driving up COP [1]
- Above two factors causing a shortage and increase in price [1]
- Increase in price is sharp due to low PED of healthcare as healthcare is a necessity / low PES due to low factor mobility (healthcare professionals need specific skills that not everyone possesses; need to be trained) [1]

1m – Explanation of factor that increases demand
1m – Explanation of factor that decreases supply
1m – Explanation of shortage driving up the price
1m – Addressing the price of healthcare rising <u>sharply</u>

(e) **Assess whether market inefficiency is the main reason for government intervention in the healthcare industry in Singapore.** **[8]**

<u>Introduction</u>
Healthcare is an example of a merit good, a good which the government believes that the people will under-consume due to information failure and positive externalities.

<u>Thesis: Market inefficiency is the main reason</u>
Healthcare services such as flu vaccinations also benefit friends/ family members in terms of lower expected medical costs in future as they are less likely to fall ill due to the reduced chances of catching the flu from the vaccinated person. This happens w/o compensation. As such MSB > MPB.

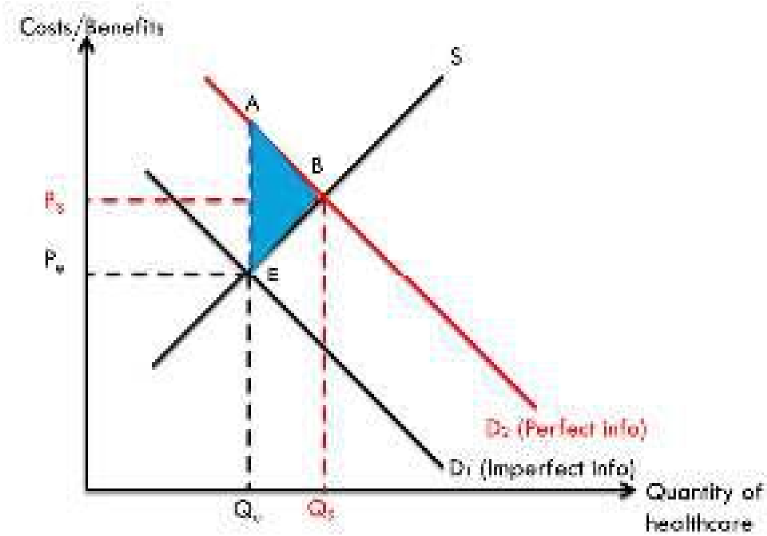


The market equilibrium output is at 0Qe (MPB=MPC). Meanwhile, the socially optimal level of output is at 0Qs where MSB=MSC. At the market output OQe, MSB is more than MSC, meaning that the society values one more unit of healthcare more than it costs to consume. There can be an improvement in society's welfare by increasing production and consumption of healthcare services. There is, thus an underconsumption of QeQs units of healthcare services leading a welfare loss of area AEC.

Hence there is allocative inefficiency in the market where the right amount of the right type good is not produced.

OR

Individuals underestimate the private benefits of healthcare services such as health screening such as the reduction in medical expenditure due to prevention of chronic illness (Ext 3) as it often comes about only in the distance future. Thus individuals tend to under-demand health screening at D1, instead of D2 (where the true MPB is).



The market equilibrium output is at 0Qe (D_1(imperfect info) = S). Meanwhile, the socially optimal level of output is at 0Qs where D_2(perfect info) = S). As 0Qe < 0Qs, there is an underconsumption of QeQs units of healthcare services leading a welfare loss of area ABE. Hence there is allocative inefficiency in the market where the right amount of the right type good is not produced.

<u>Anti-thesis: Market inefficiency is not the main reason (inequity is the main reason)</u>

However, inequity could be the reason instead. Given that healthcare is a necessity, everyone, including the low-income should have access to healthcare. However, the market would only allocate healthcare to people who are willing and able to pay the market price. This means that low income households who are not able to pay the market price would not receive healthcare. This inequity is made worse by the rising healthcare price. Thus, inequity could be the main reason for the government to intervene in the healthcare market.

<u>Conclusion</u>

In conclusion, whether market inefficiency is the main reason for the government intervention in the healthcare market depends on which sub market is being considered. For health screening, since the government subsidies are not varied according to income, it is likely that the reason for the intervention is not inequity. For primary healthcare (i.e., healthcare services provided by a general practitioner (GP)), since the subsidies under CHAS are only for lower and middle income families, it is likely that inequity is the main reason.

Level	**Knowledge, skills and application**	**Marks**

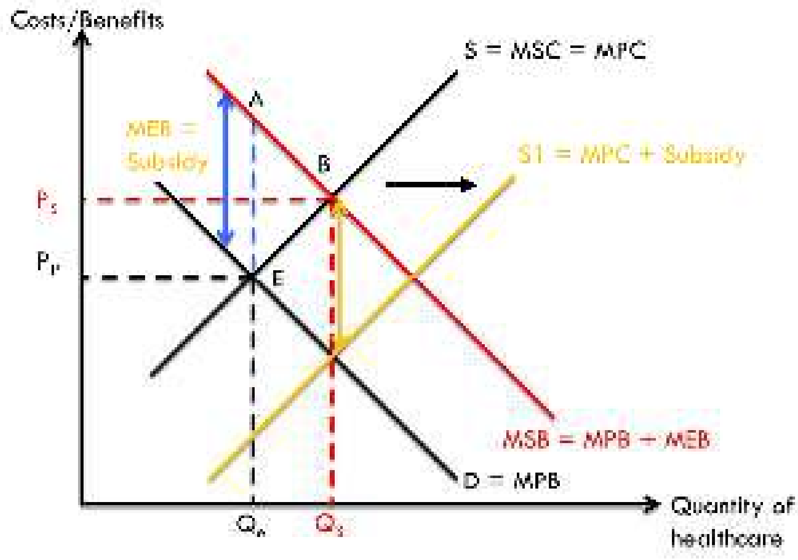
L2	Well-explained market failure analysis; explanation of both inefficiency (positive externality/imperfect info) and inequity Thorough explanation of one source of inefficiency, max 5m	4 - 6
L1	Underdeveloped explanation of both inefficiency and inequity Only explained inequity	1 - 3
	Evaluative Comment	
E	Explained judgement regarding whether market inefficiency is the main reason for government intervention	1 - 2

(f)		**Discuss whether the use of a highly subsidized national health screening programme is the best policy that the Singapore government should adopt to address healthcare issues.**	**[8]**

<u>Thesis: A highly subsidized national health screening programme is the best policy to address healthcare issues</u>

A highly subsidized national health screening programme is preventive healthcare. It is "part of the larger narrative to raise health levels of Singaporeans through early intervention and healthier lifestyle choices - while keeping costs in check." It is useful to tackle the market failure issues of imperfect knowledge, positive externality and equity.

A subsidy which is equal to MEB can reduce health check cost. This subsidy given to producers will result in an increase in S to S1 due to the fall in unit cost of production. Market output now coincides with the socially optimal output, 0Qs, and deadweight loss is eliminated. Thus, allocative efficiency is achieved.



Evaluation:

The health screening programme is able to get citizens to do preventive health checks and with the subsidy which makes price lower, people may be encouraged to do health checks more regularly. The poor would also be able to afford the checks.

Although subsidies easy to implement but accuracy of the measurement of the level of positive externalities is difficult to achieve. The government may overestimate the amount of subsidy per unit thus there is now overconsumption of healthcare services.

Antithesis: Other policies eg education & campaigns to address healthcare issues

Education and campaigns aim to provide more information to consumers about true costs and benefits of a good and allow them to make informed choices. Some examples include education fairs, education on preventive healthcare in schools. This will tackle the market failure issue of imperfect knowledge re healthcare issues.

An example in Extract 3 is the launch of the second season of the National Steps Challenge Campaign. It is an initiative by the Health Promotion Board (HPB), it aims to get 250,000 Singaporeans to be more physically active by rewarding participants with points based on the number of steps they take.

Evaluation:
Campaigns are not enforceable by law; they serve mainly to encourage people and firms to increase/decrease consumption or production of the good to the socially efficient level. However, people may not heed the advice due to stubbornness and ingrained habits that are hard to change.
It takes time for campaigns to take effect, so this method does not offer immediate solutions to more pressing, urgent problems.

Another measure to tackle healthcare issues is the building of 3 more hospitals. It will provide healthcare services closer to where people live. This is particularly important given the context of ageing population and the need for more hospital facilities.
Evaluation: Government provision requires more government spending and this implies more funds to be collected. Opportunity cost of spending is also involved.

Evaluative conclusion:

The ageing population provides a great challenge for future healthcare provision and health screening is a good preventive measure for people to be aware of early detection of health problems. This will place less burden on the healthcare of the individual as well as on the nation. Subsidies on health screening will be an incentive for people to be more willing to do such checks. So it is a good first step to address healthcare issues in Sg.

However, as awareness is not enough, the other policies to complement a subsidized health screening programme are also necessary in the provision of healthcare assistance in Sg.

Level	Knowledge, Skills and Application	Marks
L2	Answers in this level will provide balanced and sound analysis on the given policy and at least one other policy. One-sided answer (max 4 marks)	4-6
L1	Answers in this level will be descriptive or will contain errors in explaining the policy	1-3

		E	For an evaluative judgement on which is the best policy with reference to context	1-2

Answer Scheme for Q2

(a)		**With reference to Table 2, describe the trend of US trade balance with China from 2011 to 2015.**	**[2]**
		US trade balance with China is in a deficit [1]. Trade deficit is increasing [1].	
(b)		**Explain the changes in the trends of US's imports and exports.**	**[2]**
		US's economic growth is improving, hence there is an increase in purchasing power of US citizens which increases the value of imports from China [1]. On the other hand, China's economy is slowing down, and hence the value of exports to China did not increase as much [1]. Thus, US trade balance with China is in a deficit.	
(c)		**With reference to Extract 5, explain the impact of Brexit on** **(i) the US's exchange rate** **(ii) the Singapore economy.**	 **[2]** **[2]**
		(i) With Brexit, there is instability in the UK. Thus, there may be an outflow of capital from the UK and an inflow of capital to more stable countries such as the US [1]. This increases the demand for USD which leads to an appreciation of USD [1].	
		(ii) One impact is that SGD has weakened against USD and this may lead to greater exports to US because of the cheaper exports seen in USD.[1] This will present better opportunity for Sg's exports leading to better economic growth for Sg. [1] OR Uncertainties in UK & EU will reduce future trade and investments in EU [1] and this may mean a fall in X or investment opportunities in EU for Sg. Thus a reduction in AD & thus NY & EG for Sg.[1] [Accept any other explanation based on case information.]	
(d)	**(i)**	**Explain what is meant by the term "protectionism".**	**[2]**
		Protectionism is a policy of sheltering the domestic industries from foreign competition [1] through the imposition of trade barriers on foreign goods and services or unfairly supporting the domestic firms [1].	
	(ii)	**With demand and supply analysis, explain how tariffs on cheap Chinese imports will stop "killing US manufacturers".**	**[4]**
		Tariffs will increase the price of Chinese goods into US market. This is because the tariffs increase cost of importing Chinese products into US, thus shifting the SS curve of Chinese products sold in the US. This will lead to a fall in equilibrium qty of such goods into US. [2] US consumers will be encouraged to substitute with the relatively cheaper local products and thus increase demand for local US manufacturers. Equilibrium P & Q will increase and thus allowing the local manufacturers	

		to produce more.[2]	
	(iii)	**Discuss whether countries should impose protectionist measures in circumstances such as those described in Extract 6.**	**[8]**
		<u>Thesis: Countries should impose protectionist measures on imported goods and services because (explain arguments for protectionism)</u> In order to improve their BOP position, countries may impose protectionist measures. As seen in table 2, US has a persistent BOT deficit with China. Hence, US may impose protectionist measures in order to reduce the trade deficit. By imposing protectionist measures such as tariffs and quotas, import expenditure will fall. By imposing protectionist measures such as subsidising US domestic producers, their cost of production falls, hence they will be more willing and able to supply. This results in a fall in price of domestic goods. Since domestic goods and imported goods are substitutes, US consumers reduce their demand for imported goods from China, hence reducing import expenditure. Thus, US trade deficit with China may improve, hence improving BOP position, assuming that capital account has no change. Countries may want to use protectionist measures to reduce structural unemployment. Due to trade, there may be structural unemployment because industries with comparative disadvantage close down. Thus, these workers who may not be equipped with the skills to work in the new industries will be structurally unemployed. By imposing protectionist measures, demand for domestically produced goods and services in the industries which have comparative disadvantage in will increase. This results in the industries surviving, even though they may have the comparative disadvantage in producing the goods as compared to their foreign counterparts. Hence, workers in these industries will continue to stay employed. Countries also impose protectionist measures to retaliate against unfair trade practices. For example, as seen in extract 6, US wants to impose protectionist measures on China because they think that China is unfairly protecting their domestic industries by subsidising them. This results in Chinese goods being sold at a very low cost in US. Hence, US consumers increase their quantity demanded for Chinese goods and services, resulting in an increase in import expenditure. Thus, in order to retaliate against unfair trade practices, US may want to impose protectionist measures on China. **<u>Anti- thesis: Countries should not impose protectionist measures on imported goods and services because (explain arguments against protectionism)</u>** However, if countries impose protectionist measures, there will be a lack of efficiency in domestic firms. Firms may become dependent on the protection by the government. Since the firms are being protected from foreign competition, they will also lack the incentive to be more efficient by innovating. Hence, goods produced will be of low-quality, high prices and will be in limited variety. This will mean a waste of valuable resources	

		invested. In addition, there may be retaliation from trading partners. Suppose if US impose protectionist measures on China, China can retaliate by imposing similar protectionist measures on US imports. This results in a fall in export revenue for US. Hence, causing a contraction in world trade. **<u>Evaluative Conclusion:</u>** In the short-run, to overcome problems of structural unemployment and trade deficit, should impose. This is because time is needed to train workers from the sunset industries to have the right skills and knowledge for the sunrise industries. However, industries should not be over-reliant on protectionist measures. The government also needs to be aware of when to remove the protectionist measures so as to reduce dependency on protectionist measures. Ultimately, protectionist measures do not target the root cause of the issue of a trade deficit or structural unemployment. Hence, there is a need for structural reform to train workers to work for the sunrise industries in the long run so as to improve export competitiveness and reduce structural unemployment.	

Level	Knowledge, Skills and Application	Marks
L2	Answers in this Level will provide balanced and sound analysis on the reasons for and against protectionism. One-sided answer (max 4 marks)	4-6
L1	Answers in this Level will be descriptive or will contain errors in explaining the reasons for and against protectionism.	1-3
E	For an evaluative judgement on whether countries should engage in protectionism and the effectiveness of using protectionist measures in the short-run and long-run.	1-2

(e)		**Using the case material and your own relevant knowledge, assess the likely impact of globalization on the Singapore's economy.**	**[8]**
		<u>Introduction: Define & explain globalisation</u> Globalisation refers to the free movement of goods & services, capital and labour in the international market. It is possible because of technological improvements in transportation and communication processes. **<u>Thesis: Globalisation has positive impacts on Singapore's economy</u>** *Explain the positive impact of free flow capital on Singapore's four macroeconomic goals, keeping in mind Singapore's characteristics.* As Singapore is an open economy, international trade - export sales, the inflow of FDI will benefit Singapore by directly increasing the X & I component of AD. The OBOR is an example. This means that AD will increase from AD0 to AD1 (draw diagram to show), hence increasing actual economic growth and employment. With an inflow of FDI, there will	

be an exchange of knowledge and technological transfer with the other countries. Thus, this increases productivity, hence LRAS curve shifts outwards from AS0 to AS1 (include on diagram). This increases potential economic growth. Hence, with the increase in actual and potential economic growth, sustained economic growth is achieved. With sustained economic growth, inflationary pressures will be lessened.

An increase in X & inflow of FDI results in an improvement in the BOP. X increase improves the current account and FDI inflow the capital account. Thus there will be an improvement in the BOP position of Singapore, which is favourable.

In Extract 7, globalisation is also as "a job creator and wage booster for Singapore" by the PM. This is because it allows Sporean workers to work overseas and increase earnings from overseas markets. It also provides business opportunities for Sg firms overseas, thus allowing the country to benefit from greater economic growth.

An outflow of FDI benefits Singapore in the long-term because domestic firms will be able to increase their profits abroad, which will eventually flow back to Singapore in the form of factor income from abroad. This improves the income balance in the current account and hence the BOP position. At the same time, income from the investments in the OBOR initiative increases Singapore's GNI and improves our SOL.

In addition, foreign labour inflow allows Sg to lower its COP and thus allows for lower prices domestically. This will also spur export growth.

Anti-thesis: Globalisation has negative impacts on Singapore's economy

Explain the negative impact of free flow of trade, capital and labour on Singapore's four macroeconomic goals, keeping in mind Singapore's characteristics.

Globalisation means that Sg is more open to external shocks. In Extract 5, it says that Sg is susceptible to the headwind of Brexit and a subdued global economic outlook. A more protectionist America will also mean lower ability to trade in the US. This would lower (X-M) and thus AD for Sg.

There are also certain costs to Singapore's involvement in the OBOR initiative. Firstly, after the project has ended, when China withdraws its planning office from Singapore, there will be an increase in unemployment. There will be a need for Singaporeans to find new jobs.

Secondly, investing in the infrastructure building projects in other parts of Asia, Africa and Europe may be at the expense of domestic investment. Thus, the I component of AD may have fallen, resulting in a decrease in AD. This results in a fall in employment and actual economic growth.

Thirdly, suppose the outflow of FDI is larger than the inflow of FDI from China, there will be a worsening of the capital account. Assuming that current account has no change, this will worsen the BOP position of Singapore.

Evaluative Conclusion
Singapore is a very open economy and it needs to trade and invest beyond its borders. Given that there are both positive and negative impact of globalisation, whether or not Singapore benefits from globalisation is dependent on how the Singapore government mitigates the costs from the negative impact and how Singapore is able to maximise the benefits from the positive impacts.

Level	Knowledge, Skills and Application	Marks
L2	Answers in this level will provide balanced and sound analysis on the positive and negative impact of globalisation on Singapore. One-sided answer (max 4 marks)	4-6
L1	Answers in this Level will be descriptive or will contain errors in explaining the impact of globalisation on Singapore.	1-3
E	For an evaluative judgement which takes into account Singapore's characteristics and the case information	1-2

[Total: 30]

Answer scheme for Q3

3(a) Using examples, explain the concepts of price elasticity of demand and price elasticity of supply. [10]

	PED	**PES**
Definition	Measures the degree of responsiveness of quantity demanded of a good to a change in its price, ceteris paribus	Measures the degree of responsiveness of quantity supplied of a good to a change in its price, ceteris paribus
Formula	$\frac{\text{\% change in qty demanded of gd}}{\text{\% change in the price of gd}}$	$\frac{\text{\% change in qty supplied of gd}}{\text{\% change in the price of gd}}$
Sign (Use specific egs to highlight the sign)	Always negative because of the *law of demand* **e.g.** when the price of watches rises, the quantity demanded will fall, resulting in changes in price and quantity demanded being inversely related, so PED is always –ve By convention we will ignore the minus sign in discussing PED.	Always positive because of the *law of supply* **e.g.** when the price of barley increases, barley production becomes more profitable and more resources will be channelled into barley production, increasing the quantity supplied. Hence, PES is always +ve
Values (Use specific examples to highlight the values. Briefly explain the factors affecting the value)	**PED > 1 (Price elastic DD)** When the price of HL milk increases, there will be a *more than proportionate* decrease in the Qd of HL milk as consumers can switch to the relatively cheaper and available close substitutes such as Marigold and Daisy milk. **PED < 1 (Price inelastic DD)** When the price of petrol increases, there will be a *less than proportionate* decrease in the Qd of petrol as consumers do not have many close viable substitutes to petrol to turn to. Hence, the closer and greater will be the number of substitutes available, the more price elastic is the demand for the good. Other factors affecting PED are the proportion of income spent on good and the degree of necessity of good. The higher the proportion of income spent on a good (e.g. cars vs. salt), the more consumers will be force to reduce consumption when its price rises, that is the demand will be more price elastic. The higher the degree of necessity for the good, the more price inelastic the demand for the good will be, eg. rice and electricity.	**PES > 1 (Price elastic SS)** When the price of textbooks increases, there tend be a *more than proportionate* increase in the quantity supplied of textbook as producers can easily respond to the price increase as they may have stocks of textbooks available in their warehouses or they can make fuller use of their spare capacity and print more copies of textbooks. Hence, supply of textbooks tends to be price elastic. **PES < 1 (Price inelastic SS)** When the price of houses increases, there will be a *less than proportionate* increase in the quantity supplied of houses. Supply of houses tend to be highly price inelastic (in SR) as planning, acquisition of land for building of property will take a relatively long period of time. In the LR, the value of PES is higher due to more firms entering the industry and greater competition. Hence, PES for a good will be higher the higher the spare capacity, the greater the availability and durability of the stocks of a good, the greater the factor mobility and the longer the time period.
Measure	The extent of movement along the demand curve as the price of the good itself changes.	The extent of movement along the supply curve as the price of the good itself changes.

Level	Analysis	Mark
L3	Well-developed explanation of both PED and PES, with the use of real-world examples.	8 – 10
L2	Under-developed explanation of PED and PES, with limited use of examples. OR Well-developed explanation of either PED or PES, with limited use of examples.	5 – 7
L1	Answer is mostly irrelevant. Only a few valid points. Lacks economic reasoning.	1– 4

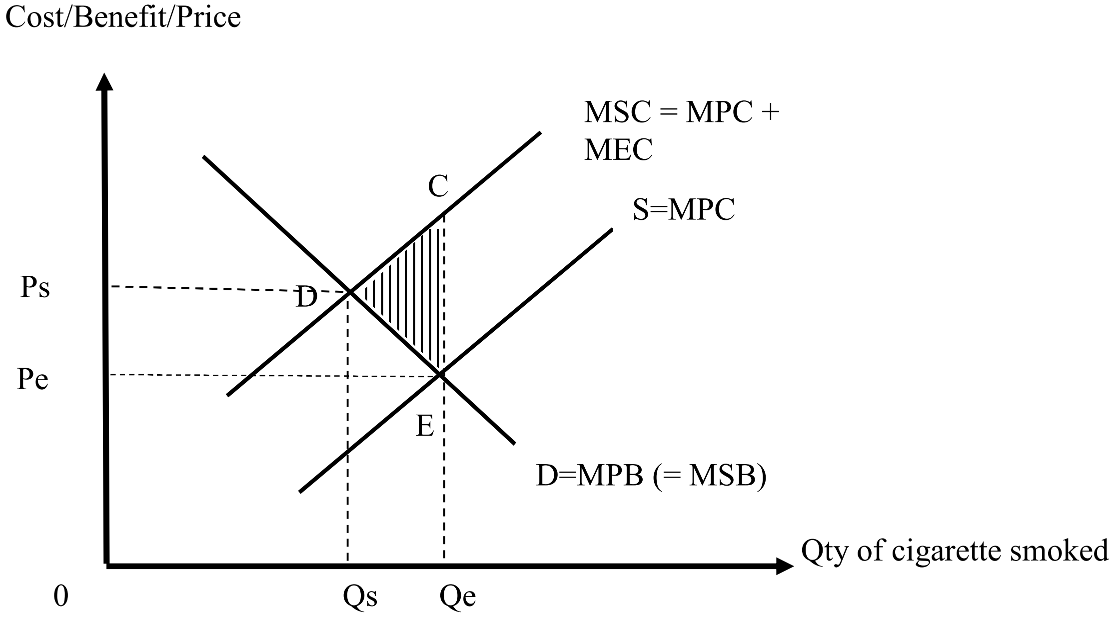
3(b) Discuss the extent to which the price elasticity of demand determine the effectiveness of an indirect tax imposed in the market for demerit goods. [15]

<table>
<tr><td colspan="2">Introduction
Define demerit goods and explain the need for government intervention in the market.</td></tr>
<tr><td>Thesis: PED determine the effectiveness of an indirect tax imposed in the market for demerit goods.</td><td>Anti-thesis: PED does not determine the effectiveness of an indirect tax imposed in the market for demerit goods.</td></tr>
<tr><td>• Correcting market failure in the presence of negative externalities through indirect taxes
• If PED >1, indirect tax will be more effective than the case where PED<1</td><td>• Assess the limitations of PED
- ceteris paribus assumption is not realistic
- difficult to estimate the values of PED
• Explain how there are other factors that may be as significant or more significant than PED in determining the outcome
- Wrong estimation of monetary value of MEC</td></tr>
<tr><td colspan="2">Conclusion
• In light of these limitations, how significant is PED in determining the effectiveness of indirect tax
• When governments formulate and implement policies to achieve efficient allocation of resources, what other factors may be more useful to consider?</td></tr>
</table>

Introduction: Define demerit goods and explain the need for government intervention in the market

Demerit goods are goods deemed to be socially undesirable by the government. Some examples of demerit goods include cigarettes, heroin, alcoholic drinks and gambling. The consumption of these goods are likely to cause negative externalities to the society – for eg break-up of families, increased crime rates, loss in productivity. These negative externalities are ***external costs*** that third parties, for eg. the community, who are not directly involved in the consumption or production of the good will have to bear without compensation. These 'negative externalities' make the marginal social cost of demerit goods greater than the marginal private cost. If demerit goods are provided through the free market, there would be over-consumption and hence over-production of these goods leading to inefficient allocation of resources. Let's use the market for cigarette smoking to illustrate this.

Fig.1



Referring to Fig. 1, the individual consumers and producers will only consider their own private costs and benefits, ignoring the negative externalities and will consume and produce up to the point where MPB = MPC (private efficiency). As such, 0Qe is being produced. The existence of negative externalities creates a divergence between MSC and MPC, ie, MSC is higher than MPC. Assuming there is no external benefit incurred, MSB = MPB = D. As such, at market equilibrium output, Qe, MSC is greater than MSB, meaning that the society values an extra unit of good less than what it would cost the society to produce it. The socially efficient level of output should be where MSC = MSB, ie. at output Qs. Therefore, the price mechanism over-allocates resources to the consumption of cigarettes since Qe > Qs. Area ECD represents the welfare/deadweight loss to society as a result of this over-allocation of resources.

Thesis: PED determine the effectiveness of an indirect tax imposed in the market for demerit goods.
An indirect tax refers to a tax on a good which increases the cost of production of the good.

If the government imposes a tax equal to the external cost, then it will effectively lead to those involved in the transaction internalising the externality. Cost of production will increase and producers will be induced to produce less; the supply curve will shift to the left to (MPC raised to the same level as the MSC). Assuming that the original demand curve is unchanged, the equilibrium price of cigarettes rises and quantity demanded of cigarettes falls to the socially efficient level Qs. The over-allocation of resources is corrected as there will not be over-production. This eliminates the deadweight loss and allocative efficiency is achieved.

The extent by which a tax can reduce the externality produced is uncertain, depending on the price elasticity of demand for the good. If demand for the good (e.g. cigarettes by young smokers) is price elastic, an indirect tax that raises the price of the demerit good will reduce the quantity demanded of the demerit good by a more than proportionate amount. Therefore, the reduction in the externalities (pollution, health problems to non-smokers) will be very significant.

However, demerit goods, eg liquor, cigarettes, are likely to be consumed out of habit due to the addictive nature of the goods (e.g. cigarettes by chain smokers). This results in limited number of close substitutes available for such goods and consumers become less sensitive to price changes. Hence demand for demerit goods is likely to be price inelastic. As such, the new market price increases sharply whilst there is a less than proportionate fall in quantity demanded to. Most of the indirect tax is passed on to the consumers from the producers in the form of higher prices. The quantity traded has only fallen by a small amount. Therefore, the reduction in the externalities (pollution, health problems to non-smokers) will not be very effective.

Hence, the effectiveness of an indirect tax in the market to curb the consumption of the demerit good is determined by the price elasticity of the demand for the demerit goods.

Anti-thesis 1: PED does not determine the effectiveness of an indirect tax imposed in the market for demerit goods - Limitations of PED

The above analysis is only correct if certain assumptions hold true. Firstly, all other things affecting demand and supply are assumed to be constant. However, the ceteris paribus assumption may not hold in the real world. When using the elasticity concepts, we assume that only the price of the good has changed. For example, when using PED, we ignore the fact that demand for the demerit good might be have changed due to a change in tastes and preferences and attribute the insignificant fall in quantity demanded to the price inelastic demand for demerit good.

Secondly, the PED values are just estimates. There could be difficulties in data collection or the sample size taken may be too small to reflect the actual elasticity values. Hence, it is difficult to conclude with certainty the impact of PED on the quantity demanded of demerit good.

Antithesis 2: PED does not determine the effectiveness of an indirect tax imposed in the market for demerit goods - Other factors also affect the effectiveness

Besides PED, government's ability to estimate the monetary value of the MEC also determines the effectiveness of the indirect tax. The government may not know the optimal amount of tax to levy thus creating over- or underproduction/consumption. The difficulty in establishing a monetary value to the external cost of consumption would limit the effectiveness of taxation. Should the government impose a tax amount greater than the external cost, there would be under-allocation of resources to the market, creating another set of problem to the market instead.

In addition, the government may not know the exact full costs and benefits of its policies and this limits the effectiveness of indirect taxation. There is no complete knowledge of the policy outcome until they are implemented. Administrative costs are incurred in the collection of taxes. Also, such indirect taxes are often regressive in nature. As such the poor may be affected more by this tax than the rich. Moreover, with the economy growing and people getting richer, the tax may not be effective in reducing quantity of demerit goods bought as consumers will be able to pay the tax with the additional income earned. The exorbitant indirect taxes may also encourage illegal activities like the smuggling of contraband cigarettes into Singapore.

Evaluative Conclusion

In conclusion, the effectiveness of an indirect tax imposed in the market for demerit goods to curb the consumption of the demerit good is limited because of the inelastic price elasticity of the demand for demerit goods. Increases in indirect tax in this market would only lead to higher price and hence bigger government tax revenue but without much fall in quantity consumed of the demerit goods. This implies that indirect taxes on the market for demerit goods provides good tax revenue which can be used to pay for the medical bills that are incurred by passive smokers as well as to run programmes to help smokers quit. In addition, the funds can be used to educate the young on the dangers of smoking. To effectively address the problem of allocative inefficiency, the government only needs to slap a hefty tax on such goods. However, the government should note that this would cause a much heavier tax burden on the poor than on the rich, resulting in inequity. Therefore, whether government efforts to interfere in the working of the free market through indirect taxation would create more problems than they solve depends not so much on the PED but on the amount of information that the government possess and the ability of the government to anticipate the consequences of an indirect tax and supplement it with other policies. If the government has perfect knowledge of the external cost that would arise from the consumption or production of demerit goods, then indirect taxation is likely to solve market failure problems rather than creating more problems.

Level	Analysis	Mark
L3	Well-developed explanation of why and how governments intervene by imposing indirect taxes in the market for demerit goods and the role of PED and other factors. Use of diagrams and examples.	8 – 11
L2	Under-developed explanation of why and how governments intervene by imposing indirect taxes in the market for demerit goods and the role of PED and other factors. OR Well-developed explanation of why and how governments intervene by imposing indirect taxes in the market for demerit goods and the role of PED.	5 – 7
L1	Answer is mostly irrelevant. Only a few valid points. Lacks economic reasoning. Answer shows some knowledge of PED and demerit goods although the relationship between the two terms is not well explained. Answer explains why OR how governments intervene in demerit goods market. There are errors in the diagram. No explanation of diagram.	1 – 4
Level	**Evaluation**	**Mark**
E2	Well-reasoned judgement that assess the extent that PED determines the effectiveness of an indirect tax.	3 – 4
E1	Judgement with weak justification on whether PED determines the effectiveness of indirect tax. OR Judgement that states the limitations of using PED.	1 – 2

Answer Scheme for Q4

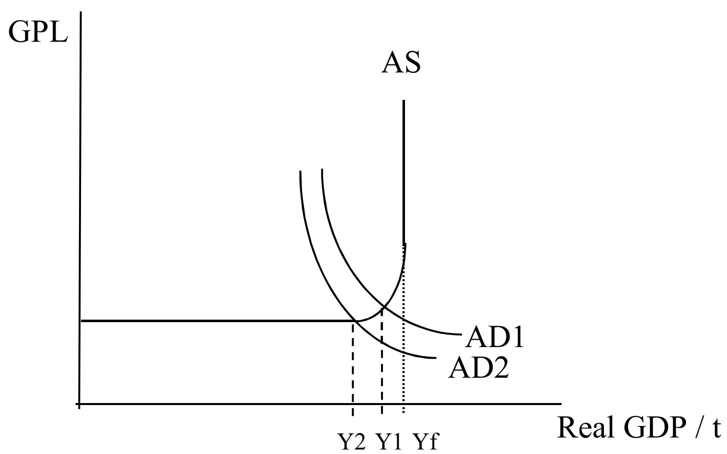
4(a) Explain the main consequences of a persistent and large balance of payments deficit on an economy. [10]

Introduction
Define balance of payments
Balance of Payments (BOP) refers to a record of all economic transactions between a country and the rest of the world during a given period of time, usually one year. Every economic transaction between a country and another either results in an inflow of money into the country (e.g. when a foreign households buys exports from the domestic firms), or an outflow of money from the country (e.g. when domestic firms build factories overseas). The main accounts in the BOP are the current and capital/financial accounts.

Explain the meaning of a persistent and large BOP deficit
The BOP is said to be in deficit when the total currency flow shows a negative value and it could be due to a deficit in current account and/or capital account. If the country adopts a floating exchange rate system, any BOP deficit would be short term in nature. However, a persistent and large BOP deficit would mean a large change in the exchange rate which could have knock-on effects on investments and eventually growth.

Body
Explain consequences of BOP deficit on exchange rate and the the economy
The most immediate impact of a persistent and large BOP on the economy is through effect on the economy's exchange rate. With a BOP deficit, money outflow is more than money inflow which means that there is a surplus of currency in the forex market and the currency would depreciate. If the country chooses to continuously support the weakening exchange rate, the country's reserves could be depleted. The currency will then sharply depreciate to its equilibrium market value.

The depreciation of the currency will cause exports to become cheaper in terms of foreign currency while imports become more expensive in terms of domestic currency. As long as Marshall-Lerner condition holds, that is, $|PED_x + PED_m| > 1$, a depreciation of the currency would lead to a fall in net export (X-M). The fall in (X-M) would reduce AD (since AD = C + I + G + (X - M)), ceteris paribus. AD curve will shift to the left from AD1 to AD2 as seen in the diagram below. This leftward shift of AD will have an adverse effect on the economy if it is operating at or near full employment. With the fall in AD, inventory builds up and firms will cut back on production. There will be a **fall in real national income** from Y1 to Y2. The level of employment of resources will also fall as demand for resources is derived from demand for the final output. The economy moves further away from the full employment level and is experiencing **demand deficient/cyclical unemployment**.



The extent of the contraction of the economy will depend on the relative size of the (X-M) in the economy's AD. In an economy which is highly dependent on trade to generate output and employment such as Singapore, a given fall in trade value will result in greater fall in national income and employment as compared to an economy where (X-M) is relatively small in relation to the other components of AD.

If the economy does not own natural resources and is dependent on imported raw materials for its production processes or the economy is dependent on imported consumption goods as in the case of Singapore, a sharp depreciation would cause a large increase in the prices of imports, causing high **imported inflation**. Cost of production will increase especially if the economy is highly dependent on inputs for production which will affect their export price competiveness if it is a very large proportion of unit cost of production. This will further worsen BOP deficit via the current account and negatively affect growth and employment.

Over time, a persistent and large BOP deficit will reduce the attractiveness of the economy to foreign investors as the rate of return on investment projects will be reduced and often uncertain. The **lower level of foreign investment** will adversely affect growth and employment. The inflow of foreign direct investment contributes to investment expenditure, a component of AD. With the fall in investment, AD falls and output and employment will fall. In the longer term, there will be slower expansion of productive capacity leading to slower shift of the aggregate supply curve and thus slower potential growth.

Finally, a persistent BOP deficit may lead to other problems such as depletion of foreign exchange reserves if the economy adopts a managed or fixed exchange rate system. This may eventually lead to the **need to borrow** in order to finance the deficit. Borrowing will result in greater burden on the economy as it has to service the debt. This will mean fewer resources will be available for future investment and spending on training leading to a slower shift of the AS curve to the right. Potential economic growth will be impeded with a potential rise in structural unemployment.

Conclusion
A persistent and large deficit in BOP could bring about adverse impact on the economy. In the long run, the economy could face severe contraction in their economic potential and high unemployment.

Level	Knowledge, Analysis and Application	Mark
L3	Well-developed explanation of the consequences of a large and persistent BOP deficit using AD/AS framework.	8 – 10
L2	Under-developed explanation of the consequences of BOP deficit, without highlighting its persistence and magnitude. Limited reference to the AD/AS framework.	5 – 7
L1	Answer is mostly irrelevant. Only a few valid points. Lacks economic reasoning.	1 – 4

4(b) Discuss the view that supply-side policies are the most effective means of dealing with a balance of payments deficit. [15]

Introduction Explain and give examples of supply-side policies.	
Thesis: SS-side policies are the most effective in dealing with a BOP deficit	**Anti-thesis: SS-side policies are not the most effective in dealing with a BOP deficit.**

• Explain how SS-side policies correct a BOP deficit	• Assess the limitations of SS-side policies - high opportunity cost - long term measure • Explain how other policies are more effective and their limitations - Expenditure-reducing policies – FP/MP - Expenditure-switching policies – protectionist policies
Conclusion • Well-reasoned judgement of whether SS-side policies are the most effective in correcting a BOP deficit	

Introduction
Explain and give examples of supply-side policies
Supply-side policies refer to instruments which affect the aggregate supply. Such policies can help to achieve both actual and potential economic growth as well as lower unemployment and minimise the impacts of cost-push inflation. There are various types of supply-side policies and they are divided into two broad groups: interventionist policies and market oriented policies. Interventionist policies refer to those where the government takes a more active role (e.g., provide subsidies, introduce rules and regulations, etc) while market-oriented policies refer to those where the government reduces its intervention to let the free market work instead.

Thesis: SS-side policies are the most effective in dealing with a BOP deficit - Explain how SS-side policies correct a BOP deficit
The aim of the policy is to increase the quantity and quality of the resources in the economy so that costs of production can be reduced in the long run, which will then enhance export competitiveness. For example, governments can roll out training subsidies and research incentives which can help offload the producers financially when they send their employees for training and incentivise automation. Upon completion of training and a successful research and development, the employees and the production line become more productive. This will allow the prices of exports to be more competitive and if demand for exports is price elastic, quantity demanded of exports will increase more than proportionately, increasing export revenue and reduces the BOT deficit and hence BOP deficit at the same time. With a more productive workforce and consistent attempts by the government to improve the infrastructure for investments, foreign investors would be attracted to the country to invest and the influx of FDI would improve the financial account, helping to reduce the overall BOP deficit. For example, in Singapore, corporate income tax rates have remained competitive and favourable tax exemptions and incentives are given to pioneering investors, so that FDI can continue to stream into Singapore to boost our financial account.

Anti-Thesis 1: SS-side policies are not the most effective in dealing with a BOP deficit - Limitations of SS-side policies
However, supply-side policy are costly and the results can be uncertain. For instance, the training courses which are heavily subsidised by the government would take up a significant portion of government's fiscal budget and they would then have less to spend on other areas like healthcare and defence. Workers might also be reluctant to go for training as they might be resistant to more work and studies and the success rate of training amongst the workers also vary. Ultimately, given these limitations in reality, the effectiveness of supply-side policy would depend on the mindsets and receptiveness of the employees when they go for training. If they are willing and open-minded about going for training, then they can pick up the essence of the courses and apply them at work to enhance productivity. Also, if the government does not have a budget surplus all these

years to finance the subsidies and incentives to enhance research and development, then the extent of the effectiveness of the programs would also be limited.

Anti-Thesis 2: SS-side policies are not the most effective in dealing with a BOP deficit - Expenditure-reducing policies (DD-management policies)
If the country was facing a BOP deficit due to excessive spending on imports by the citizens, then a more effective policy might be contractionary demand management policies like fiscal and monetary policies. Besides cutting down government expenditures, they can also increase income and corporate taxes to reduce disposable income and after tax profits so that consumption and investment expenditure would be reduced. As a result, aggregate demand will decrease and national income will fall via the multiplier process, bringing about lower import expenditure, which will reduce the BOP deficit.

Limitations
The effectiveness of contractionary FP and MP to reduce AD might be limited too if the market sentiments about the future is optimistic. When there had been high economic growth recorded by the country in recent years, the level of expectations towards the future would be relatively positive, so the consumers and investors might want to continue to consume and invest despite the higher direct taxes since they might believe they would be able to finance the higher taxes without adjusting their spending patterns too much. Also, these policies are immensely unpopular as it is generally difficult to raise taxes on the people as it will reduce economic growth and lower the standard of living quantitatively. In addition, the effectiveness also hinges on whether the demand for the imports is income elastic. If the demand for imports is income elastic, demand for imports will then drop more than proportionately when income falls. It also depends on how strong the government is and the degree of the macroeconomic goals like unemployment rates and inflation, as mentioned in part a. If the government is strong and popular enough most of the time among the electorate, it would not need to implement populist policies to gain votes and would thus be more willing to increase taxes to correct a BOP deficit if necessary.

Anti-Thesis 2: SS-side policies are not the most effective in dealing with a BOP deficit - Expenditure-switching policies – Protectionist policies
Lastly, the government can also adopt protectionist measures to restrict imports into the country. For example, they might impose import tariffs which would then cause the prices of imports to rise and assuming the demand for imports to be price elastic, quantity demanded for imports would fall more than proportionately and import expenditure would decrease, reducing the BOP deficit.

Limitations
However, protectionist measures might invite retaliation from other countries and they would also do tit-for tat and this can result in a fall in export revenue, which would limit the improvement of BOP position. In addition, there would be deadweight loss to the society when import tariffs are imposed as the consumers are forced to pay higher prices for goods and services when they could have been able to pay less. Ultimately, protectionist measures should only be for the short term if the deficit is huge and requires fixing immediately. In the long term, countries should embrace free trade as the benefits of trade are immense and more withstanding while the benefits of protectionism can only be temporary.

Conclusion
In conclusion, it is important to examine the root cause of the BOP deficit so that the appropriate policy can be implemented. If there had been a trade deficit due to the fundamental loss of comparative advantage, then supply-side policy would be more useful to build up a new area of specialisation and to regain export competitiveness. Yet it is also

crucial to consider the magnitude of the deficit and if it is huge, then it would be imperative to reduce it immediately, then short term measures like protectionism would have been useful.

Level	Knowledge, Analysis and Application	Mark
L3	Well-developed discussion of how supply-side and 2 other policies can maintain a satisfactory BOP and a thorough consideration of the limitations of each policy.	8 – 11
L2	Under-developed discussion of how supply-side policy and expenditure reducing policies can maintain healthy BOP. OR Well-developed discussion of how supply-side policy OR expenditure reducing policies can maintain a satisfactory BOP	5 – 7
L1	Answer is mostly irrelevant. Only a few valid points. Lacks economic reasoning.	1 – 4
Level	**Evaluation**	**Mark**
E2	For an evaluative assessment based on economic analysis. Thorough discussion about the suitability of supply-side policy for countries in various contexts. Deep consideration of the relevance of other proposed policies.	3 – 4
E1	For an unexplained assessment, or one that is not supported by economic analysis.	1 – 2

MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2017

H1 Economics | **8819/01**

Case Study and Essay Questions | **11 September 2017**

3 hours

Additional Materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Do not open this booklet until you are told to do so.

Write your name, class and register number in the spaces at the top of the answer sheets.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Begin each question on a fresh sheet of paper.
At the end of the examination, fasten all your work securely to the cover sheet with the string provided.
The number of marks is given in brackets [ ] at the end of each question or part question.

[Turn Over]

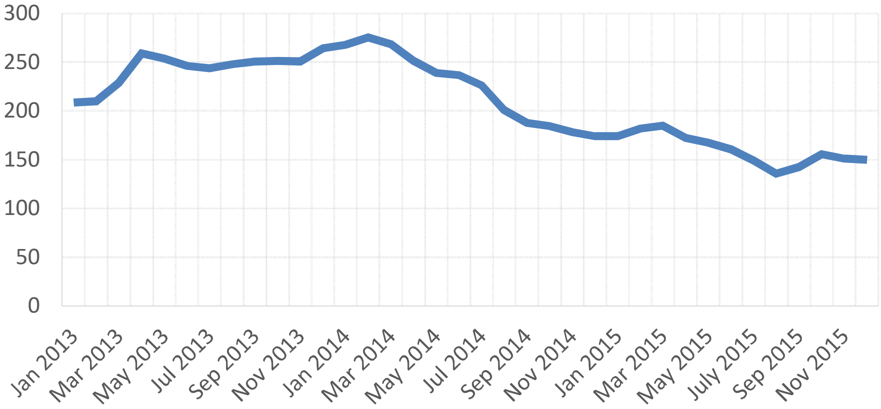
This document consists of **8** printed pages and **3** cover sheets.

Section A

Answer **all** the questions in this section.

Question 1 The market for milk in Canada

Figure 1: Dairy Price Index, 2013-2015



Source: Food and Agriculture Organisation of the United Nations

Extract 1: The dairy industry - Turning sour

Little over a year ago, New Zealanders were still talking about a "white-gold rush". Strong prices for milk were prompting cattle ranchers who produce beef to convert to dairy farming, and Chinese firms were coming in to buy up agricultural land and milk processors. Inevitably, influx has led to glut. Prices have fallen to their lowest in more than ten years. Farmers in France, Britain and Belgium have recently been staging protests against low milk prices, but few places are as badly affected as New Zealand, whose dairy industry produces a quarter of its export earnings. Facing sliding incomes, New Zealand's dairy farmers are expected to cull one-in-six cows this year.

There are two main reasons why the milk trade has turned sour. One is the economic slowdown in China, a giant market where consumption for dairy produce had until now been growing strongly. Another is the removal of the European Union's (EU) dairy-production quotas earlier this year, which does away with limits on the amount of milk each farm could produce, encouraging big producers in Germany, the Netherlands and elsewhere to boost their output and exports.

Source: *The Economist,* 13 August 2015

Extract 2: Protectionism in Canada's dairy market

Critics of Canada's dairy sector highlight that the protection of the industry via sky-high tariffs ensures that the Canadian market remains closed to all but a tiny wedge of dairy imports. Advocates of opening Canada's dairy market to global competition from foreign firms insist it would be a boon to the farmers with potential to be more efficient, allowing them to grow by exporting their products internationally. But that fails to justify the painful fate that would likely await the vast majority of Canada's 12,000 dairy farms. Having been sheltered from competition for so long, the relentless demands for lower costs and higher productivity would overwhelm most family-run dairy farms.

Those demands are only growing fiercer. The European Union's move earlier this year to abolish milk production quotas is expected to lead to a surge in production in countries with the most efficient dairy sectors. Then there's the United States, where industrial-sized dairy farms with more than 10,000 cows are not uncommon. (The average Canadian dairy farm has 77 cows.) At the Trans-Pacific Partnership talks, the United States is pushing harder than any other country for access to the Canadian dairy market. New Zealand's dairy sector rode the Chinese boom until growth there flinched. China now has big stockpiles of whole-milk powder, leading most analysts to predict that low global milk prices will be around for a while.

That is likely good news for most of the world's consumers, provided processors and retailers pass on those savings. But it's bad news for large dairy-exporting countries such as New Zealand, which bet that China's thirst for its milk would be unquenchable. Not only are European producers now eyeing the Chinese market. Domestic production is growing fast in China – one particular operation has 140,000 cows.

Were Canada to finally join the global milk market, consumers here (particularly the poorest ones) would benefit most. Dairy farmers, not so much. But that is what free trade is all about. As Adam Smith wrote in The Wealth of Nations: "It is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy." Countries prosper by focusing on what they do best.

Source: *The Globe and Mail*, 29 July 2015

Extract 3: Should the government intervene in the dairy market?

Until quite recently, the production of many agricultural goods was local. But technology, including ultra-high temperature treatment, means milk can be kept for up to a year and shipped without refrigeration, turning milk from local into a global tradable commodity. Thus, it may be that Canada would be a better place if milk production moved to the countries that could produce it most cheaply allowing them to cut their costs so they could go head to head with global producers from China and New Zealand.

But knowing how markets work, it may be likely that losing much of the dairy industry to overseas competitors by removing tariffs would not bring food cost down much in the long term. The cost difference would merely be absorbed by some other part of the production chain. Meanwhile, the advantages of having a strong domestic industry are about more than the price of milk. Canadian dairy farmers remain in the country and don't move overseas so government's tax revenue is not affected. In the current global shakeout in the dairy industry, it might be worthwhile hanging on to that industry at least until the shakeout is over. Maybe well-made Canadian milk products, without hormones, with love, will soon sell overseas at a premium.

Source: *CBC News*, 27 November 2015

Questions

(a) **(i)** Using the data in Figure 1, describe the trend of dairy prices from 2013 to 2015. [2]

(ii) With reference to Extracts 1 and 2, assess the relative importance of demand and supply factors in accounting for the overall trend of dairy prices. [6]

(b) With the aid of diagrams, explain the impact of "strong prices for milk" (Extract 1) on the resource allocation between the market for beef and the market for dairy. [4]

(c) Explain how the development of "ultra-high temperature treatment" technology (Extract 3) might change the price elasticity of supply for milk. [2]

(d) "It is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy." Countries prosper by focusing on what they do best. (Extract 2)

Using the concept of opportunity cost, explain why Canada is likely to import milk while countries like the United States and New Zealand export it. [6]

(e) **(i)** Explain what is meant by the term protectionism. [2]

(ii) Discuss whether protection of the Canadian milk industry using "sky-high tariffs" (Extract 2) is justified. [8]

[Total: 30]

Question 2 Growth and competitiveness

Table 1: Real Gross Domestic Product growth, annual percentages, 2010-2017

	2010	2011	2012	2013	2014	2015	2016	2017
United Kingdom	1.9	1.5	1.3	1.9	3.1	2.2	1.8	1.7*
Singapore	15.2	6.2	3.9	5.0	3.6	1.9	2.0	2.2*
World	5.4	4.2	3.5	3.4	3.5	3.4	3.1	3.5*

*forecasted

Source: International Monetary Fund (IMF), 2017

Extract 4: IMF downgrades UK's economic growth

The International Monetary Fund (IMF) has slashed its growth forecast for the UK, citing a slump in economic performance since last year's vote to quit the EU. It now expects the UK economy to grow by 1.7 per cent this year compared to a previous forecast of 2 per cent.

The UK economy initially proved resilient in the aftermath of last June's referendum, but in recent months – largely driven by a tumble in the value of the pound – inflation has spiked to close to 3 per cent squeezing real wages. The economy grew by just 0.2 per cent in the first quarter of 2017, making it the slowest-growing advanced economy.

Source: The Independent, 24 July 2017

Extract 5: Pound sterling's fall lifts UK exports

Britain's trading position with the rest of the world improved markedly in the final three months of 2016. As pound's fall made UK goods more competitive on overseas markets, there was a significant narrowing in the UK's current account deficit, the latest Office of National Statistics (ONS) growth figures showed. Economists said the rebalancing towards more exports would offset some but not all of the slowdown in consumer spending expected this year as incomes are squeezed.

Before last year's referendum on EU membership, the Bank of England had highlighted Britain's record current account gap and noted that the UK relies on foreign investors to fund the shortfall. The Bank's governor, Mark Carney, expressed concern that in the event of a vote to leave the EU, foreign investors would become more nervous about buying or holding UK assets.

Howard Archer, an economist at consultancy IHS Markit, said, "Sterling's marked weakening appears to be increasingly feeding through to lift exports, as the global economy recovers. This could be good news for the UK government." However, the Office of Budget Responsibility (OBR) warned that the cumulative budget deficit from 2017 to 2021 would be about larger than originally forecast, mainly due to greater debt repayments and lower tax rates in the midst of uncertainties.

Source: The Guardian, 31 March 2017

Extract 6: How Brexit Affects Singapore

Brexit isn't bad news for everyone in Singapore. Companies like Hart Technologies, a Singapore-based dealer of fire protection equipment, will benefit from the pound's sharp drop against the Singdollar, as its imports from the UK are now cheaper. Britain is currently No. 22 on the list of Singapore's trading partners.

But the pound's volatility cuts both ways. In the near term, the pound's free fall against most currencies is expected to hurt Asian exporters with strong exposure to UK markets, or with earnings denominated in pounds. But that is broadly manageable unless Brexit drags down demand across the EU as well, which would result in Asian exporters feeling a bigger squeeze, said Mr Frederic Neumann, HSBC co-head of Asian Economic Research. Economists are also concerned that Singapore's overall economy will be affected if British companies here start to pull back on investment in manufacturing, while expecting some foreign investment in UK to be redirected to the Asian region.

An even bigger uncertainty in the long term is whether more European countries will follow Britain and leave the EU, which is Singapore's second-largest trading partner after China. That would be a messy affair and its impact on the global economy, including Singapore's, will be severe, as trade, investment and labour mobility within Europe would be affected.

Source: The Straits Times, 29 June 2016

Extract 7: Singapore slips in global competitiveness rankings

SINGAPORE has fallen to fourth place - from third a year ago - on business school IMD's latest ranking of the world's most competitive economies. The IMD World Competitiveness Yearbook 2016 highlights perennial issues of high costs and talent attraction as growing challenges to Singapore's competitiveness. Singapore recently experienced the slowest GDP growth in six years and the flattest employment growth in more than a decade.

"The sentiment seems to be that Singapore has to strengthen its production of qualified engineers and managers. It relies mainly now on talent that is coming into the country and while Singapore remains one of the best places to live, given the cost of living, this becomes relatively more difficult," said Christos Cabolis, chief economist at the IMD World Competitiveness Center.

The cost of doing business too, features negatively in the IMD report. Cost competitiveness has in previous years been at or near the bottom of a list of "attractiveness indicators". Furthermore, the reality of regional competition is that labour in other Asian economies is becoming increasingly skilled, yet not as expensive as Singapore's. Infrastructure is also being built rapidly in other Asean economies and knowledge transfer is taking place too. All this could erode Singapore's relative competitiveness further.

The details of the IMD report were not all bad news. Indicators such as productivity, labour market, attitudes and values and basic and scientific infrastructure showed slight improvements from a year ago. However, there seems to be still room for further progress in labour productivity. A slow decline in Singapore's competitiveness is reflected through a smaller share of world exports, both in services and manufacturing, and of world foreign direct investment. Singapore's policy response to the competitiveness challenge - from Skills Future to productivity incentives and government initiatives to boost certain industries and start-ups may still fall short of a guarantee.

Source: The Business Times, 31 May 2016

Questions

(a) **(i)** Explain the meaning of 'real GDP'. [2]

(ii) Compare the growth rates of UK and Singapore from 2010 to 2016. [3]

(b) **(i)** With the aid of a diagram, explain why the pound sterling depreciated following UK's vote to leave the EU. [3]

(ii) Explain two reasons for an improvement in UK's trade balance. [4]

(iii) Comment on the impact of pound sterling's depreciation on the UK government budget. [4]

(c) To what extent do you agree with the view that uncertainty about Brexit negotiations is only harmful to the Singapore economy? [6]

(d) Extract 7 highlights that a slow decline in Singapore's competitiveness is reflected through a smaller share of world exports and foreign direct investment.

Discuss whether the Singapore government should prioritise raising labour productivity to enhance the economy's competitiveness. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3 **(a)** Explain how externalities can result in market failure. [10]

(b) Negative externalities arising from production of a good gives rise to market failure. Discuss the extent to which price elasticity of demand for a good affects the appropriateness of using indirect taxation to correct this market failure. [15]

4 **(a)** Explain why governments aim to achieve a low and stable inflation. [10]

(b) Discuss the view that the Singapore government should use exchange rate rather than interest rate to achieve price stability. [15]

- End of Paper -

MERIDIAN JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2017

8819/1

COVER SHEET

H1 ECONOMICS

Section A: Case Study Question 1

Name: ______________________________ Civics Group: ____________________

Register Number: ____________ Tutor: ____________________

11 September 2017

READ THESE INSTRUCTIONS FIRST
Write your name, civics group, register number and tutor's name in the spaces at the top of this cover page and on all the work you hand in.

At the end of the examination, fasten this cover sheet to your answer scripts for Case Study Question 1 with the string provided before submission.

QUESTIONS ATTEMPTED		MARKS
(a)	(i)	
	(ii)	
(b)		
(c)		
(d)		
(e)	(i)	
	(ii)	
TOTAL		/30

MERIDIAN JUNIOR COLLEGE

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COVER SHEET

H1 ECONOMICS

Section A: Case Study Question 2

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QUESTIONS ATTEMPTED		MARKS
(a)	**(i)**	
	(ii)	
(b)	**(i)**	
	(ii)	
	(iii)	
(c)		
(d)		
TOTAL		**/30**

MERIDIAN JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2017

8819/1

COVER SHEET

H1 ECONOMICS

Section B: Essay Question

Name: ______________________________ Civics Group: ____________________

Register Number: _____________ Tutor: ____________________

11 September 2017

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At the end of the examination, fasten this cover sheet to your answer scripts with the string provided before submission.

Please indicate the question number you have attempted.

QUESTION ATTEMPTED		MARKS
Question _____	(a)	
	(b)	
Total		/25

JC2 2017 Prelim Examination

H1 Economics (8819)

Suggested Answers

Case Study 1

(a)	**(i) Using the data in Figure 1, describe the trend of dairy prices from 2013 to 2015.**	**[2]**
	• Dairy prices are generally falling over the period by 28%. • However, prices initially increased from 2013 to March 2014.	
	(ii) With reference to Extracts 1 and 2, assess the relative importance of demand and supply factors in accounting for the overall trend of dairy prices.	**[6]**
	<u>Demand Factor (At least 1)</u> • "economic slowdown in China…a giant market…had until now been growing strongly" → ↑NI → ↑PP →↑demand for normal goods such as milk • **Eval:** Extent of increase in demand is likely to be small as there is a slowdown where the growth rate of income has decreased thus income is increasing at a slower rate. <u>Supply Factor (At least 1)</u> • "removal of dairy-production quota" (Ext 1) → with the removal of the production quotas in EU → producers in EU are no longer limited in the amount of milk they are allowed to produce → increase in supply of milk • **Eval:** Extent of ↑supply is likely to be large → as many of the EU producers like Germany and Netherlands are "big producers" which contribute significantly to the global milk market. • "increase in domestic production" in China (Ext 2) → further increase in supply • Big stockpiles of whole-milk powder → PES>1 → given a ↑price, qty ss would increase more than proportionately as producers will be able to use their stocks to raise quantity supplied to a greater extent. <u>Analysis of Price</u> • Market is initially at equilibrium at price P1 and output Q1. • An increase in demand will lead to an increase in price while an increase in supply will result in a fall in price. The impact on price is indeterminate and depends on the extent of the shift in demand and supply. • As explained above, the shift in demand is likely to be relatively smaller than the shift in supply → **[Adjustment process]** overall, there will be a surplus created → downward pressure on prices → new equilibrium at a lower price as seen in Figure 1 and question (ai) <u>Conclusion/Judgement</u> • As the fall in price is mainly due to the large fall in supply relative to the demand, the supply factors play a more important role in determining the overall fall in price. • In addition, as PES>1, the increase in demand is also likely to result in a relatively small increase in price → demand factor is again not as important in explaining the change in price.	

Level	Knowledge, Application, Understanding & Analysis	Marks
L2	Responses in this level will give an analysis of the factor including a judgement about the relative importance of the factors.	4-6
L1	Responses in this level will be largely descriptive.	1-3

(b) **With the aid of diagrams, explain the impact of "strong prices for milk" (Extract 1) on the resource allocation between the market for beef and the market for dairy.** **[4]**

- Resources such as land for farming are limited and there are many "wants" for the land such as for the purposes of cattle ranching or dairy production. The beef market and the dairy market are in competitive supply.
- "Strong prices for milk" → suggests an increase in price of milk due to ↑demand → ↑output of milk → incentive for farmers to switch production away from less profitable markets such as beef to the now more profitable dairy production.
- There is a fall in supply for beef as resources are reallocated from beef to milk production.

(c) **Explain how the development of "ultra-high temperature treatment" technology (Extract 3) might change the price elasticity of supply for milk.** **[2]**

- Evidence: "UHT milk can be kept for up to a year and shipped without refrigeration"
- This increases the shelf life of the milk allowing for producers to keep stocks of the milk → any ↑price → M.T.P. ↑qty ss as producers are easily able to respond to the price increase by increasing qty ss through the use of their stocks of UHT milk**.**
- Supply is likely to be more price elastic than before.

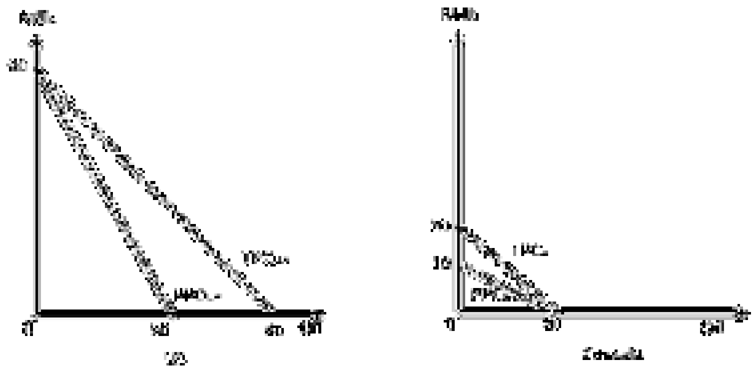
(d) **"It is the maxim of every prudent master of a family never to attempt to make at home what it will cost him more to make than to buy." Countries prosper by focusing on what they do best. (Extract 2)**

Using the concept of opportunity cost, explain why Canada is likely to import milk while countries like the United States and New Zealand export it. **[6]**

The theory of comparative advantages states that trade can benefit countries involved if they specialize in producing and trading those goods in which they have comparative advantage in and the terms of trade lies between the domestic opportunity cost ratios of the 2 countries. Comparative advantage refers producing a good a relatively lower opportunity costs. Opportunity cost is defined as the next best alternative foregone. Canada is likely to import milk as it does not have comparative advantage in milk production while other countries like US and New Zealand do.

Given a country such as Canada which has the ability to produce either 20 barrels of oil or 10 units of milk given its factor endowment which are mainly natural resources such as oil deposits. It faces constant opportunity costs of 2 oil for 1 milk. US on the other hand can produce either 30 oil or 60 units of milk with its resources whereby it has relatively more resources suited for milk

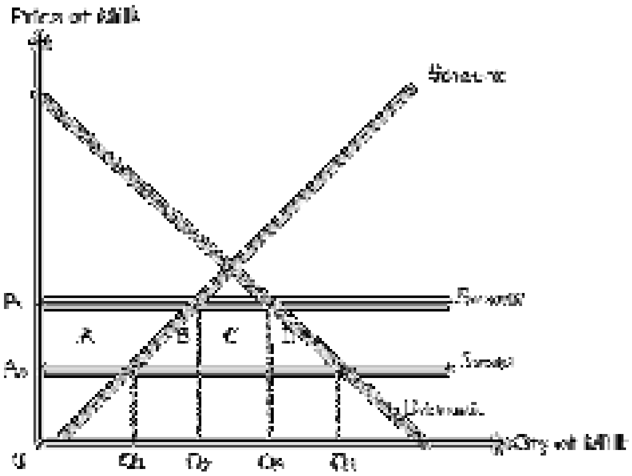
<table>
<tr><td></td><td>production. This is seen in extract 2 where the US farms have a relative abundance in milk related resources e.g.10,000 cows while Canadian farms on average have only 77. Its opportunity cost of 1 milk is 1/2 oil. This is illustrated by their PPC as follows:



The slope of the PPC represents the opp cost of producing oil (the good on the X-axis). Since US has the CA (lower opp cost) in milk it will specialise in milk while Canada will specialise in oil. They will select an acceptable TOT which lies between their opp cost ratios, ½ Oil<1 Milk<2 Oil. Assume the TOT is 1 Oil =1 Milk, both countries will now face a TPC with a slope of 1, which is the new opp cost for oil due to trade.

Both countries have benefitted from trade because (a) they can consumer greater quantities of goods and services on their TPC which is greater than their PPC and (b) they face a lower opp cost for consuming the goods. This raises their material SOL thus explaining why Canada imports milk and US exports milk.</td><td></td></tr>
<tr><td>(e)</td><td>(i) Explain what is meant by the term protectionism.</td><td>[2]</td></tr>
<tr><td></td><td>• Protectionism is a deliberate government policy to <u>erect trade barriers</u> in order to shield domestic industries from foreign competition.
• The aim of protectionism is to <u>switch expenditure</u> both domestic and foreign <u>to the output of goods and services of the domestic economy</u>.</td><td></td></tr>
<tr><td></td><td>(ii) Discuss whether protection of the Canadian milk industry using “sky-high tariffs” (Extract 2) is justified.</td><td>[8]</td></tr>
<tr><td></td><td>Introduction
• Protectionism is a deliberate government policy to <u>erect trade barriers</u> in order to shield domestic industries from foreign competition.
• The aim of protectionism is to <u>switch expenditure</u> both domestic and foreign <u>to the output of goods and services of the domestic economy</u>.

Thesis: There are reasons why protectionism may be justified
Analysis of Tariffs</td><td></td></tr>
</table>



- With the import tariffs imposed by Canada on milk → ↑unit COP of foreign firms' milk by the per unit tariff of PtPw → Sworld to Sw+tariff → price ↑ to Pt → domestic consumers switch to the relatively cheaper domestically produced milk → ↑domestic production from Q1 to Q2 and ↓qty of imports from Q1Q4 to Q2Q3.

1. **Protects against unemployment:** Assuming Canada does not have C.A. in production of milk as Canadian firms would be unable to compete with more efficient milk producing countries like US (Ext 2), opening up to free trade would result in a fall in domestic production to Q1 as households switch to relatively cheaper imports → ↓demand for labour in the milk industry → ↓employment or ↑structural unemployment (Can also explain how protectionism is used to slow down the decline of the milk industry)
    a. **Eval:** With the global price of dairy falling (Figure 1), the impact on unemployment when opened to free trade will be even greater (illustrated by an increase in Sw), leading to a larger extent of unemployment if there wasn't protection.
    b. **Eval**: As PES>1 as explained in part (d), the increase in domestic production is likely to be large as the increase in price due to the tariff will result in a more than proportionate increase in quantity supplied by domestic producers → larger ↑demand for labour → larger impact on employment.
2. **Ensures continued tax revenue for govt (Ext 3)**: With Canadian milk farmers remaining in business, their profits can be taxed as a source of revenue for the government. In addition, the tariff revenue also provides a source of revenue for the government.
3. **Allows time to develop the industry (Ext 2):** The protectionism can give them for the Canadian milk industry to develop the comparative advantage so as to one day grow to become an exporter of milk. This will benefit the economy through higher economic growth just as how New Zealand has gained from the growth of their milk industry. Farmers would also benefit from ↑profits.
    a. **Eval:** However, with world prices expected to continue falling, the industry may not be one with growth prospects. In addition, other economies such as China are gaining C.A. in milk production and thus Canada may find it difficult to compete with them.

Anti-thesis: There are reasons why protectionism may not be justified

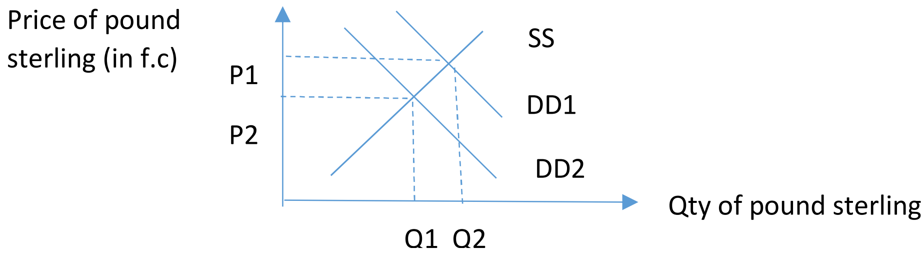
1. **Breeds inefficiency in Canadian firms:** Similar to part (c), protection of the industry may instead breed inefficiency as the firms enjoy the benefits of the government's protection. This may result in these firm not innovating and thus not ever developing C.A.
2. **Higher prices and lower consumer surplus (Ext 2)**
   - **Eval:** Extent of ↑price may be significant due to tariffs being "sky-high" (Extract 2)
   - **Eval:** However, if there wasn't tariffs in place, the cost savings from cheaper imports may be absorbed by other some other part of the production chain (Ext 4) → prices may not be lower without tariffs.
3. **Welfare loss, Retaliation, World multiplier effect**

Conclusion

- **[Extent of benefits]** The benefits in providing time for the industry to develop may be limited as global competition in the milk markets is very intense with many existing large producers as well as growth of new producers in China. Canada may never be able to gain C.A. and export milk. In addition, the protectionism only serves to breed inefficiencies which further suggests why C.A. may never be gained by Canada.
- **[Extent of costs]** With "sky-high" tariffs, this suggests that the extent of the tariffs is very large. As a result, together with the fact that milk is a necessity and an important form of nutrition for many, the welfare loss and impact on consumer surplus may thus be very significant. In addition, the tariffs have negatively impacted the potential export revenue of many milk exporting countries such as US which has been pushing for access to the Canadian milk market (Ext 2). This may increase the chances of retaliation from trading partners. Overall, the costs may be significant.
- **Overall,** protectionism in the dairy industry is not justified as the costs would outweigh the benefits. However, there can be some consideration for protectionism in the short run for the industry to decline slowly, giving workers enough time to be retrained to find jobs in other industries that may be expanding in Canada.

Level	Knowledge, Application, Understanding & Analysis	Marks
L3	Responses in this level will give an analysis of various impacts of a price floor on Canadian households and firms.	7-8
L2	Responses in this level will give an analysis lacking in rigor or one lacking in scope.	4-5
L1	Responses in this level will be largely descriptive.	1-3

Case Study 2

(a)	**(i)**	**Explain the meaning of 'real GDP'.**	**[2]**
		Real GDP refers to the monetary value of <u>final</u> goods and services produced <u>within the country's geographical boundary</u>, adjusted for inflation.	
	(ii)	**Compare the growth rates of UK and Singapore from 2010 to 2016.**	**[3]**
		Any 3 comparative points: <u>Possible Similarities:</u> Real GDP growth rates in both UK & SG generally fell. Both UK & SG experienced positive growth rates over the period. <u>Possible Differences:</u> SG's GDP growth rate fell more sharply than UK's GDP growth rate. SG's GDP growth rates is generally higher than UK's GDP growth rate, except in 2015.	
(b)	**(i)**	**With the aid of a diagram, explain why the pound sterling depreciated following UK's vote to leave the EU.**	**[3]**
		 UK's vote to leave the EU → creates uncertainty → firms decrease demand for UK assets/ lower FDI (extract 5) → ↓DD for pound from DD1 to DD2 → surplus → downward pressure on price of pound from P1 to P2 → pound depreciates. [Alternative: ↑SS due to hot money outflow or FDI leaving UK]	
	(ii)	**Explain two reasons for an improvement in UK's trade balance.**	**[4]**
		(1) Pound depreciates → ↓Px in f.c, ↑Pm in d.c → ↑(X-M) if the Marshall-Lerner condition holds (i..e PEDx + PEDm >1) (2) Global economy recovers (extract 5) → ↑real income → ↑DDx (assume normal goods) → ↑X→ ↑(X-M) [optional: An improvement in UK's trade deficit → A fall in UK's trade deficit → UK may need to borrow less and is thus living beyond its means to a smaller extent]	
	(iii)	**Comment on the impact of pound sterling's depreciation on the UK government budget.**	**[4]**
		UK government budget refers to the difference between government spending (G) & government revenue (mainly tax revenue). If UK government's spending > tax revenue → government budget deficit.	

		Depreciation of the pound will reduce UK govt budget deficit Depreciation of pound → ↑ UK's (X-M) if Marshall Lerner condition holds [extract 5 Sterling's marked weakening lifts exports]→ ↑AD→ ↑real income → ↑Tax revenue; As ↓UNN due to ↑AD → ↓G in the form of UNN benefits. Overall, ↑T + ↓G→ ↓Govt budget deficit **Comment/EV:** ↑G due to greater government foreign debt repayments as pound depreciates + ↓corporate income tax rates (& therefore ↓tax revenue) due to uncertainties (Extract 5) → UK budget deficit may rise instead.	
(c)		**To what extent do you agree with the view that uncertainty about Brexit negotiations is only harmful to the Singapore economy? [6]**	**[6]**
		Focus of Qn: Discuss harmful vs beneficial effects to the SG economy in addressing the question. 1. **Explain how uncertainty about Bexit neg may be harmful to SG economy**. • Uncertainty about Brexit negotiations → ↓FDI to SG (Extract 6) → ↓AD → brief adj process → ↓ GPL, ↓real output → neg actual growth → consumers have lesser ability to purchase goods → ↓material standard of living (SOL). • ↓ADL (derived DD) → ↑Demand-deficient unemployment (assume downward sticky wages) → ↓Non-material SOL. ↓Overall SOL. EV: If Bexit drags down demand across EU (Extract 6), negative impact on SG might be more severe as EU, which is SG's second largest trading partner after China, experiences negative growth. SG's export revenue & FDI from EU may fall more significantly, which further worsens negative actual growth & demand deficient unemployment in SG. 2. **Explain how uncertainty about Bexit neg may benefit the SG economy.** Uncertainty about Brexit negotiations → Pound Sterling depreciates → UK exports are cheaper in SGD → ↓price of imported raw materials from UK → ↓ unit COP for domestic firms such as Hart Technologies (Extract 6). If many firms experience a persistent ↓unit COP due to lower imported prices of raw materials from UK → sustained AS →↓GPL→ lower imported inflation. Rise in expected profits from investment→ ↑Investment spending → stimulates growth in SG **Conclude with reasoned judgement** Do not agree with the view that uncertainty about Brexit negotiations is only harmful to SG economy as there could be positive impact such as lower imported inflation for SG. However, the extent of lower imported inflation depends on factors such as the importance of UK imports to the SG economy. [Note: Students can elaborate on any 2 macroeconomic impact for marks given. Linkages must be made to SOL if focusing on 1 impact]	

Level	Knowledge, Application, Understanding, Analysis	Marks
L2	• A well-considered and balanced answer which demonstrates good analysis on whether uncertainty about Brexit negotiations is only harmful to the SG economy, supported by a clear criterion and relevant case materials to support economic analysis. • Links analysis on impact on SG economy to changes in SOL • Evaluation of arguments is done specific to SG context.	4-6
L1	• Lopsided answer that demonstrates insufficient rigour in analysis or scope. • Only explains how uncertainty about Brexit negotiations is only harmful OR not harmful to the SG economy, with reference to limited types of macroeconomic impact on SG economy. • Or considers both sides of discussion, but often lacking in rigour in explanation. • Insufficient use of case materials to support analysis.	1-3

(d) **Extract 7 highlights that a slow decline in Singapore's competitiveness is reflected through a smaller share of world exports and foreign direct investment.**

Discuss whether the Singapore government should prioritise raising labour productivity to enhance the economy's competitiveness. **[8]**

Setting the context:

- Decline in SG's competitiveness (signpost & extract 7) → loss of Price/non-price competitiveness of SG exports, SG's competitiveness for FDI & foreign labour

→ Smaller ↑X + ↑FDI in SG → slowing EG (Table1, Extract7)→ smaller improvements in material SOL→ SG government intervenes via supply-side policies to raise labour productivity (i.e. output per man hour.)

Thesis: SG govt should prioritise ↑labour productivity to enhance SG's competitiveness

Raising labor productivity could be achieved via education and training, which is a supply-side policy that leads to potential growth in the long run. The following are reasons why SG should prioritise ↑labour productivity to enhance the economy's competitiveness:

		(1) Targets at a main cause of loss of SG's competitiveness i.e. high cost of production, high cost of living (Extract 7) • Extract 7 highlights that productivity in SG has improved, but there is room for real growth in overall productivity • Supply-side policies such as education & training raises labour productivity → ↑export price competitiveness, ↑ competitiveness for foreign talents via ↓cost of living • Eg. SkillsFuture → subsidies for education and training courses → encourages more workers to attend education and training courses → workers acquire more knowledge and skills → ↑productivity of workforce →↓unit COP if ↑labour productivity > ↑wages→ ↓Px (↑export price competitiveness). In addition, ↑productivity of workforce → ↑productive capacity of SG economy →↑AS → potential growth, ↓GPL (non-inflationary growth is achieved)→ ↓cost of living → ↑SG's competitiveness for foreign talents. **(2) Advantages of Education & training** • Relevant types of education & training may reduce the lack of qualified engineers and managers in SG • ↑labour productivity → ↓ unit COP → ↑expected profits from investment → ↑SG's competitiveness for FDI • Benefits of ↑FDI → actual growth → ↑material SOL. EV: The greater the increases in labour productivity & FDI, the more significant will be SG's potential growth and hence, dampening of inflationary pressures. Relatively lower prices of SG exports will boost SG's export price competitiveness further. Linking statement : However, the SG government needs to consider about the disadvantages of above supply-side policy to decide on its priority in policy decision making. **Anti-Thesis: SG should not regard ↑labour productivity as a key priority** **SG should not prioritise ↑labour productivity to enhance SG's competitiveness due to these reasons:** **(1) Disadvantages of Education & training** • Success of supply-side policies such as education & training can only be observed in the long run and are uncertain → depends on receptivity of workers. If workers are highly unreceptive towards learning new skills, then education & training may not be effective in raising labour productivity & enhancing SG's competitiveness. Linking statement : Due to the disadvantages of education & training to ↑labour productivity, the SG govt may need to consider other more appropriate/effective policies to enhance SG's competitiveness. **(2) Other policies (not via ↑labour productivity) could enhance SG's competitiveness for goods/ FDI/ foreign talents** • Explain how an alternative policy works. Example: Government promotes R & D (Product innovation) → Improve quality of products or create new products → ↑SG's non-price competitiveness of exports → ↑DD for SG exports → ↑SG's export revenue.	

[Other possible policies: Improving infrastructure, Devaluation/ Zero-appreciation of SGD]

EV: The more successful R & D is in influencing the tastes & preferences of consumers to raise the demand for SG exports, the stronger is SG's non-price competitiveness of exports.

Conclude with reasoned judgement

Whether the SG government should prioritise raising labour productivity to enhance the economy's competitiveness depends on the extent to which government efforts to raise labour productivity is likely to be effective in enhancing SG's competitiveness. As past significant efforts to raise productivity showed only slight improvement thus far (Extract 7), the SG government seems to face constraints in raising labour productivity through long term supply-side policies. In such a situation, the SG government should not prioritise on raising labour productivity to enhance SG's competitiveness, but consider the use of other policies (or a combination of policies) as discussed.

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	• A balanced answer which well explains why the SG government should prioritise raising labour productivity to enhance Singapore's competeviness, supported by a clear criterion and relevant case materials to support economic analysis. • Addresses whether the SG government should prioritise raising labour productivity to enhance SG's competeviness which includes examining enhancing SG's competitiveness for both goods and FDI through raising productivity and one alternative policy. • Evaluation of arguments is done specific to SG context.	6-8
L2	• Lopsided answer that demonstrates insufficient rigour in analysis or scope. • Only explains how raising labour productivity should be a priority in enhancing SG's competeviness, without consideration of FDI and/or at least 1 other alternative policy which enhances SG's competitiveness. • Or considers both sides of discussion, but lacking in rigour in explanation. • Insufficient use of case materials to support analysis.	4-5
L1	• Largely descriptive with limited use of economic concepts.	1-3

Essay 3

(a) Explain how externalities can result in market failure. (10m)
(b) Negative externalities arising from production of a good gives rise to market failure. Discuss the extent to which price elasticity of demand for a good affects the appropriateness of using indirect taxation to correct this market failure. (15m)

(a)

Intro

Externality is a source of market failure. Market failure occurs whenever the price mechanism fails to allocate resources efficiently and equitably.

The existence of externality results in an inefficient allocation of resources as the market does not produce at MSB = MSC. Products are over-produced or over-consumed where there are external cost and under-produced or under-consumed where there are external benefit. In my essay, I will be explaining negative externalities in production and positive externalities in consumption and how they lead to market failure.

Development

Market for energy: Negative Externalities in Production
Negative externalities in production can be observed in the market for energy.

Identify and explain what are the negative externalities observed in the market for energy: There is the presence of negative externalities in production which are external costs that are incurred by third parties without compensation due to the production of energy. Examples of these negative externalities could be the air pollution due to the carbon emissions from the power stations. The pollution affects the health of third parties such as nearby residents by worsening their health through breathing difficulties. They thus incur higher medical costs and there might be income foregone if they are unable to go to work. These external costs are not compensated for by the power stations. The presence of the negative externalities in production will result in a divergence in the cost curves. This will cause the Marginal Social Cost (MSC) to be higher than Marginal Private Cost (MPC). There is no divergence in the benefit curve as there may not be any externalities in consumption present.

Establish the market outcome: The private costs to the firms will include the cost of production which is made up of costs of the coal needed to fuel the power station and rental of the space, labour costs. The private benefit to the consumers will be the satisfaction derived from being able to consume electricity as a result of the energy generation. The market, both consumers and producers, does not take into account the externalities and therefore only considers their private costs and benefits. Hence, with reference to Figure 1A, the market equilibrium occurs where demand equals supply, E1 with an output at Q.

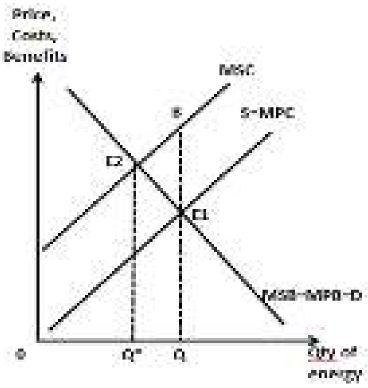


Fig 1: Negative Externality in Production

Explain where and what is the socially ideal outcome: However, society's welfare is maximised at point E2, where MSB=MSC. Producing one more or one less unit than the socially optimal output at Q* will result in a fall in society's welfare. For example, if output is at Q which is more than Q*, the additional cost to society (QB) is greater than the additional benefit to society (E1Q). Society can do better by producing fewer units.

Explain the overallocation of resources and identify the resulting deadweight loss: There is thus an overproduction and overconsumption of energy by Q*Q, causing the society to incur a deadweight loss of E1E2B which means that society's welfare is not maximised. This means that there is an overallocation of resources in the energy market and thus, resulting in allocative inefficiency. There is market failure observed as not the right amount of the right type of goods is produced.

When the market fails, the governments may need to intervene to provide a non-market mechanism to correct the allocation of resources.

Market for vaccines: Positive externality in consumption

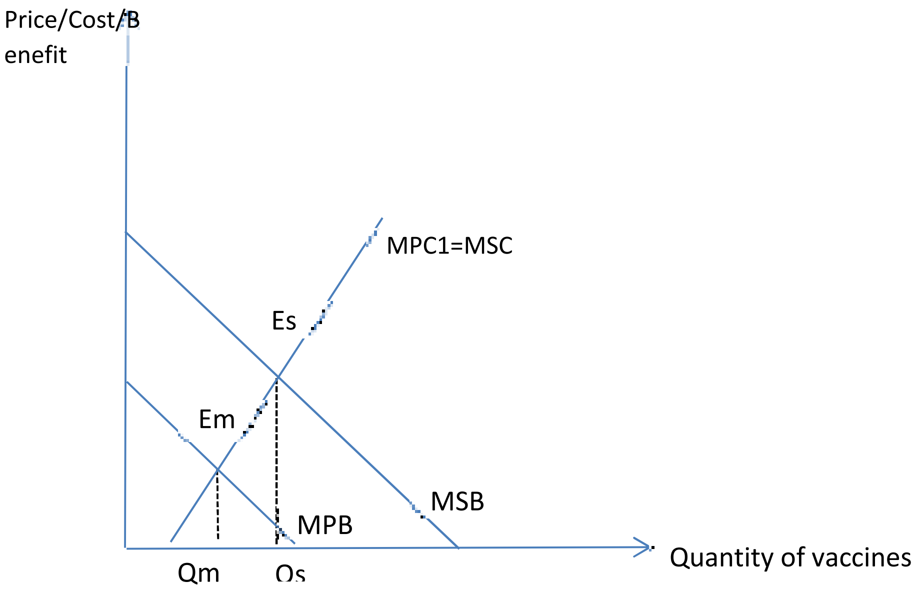


Fig 2: Positive Externality in consumption

Vaccines is an example of good that exhibits positive externalities in consumption. There are benefits accruing to third parties. In the case of vaccines, an individual who chooses to consume a flu vaccine will reduce the chances of other people around him (third parties) to fall sick and they will in turn, be more productive and this translates into higher profits to the firms they are working in. However, because the individual will not take into consideration these external benefits in his consumption decisions, the social benefit of vaccines exceeds private benefit. (MSB>MPB)

Thus, QmQs amount of goods are under-demanded and under-consumed. This leads to allocative inefficiency and the market fails.

Conclusion

Under such circumstance, arguments in favour of government intervention are put forward to correct the market failure.

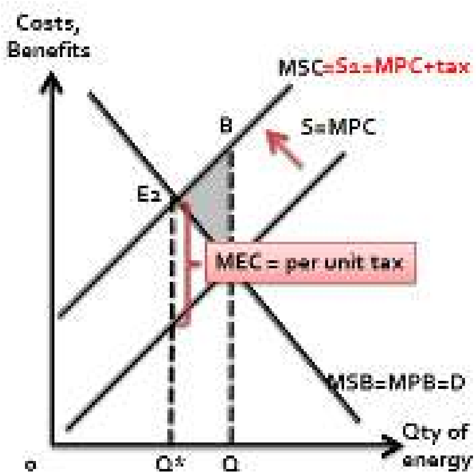
Knowledge, Understanding, Application , Analysis		
L3	Clear analysis with the aid of diagrams to illustrate how the two examples of externalities may lead to market failure	7-10
L2	Undeveloped analysis of how externalities might lead to market failure.	5-6
L1	For an answer which shows some knowledge of what externalities but is largely unexplained.	1-4

(b)

<u>Intro</u>

As negative externalities in production gives rise to market failure, taxes, which is a market based policy would be one the policies that the government will implement to reduce allocative inefficiency and bring about a more efficient allocation of resources. In my essay, I will discuss factors like PED, availability of information and the unintended consequences which will affect the appropriateness of the taxation policy.

Development 1: Explain how taxes work to correct the market failure



arket

A carbon tax will involve levying a specific tax per unit of carbon emitted by firms.

It would lead to firms internalising the external cost and will increase the unit cost of production of generating energy. This would mean that at each output level, firms would require a higher price to be willing and able to supply a particular quantity of energy. The supply curve will shift leftwards from S to S1 as shown in the diagram reducing the overproduction of energy.

With reference to Fig 3, if the government correctly sets a per unit tax equivalent to the marginal external cost, this will mean that the supply curve (MPC) shifts such that the new market output will now be at Q*, which is the socially optimal output. Because firms now internalise the external cost, the correct amount of the good is produced and there is now allocative efficiency with the deadweight loss eliminated.

Development 2: Explain the factors affecting the appropriateness of taxes

1. PED

Effectiveness of indirect taxation to correct market failure does depend on PED. Imposing a tax will reduce supply which will increase the price of energy. Given that the good, which in this case is energy, is a necessary input to generate electricity, heat, industrial purposes etc, the PED value will be <1. Thus, given an increase in price, quantity demanded will fall less than proportionately as compared to when PED>1, quantity demanded will fall more than proportionately.

In order for the tax to be effective, a larger amount of tax will be needed to reduce the production of energy to the socially optimum output level.

Hence, the PED value of the good does affect the effectiveness of a tax and it works better if PED>1. If not, a larger tax will result in lower income households having lesser access to the good and lesser allocation of resources will be allocated to them, and more to the higher income households, leading to greater income inequity.

EVALUATION: However, although PED may affect the effectiveness of indirect taxation, government may still use it due to its benefits. Higher indirect taxation can enable the government to generate more tax revenue which can be used by government to subsidise R&D efforts to solve to the problem of negative externalities further. For example, tax on greenhouse gases can be used to subsidise R&D efforts to promote greener forms of energy which will lead to less carbon emission. In addition, in case of goods that have price inelastic demand (e.g. provision of air travel services by airlines) government can complement the policy of indirect taxation with other policy such as education efforts (e.g. campaigns to discourage domestic air travel and switch to other modes of transport) to make the demand for the good more price elastic so as to increase the effectiveness of indirect taxation.

2. Availability of information

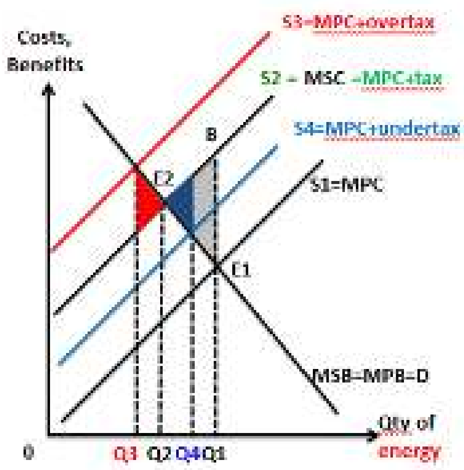


Fig 4

Secondly, it is difficult to determine the negative externalities in monetary terms due to lack of appropriate measuring device and non-quantifiable and long-term impact of the negative externalities (e.g. lack of measuring device for different types of pollutants, negative environmental effect of air pollution produced by power plant). Hence, the government may end up over estimating the amount of tax to impose. This may reduce the market equilibrium output to be less than the socially optimal output which will be at 0Q3. This creates a greater deadweight loss than before. The overcorrection by the government has created a new problem of underproduction (Q3Q2) which is again allocative inefficient.

EVALUATION: However an inaccurate measurement of tax will not always lead to a worse outcome. In the case of under-taxation, where a unit tax less than MEC is imposed, the supply curve will shift to *MPC+undertax*. Although the market failure is not completely corrected, the extent of the overproduction is now reduced (Q2Q4 < Q2Q1) and society's welfare has improved.

3. Unintended consequences

Energy is a factor input in many production purposes, hence, a tax on energy will lead to unintended consequences such as reducing the economic growth of an economy. Tax on energy will result in many firms experiencing an increase in their unit cost of production, leading to profitability per unit of their good to fall. Hence, they will reduce their supply of goods and causing the price of goods in an economy to increase. This will reduce aggregate supply, causing general price level to rise and real output to fall.

Conclusion

In conclusion, the role of PED in affecting the appropriateness of taxes is to a limited extent as there are other factors as discussed above which will affect the appropriateness of taxes as well. The most important factor will depend on the government's objective. If the government prioritizes equity, then PED will be the most influential factor because the government will only impose a smaller tax if the good has a PED value of <1 so as not to worsen income inequity.

Knowledge, Understanding, Application , Analysis		
L3	For an analytical discussion of several factors that will affect the appropriateness of taxes.	9-11
L2	For an undeveloped explanation of PED and other factors.	6-8
L1	For an answer which shows some knowledge of taxes.	1-5
Evaluation		
E2	For an evaluative discussion that considers which factor is the most influential.	3-4
E1	For an unexplained judgement, or one that is not supported by analysis.	1-2

Essay 4

(a) **Explain why governments aim to achieve a low and stable inflation. (10m)**
(b) **Discuss the view that the Singapore government should use exchange rate rather than interest rate to achieve price stability. (15m)**

Part (a)

Intro

Inflation is defined as a period of sustained and inordinate increase in the general price level. It is measured by the annual percentage change in the consumer price index. One of the objectives of the government is to attain a low and stable rate of inflation. In general, most countries set an inflation rate target of 2-3%. Governments want to keep the inflation rate low because a high and uncertain inflation rate has adverse effects. This essay will aim to discuss the negative impacts.

Development: Explaining the consequences of not achieving a low and stable inflation

Inflation has both internal and external impacts on the economy.

- Arbitrary redistribution of income

Assuming a progressive tax structure, inflation pushes taxpayers (individuals and corporations) into higher marginal tax brackets when nominal income rises. As a result, they have to pay a larger fraction of their income in taxes. Hence, the gainer is the government and the loser the taxpayers.

Consider for e.g. a tax system in which we pay no income tax if our annual income is below, $4000; we then pay a tax of 25% for next $20 000 and then at 40% for the rest of the income. Income tax paid by someone earning $60 000 per annum would be $19 400 which 32.2% of their income.

Now assume inflation occurs and price level doubles. Incomes double too, so that the $60 000 becomes $120 000- remember all prices have doubled so the real value of this pre-tax income has not changed. The income tax paid now, however will be $43 400 which is 36.2%. Thus, the tax we pay simply increases as a result of inflation, even when there is no change in the structure of tax rates or in our real pre-tax income.

- Consumers' real income will fall

With inflation, savers lose because the real value of savings falls hence purchasing power of saving deteriorates. Though most forms of savings earn interest, the value of one's savings will still decline if the rate of inflation exceeds the nominal rate of interest (i.e. the real rate of interest is negative). People may be discouraged from savings, leading to an increase in consumption, ceteris paribus.

Real interest rate = nominal interest rate – inflation rate

However, people who are risk-averse may increase their savings in order to maintain the real level of savings as well as to prepare for uncertainty. If this is so, then savings will increase and consumption will fall. This will reduce their material SOL as they can spend lesser on goods and services.

- Production, Employment and Investment

Cost-push inflation will reduce production, employment and investment. In the case of cost - push inflation as shown in Figure 5, the leftward shift in SRAS curves will cause employment, income and output to fall(from Y1 to Y2 to Y3). This is because firms which cannot absorb the higher factor prices might find it difficult to survive. With no excess demand, these firms are unable to pass on the higher cost to the consumers. As firms cut back on production instead, demand for labour falls hence increase unemployment.

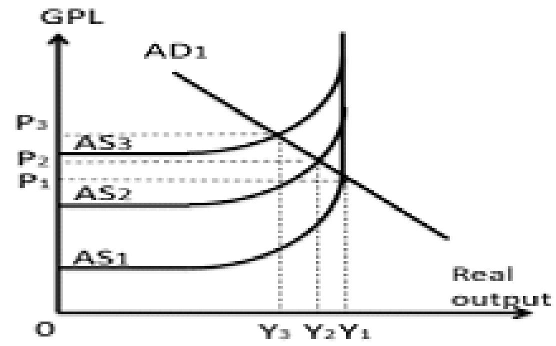


Fig 5: Cost Push inflation

- Economic Growth

If inflation is cost-push, firms will cut back on production and investment. A fall in investment expenditure will cause AD to fall hence resulting in a fall in output, employment and national income by a multiplied amount.

Unexpected inflation hinders growth by introducing uncertainty. When households are unsure of the future value of their savings, they will have less incentive to save. Thus, funds available for investment will decrease, hence a fall in investment volumes. With more firms and households competing for funds, interest rates may increase as the cost of borrowing becomes higher. This will further discourage consumption and investments. Hence, a fall in AD will cause negative economic growth. This will reduce GDP and reduce the citizens' SOL.

In addition, when firms are uncertain about the future 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. Instead, both households and firms may be preoccupied with short-term, unproductive speculative activities such as buying and selling properties which tend to yield attractive returns in an inflationary environment. Such activities do not benefit the economy but only fuel an unsustainable rise in property prices. Exaggerated expectations of gains from investing in properties will encourage people to borrow excessively to finance their investment. This can lead to instability in the banking system when property prices eventually collapse and borrowers default on their loans. The Subprime mortgage crisis experience in USA in the 2007/2008 is an example.

However, as mild and demand-pull inflation increase profit margins, investment will be stimulated resulting in economic growth.

Conclusion

Achieving a low and stable inflation is definitely important as it helps to achieve internal stability in SG. The effects will be more severe when inflation is unanticipated and last for a long time.

Knowledge, Understanding, Application , Analysis		
L3	For an accurate and well-developed analysis of how inflation can be harmful to an economy.	7-10
L2	For an undeveloped analysis of the consequences of inflation	5-6
L1	For an answer which shows some knowledge of inflation.	1-4

(b)

Introduction

Exchange rate and interest rate are monetary policy tools which a government can use to achieve macroeconomic objectives. Whether the problem could be solved by any policy depends on whether the policy was effective and appropriate.

Thesis Development 1: Exchange Rate Policy

How exchange rate policy works:

Governments of small, open economies that operate a fixed exchange rate system or a managed float exchange rate system may appreciate/revalue the exchange rate to reduce imported inflation. This is because SG is a resource poor country and we often have to import a lot of inputs (raw materials) in our production processes and consumer durables. When the Singapore government appreciate/revalue the exchange of the Singapore dollar (SGD) it can lower inflation rate by lowering imported inflation in three ways. Firstly, a rise in the external value of SGD will make imports cheaper in SGD. A fall in the price of imported raw materials puts downward pressure on the price level by lowering the costs of production, reducing the price of finished imports. Secondly, the price of imported finished product will also be lower in SGD. Finally, lower imported prices means there is more competitive pressure on domestic firms to keep their prices low. This will help to reduce cost push inflation.

Exchange rate helps to reduce demand pull inflation as well. Initial real output is at Y1. Assuming the M-L condition holds (PEDx+PEDm>1), net exports will fall, reducing AD.When aggregate demand decreases from AD1 to AD2, at the original price P1, total demand in the economy is less than total supply. There is a surplus AE1 of goods and services produced. This results in the downward pressure of prices and a build-up of firms' inventories. As prices fall, firms in the economy produce fewer goods and services and aggregate quantity supplied fall. At the same time, lower prices will cause economic agents to increase expenditure and aggregate quantity demanded rises. This occurs until there is no more surplus of goods and services in the economy. Inventories return to the level planned by the firms. At the new equilibrium, general prices decrease from P1 to P2, real output falls from Y1 to Y2.

Hence, the fall in AD from AD1 to AD2 reduces inflationary pressure from P2 to P1.

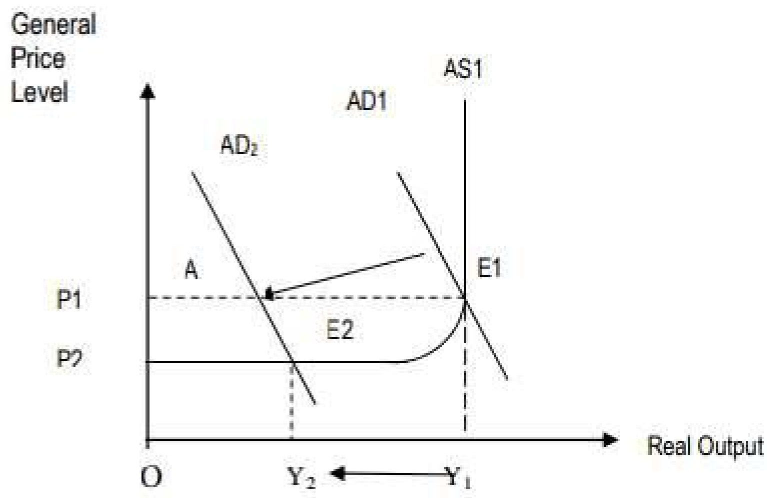


Fig 6

Advantages:

(i)Effective due to nature of SG economy

Singapore is very open and trade reliant as our external demand consists of 75% of our total demand , hence we depend heavily on its trading partners for growth (export-led growth). As such the appreciation of its exchange rate would have significant impact at the macro-level as such appreciation would ↓AD to a large extent thus reducing inflation effectively.

In addition, exchange rate tackles the other root cause of inflation in Singapore, imported inflation. Due to Singapore's lack of natural resources, the country is susceptible to imported inflation.

Therefore, exchange rate policy is effective in reducing inflation in SG.

Evaluation: Interest rate policy however, targets more of internal demand (Cd and I) and is less effective in reducing demand pull inflation. Also, it is unable to reduce imported inflation which SG commonly faces.

(ii) Appropriate due to nature of SG economy

Being a financial hub, SG encourages free capital mobility and because of this, exchange rate policy would be more preferred. If SG were to use interest rate policy to influence inflation, it may create more volatility. For example, if SG is facing inflationary pressures now, we will need to raise interest rates.

However, an increase in i/r will result in hot money inflow into the country, which may fuel more inflation. Singapore does not choose to target interest rates because managing the interest rates will result in large inflows and outflows of speculative capital, resulting in instability of Singapore currency. This adversely affects export competitiveness and price stability and adversely affects her comparative advantage in the export sectors

Using a gradual appreciation policy stance will instead help to strengthen and stabilize our currency to instil greater confidence in our economy.

Disadvantages:

The appreciation of Sing dollar does not come without cost to the economy. Besides making our exports less price competitive, it also encourages imports of goods and services. Net exports will fall and this will worsen Singapore's BOT position. In addition, there is a limit to which Sing dollar could rise beyond which our export-driven growth will be seriously affected.

<u>Anti-Thesis 1: Interest Rate Policy</u>

How interest rate policy works:

A rise in interest rates reduces inflationary pressure by reducing AD.Interest rate is both the cost of borrowing as well as the returns to savings. When interest rates increase, cost of borrowing increases, thereby decreasing the consumption of housing and other consumer durables like cars and houses which is usually financed from borrowing.

With consumers paying more for their loans that have variable interest rates, they have less left for spending on other goods and services. On the other hand, higher interest rates also mean more incentive to save as the returns to savings is higher. The opportunity cost of consumption increases. Hence, consumption expenditure (C) decreases.

A rise in interest rate raises the cost of borrowing. The number of profitable Investment projects will fall decreasing the firms' incentive to invest. Investment decreases. Since Cd and I fall, AD will fall, reducing GPL and hence demand pull inflation.

Advantage:

(i)Effective for countries who depend on internal demand

Interest rate policy works better for economy which relies on internal demand (e.g. China, USA) as it targets Cd and I which helps to reduce demand pull inflation more effectively. Hence, it is not very effective in SG's context due to our small internal demand.

<u>Conclusion</u>

Hence, it does not help to target the root cause of inflation in SG. Exchange rate policy is definitely a more effective policy in reducing both imported and demand pull inflation in SG. Due to the impossible trinity, SG has chosen to opt for free capital flows and thus, exchange rate policy will be a more appropriate tool in SG as it brings about less unintended consequences.

Knowledge, Understanding, Application , Analysis		
L3	For an analytical discussion of both policies and how it works to reduce demand pull and cost push inflation and both the pros and cons for each policy.	9-11
L2	For an undeveloped explanation of both interest and exchange rate policy with some discussion of either the pros and cons of the policies.	6-8
L1	For an answer which shows some knowledge of exchange rate policy.	1-5
Evaluation		
E2	For an evaluative discussion that considers the pros and cons of both policies and come to a reasoned judgement which policy is the preferred choice in SG.	3-4
E1	For an unexplained judgement, or one that is not supported by analysis.	1-2

NATIONAL JUNIOR COLLEGE
SH2 Preliminary Examinations for General Certificate of Education Advanced Level
Higher 1

ECONOMICS 8819/01

Paper 1 **28 August 2017**

3 hours

Additional Materials: Answer Paper, Cover Pages

READ THESE INSTRUCTIONS FIRST

Write your name and subject class on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY OF THE MARGINS.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Fill in the necessary information on the cover pages.

At the end of the examination, fasten all your work securely with the cover pages given.
The number of marks is given in brackets [ ] at the end of each question or part question.

Section A

Answer **all** questions in this section.

Question 1

Challenges and Outlook of the Copper Market

Extract 1: Miners face challenge tapping copper opportunities

Both Rio Tinto and BHP Billiton, two of the world's top ten copper producers, believe the copper market is oversupplied now but will tighten from 2018, with growing deficits. Demand for copper is expected to be steady, given that it has a wide range of applications such as electrical wiring and pipes, and is forecast to be widely needed as China shifts towards more consumer-led growth.

But the complexity and expense of mining projects means the larger miners may not be in a position to generate a quick acceleration of copper output. Rio took a step forward in December to build Resolution, a US copper mine expected to be one of the world's largest. Rio owns 55% of the project, with BHP owning 45%. Yet obtaining all the permits for Resolution could easily take Rio another five to seven years.

Because receiving approval for mines is so laborious, Rio and others have walked away from some projects, even if the copper resources involved are substantial. Since 2013 Rio and Anglo American, another major mining company, have both given up on Pebble, a huge copper deposit in Alaska that is controversial for its potential effect on fisheries, for example.

Another challenge for miners is the expense involved in building mines. Glencore, another major copper miner, sold its Las Bambas project in 2014 to MMG, a subsidiary of China's Minmetals, for about $7 billion. MMG said in October that the remaining 25% of construction would cost between $2.7billion and $3.2 billion. BHP, which owns Olympic Dam, an Australian mine, abandoned an expansion plan in 2012 because of the likely cost.

Source: Adapted from: *The Financial Times*, James Wilson, 6 January 2015

Extract 2: The outlook for copper

The price of copper has fallen steadily in recent years. The sharp slowdown in industrial activity in China is disastrous for copper producers, since China consumes 45% of their output. Its attempt to shift from an investment-led economy to a consumer-led one has raised fears of a structural decline in the amount of copper it will need.

One recent disappointment has been the delay in the roll-out of electricity infrastructure in inland Chinese cities. Analysts at BHP say such infrastructure accounts for the biggest share of copper consumption in China. Yet a crackdown on corruption at state-run energy companies slowed the grid-laying projects during the first half of the year. What is more, China is increasingly using aluminium for its thick power-distribution cables, rather than copper – a cheaper option, even if aluminium is a poorer conductor and is more prone to corrosion.

Yet the outlook for China is not all pessimistic. As incomes increase, the "intensity" of copper use is likely to grow. Nascent industries such as wind and solar power and electric vehicles, all of which are copper-intensive, may also boost future demand.

Before then, supply must fall to balance the market. Some estimate that the industry will still churn out about 500,000 tonnes of excess copper this year. The oversupply will get worse: it takes several years to build a mine, so firms which had invested heavily in copper mines during the boom years now find their mines starting to come into operation. As a result big new increments of supply have hit the market in the past year or two, just at the wrong time. Glencore, one of the five largest mining companies in the world, announced last month that it would close mines in the Democratic Republic of Congo and Zambia, cutting supply by about 400,000 tonnes over 18 months – some 2% of the world's annual output. Besides Glencore, it is reported that other mines producing a further 170,000 tonnes a year have been idled so far this year.

But only the most expensive supplies are being removed from the market. Many firms are instead slashing costs to keep production going. The industry's fragmentation makes it unlikely that producers will agree to rein in output. Investment bank, Goldman Sachs, notes that the top five copper producers have about 35% of the market. While some firms are trying to cut output to reduce costs and stem the price slide, other firms are expanding their output to increase market share. In some cases, it is cheaper over the long run to keep mines running at a loss for a while, to maintain security and retain staff, rather than to close them down.

Within a few years, however, many analysts expect natural constraints to put a floor under prices. The quality of ore in copper mines decreased during the boom. Water shortages make copper more expensive to extract. Mine depletion in Chile and Peru has driven companies towards new deposits laced with arsenic that require costly cleaning. And workers and environmentalists increasingly raise their voices against lousy pay and deteriorating environmental conditions. Higher costs make it less likely copper production will increase, which should eventually help stabilise the market. Chinese demand may also be supplemented by growth in other emerging markets, such as India, which currently consumes just 2% of the world's copper.

Source: Adapted from: *The Economist*, 1 Oct 2015

Extract 3: Fed move adds to pressure on commodities

Prices of most commodities fell after the US Federal Reserve's decision to raise interest rates compounded their long term woes. Low interest rates had helped stoke the commodities boom as companies tapped cheap money to vastly expand production. Now commodities markets are suffering, with the interest rate hike adding to a multitude of industry-specific problems - a toxic combination of oversupply and weak demand from a slowing Chinese economy.

The biggest immediate effect of the Federal Reserve's decision to raise interest rates came through the strengthening US dollar. That makes internationally traded commodities from oil to copper, which are priced in US dollars, more expensive for holders of other currencies. But down the road, analysts foresee more pain from rising rates as companies struggle with increased financing costs and emerging market demand takes another hit. Investors fear that the Fed's rate increase might further sap demand from once insatiable emerging economies, such as India and China. Investors have already withdrawn a net $500 billion from emerging markets in 2015, the first annual outflow in decades, compounding falls in their currencies as capital leaves their shores and make commodities more expensive.

Source: Adapted from *The Wall Street Journal*, 17 December 2015

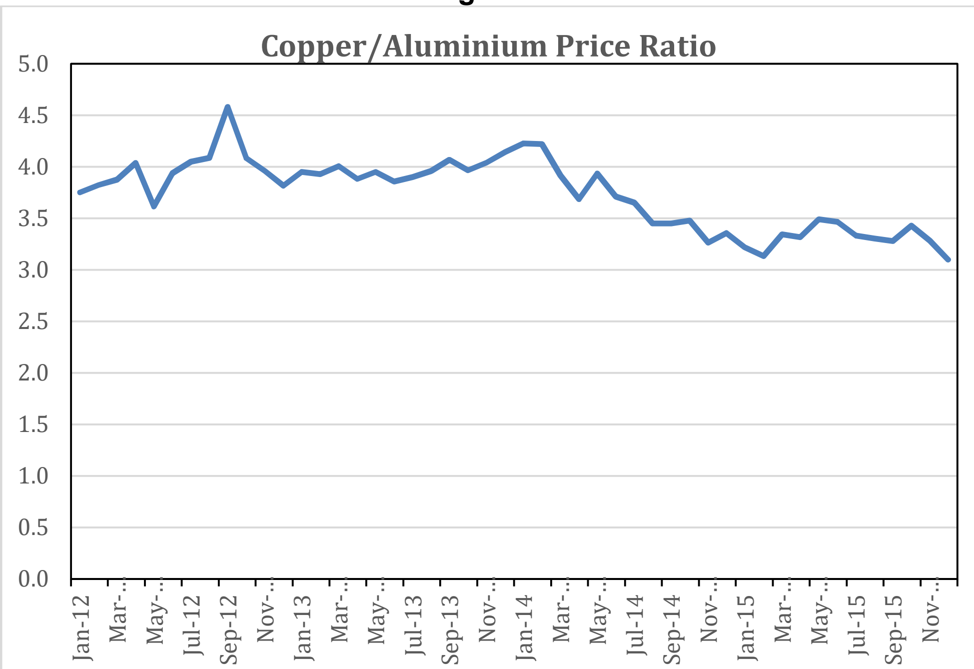
Extract 4: Village protest against dam built by copper miner in Chile

Black flags hang from the doors of the one-storey red brick houses in Caimanes, a village that lies in the hills north of Santiago on the course of the Pupio stream. The banners are the sign of a bitter environmental protest against a nearby dam, which holds waste from a copper mine -- one of Chile's largest -- high up in the Andes. Last November, a group of up to 150 villagers took matters into their own hands and blocked access to the dam, which was said to pollute the village's water supply and pose an environmental threat in case of flooding or an earthquake.

The battle between the people of Caimanes and the owner of the Los Pelambres mine has become a symbol of social change in Chile, which produces 30% of the world's copper. The government of Chile is committed to tackling inequality and as part of that is demanding higher standards from mine owners. But it is happening against a backdrop of slowing growth in China, the world's biggest copper market. Prices of the metal -- which makes up 13% of Chile's economic output and 50% of its exports -- fell to their lowest levels in five years just as the protesters kept guard outside the town. Copper mining made up 20% of the country's tax revenues in 2010 and employed some 1.1 million people in 2013. The shift in policy in Chile is being driven by a greater focus on the environment, in some cases, at the expense of economic growth and employment.

Source: Adapted from: *The Financial Times*, 27 April 2015

Figure 1



Source: London Metal Exchange

Questions

(a) Compare the price of copper relative to the price of aluminium over the period from September 2012 to November 2015. [2]

(b) With reference to Extract 2, and using a demand and supply diagram, explain why the price of copper "has fallen steadily in recent years". [6]

(c) With reference to the data, comment on the likely PED and PES values of copper. [4]

(d) Explain how the US Federal Reserve's decision to raise interest rates would affect the demand for copper in the world. [2]

(e) **(i)** Identify one demand factor and one supply factor that would affect the price of copper in the next 2 to 3 years. [2]

(ii) Suppose you are an analyst with an investment bank, justify your forecast for the price of copper in the next 2 to 3 years. [6]

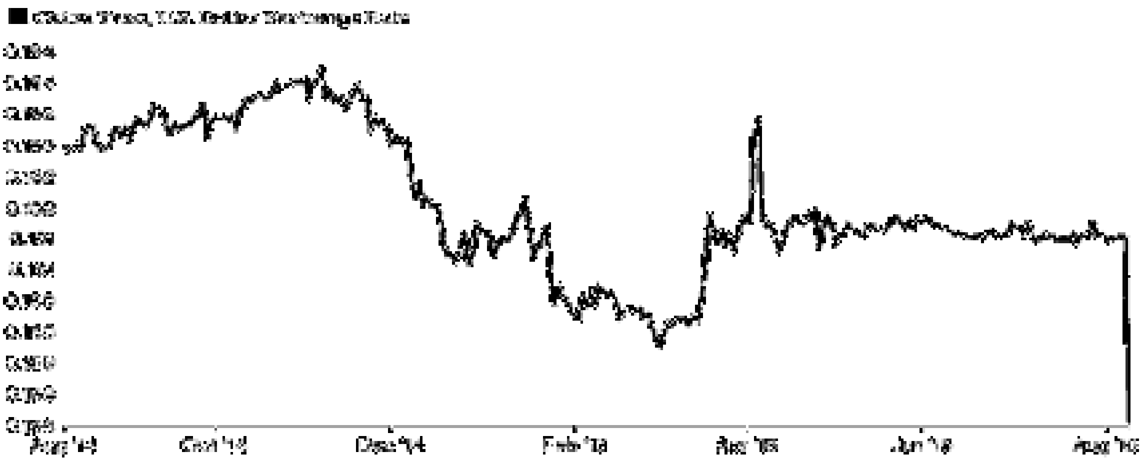
(f) Using economic analysis, discuss whether the government of Chile should intervene to restrict mine production in order to achieve its economic objectives. [8]

[Total: 30]

Question 2

A volatile world

Figure 2: US dollars to 1 China Yuan



Source: Bloomberg

Extract 5: China calls the shots in Asia's currency war

As fears of a global currency war grow, all eyes in Asia are on China's next move. "It's no longer inconceivable that China will go for a weaker currency," said Frederic Neumann, HSBC's co-head of Asian economics research.

The urgency with which Asian central banks are cutting interest rates is an indication of not just the deflationary forces they are seeing but also recognition that if China weakens the yuan, their policy options will be severely limited. Indonesia was the latest to surprise the world with an interest rate cut, joining Singapore, India and China, all of whom have unexpectedly eased monetary policy this year. Bank Indonesia's rate cut was in some ways a reminder of how critical China's yuan is to the region's policy making. The weakening of the Chinese Yuan, coupled with the potential rise of US interest rates could cause steep falls in the Asian currencies and a flight of foreign capital. Capital outflows can be destabilising, causing property prices to collapse further and trigger a vicious cycle of bad debts and defaults in the banking sector.

Deflationary pressures in China are stoking expectations that it could follow Japan and other European nations by easing policy to put a floor under domestic prices, he said. Such moves have triggered major weakening in the Japanese yen, euro and other currencies.

With most Asian countries either selling their exports to China or competing with the Chinese for a share of declining global demand, the race to have competitive currencies could become intense.

Still, analysts reckon things would get ugly only if China makes some kind of dramatic move, such as moving away from shadowing the dollar to tracking a broader basket of currencies. That could spark currency volatility and weakness and massive capital outflows.

"China's currency has become an anchor for the region and we just hope the Chinese will not throw the anchor overboard and cut everyone loose," said Neumann.

Source: Adapted from Vidya Ranganathan, *Reuters*, 19 February 2015

Extract 6: BRIC's huge impact on global sustainability

The world's four largest developing economies, Brazil, Russia, India and China (BRICs), have a huge impact on global sustainability. These four countries, with a combined population of 3 billion people and a GDP of $16 trillion, will have a huge direct impact on global emissions.

India's air pollution is not only far worse than any of the other BRICs, it is so intense that it is reducing plants' ability to photosynthesize sunlight, cutting crop yields in half. In addition, poverty and general lack of access to basic human needs has drawn the lion's share of attention. As a result, much of the sustainable development discussion in India has focused on inclusion and bringing the population into the 21st century. In 2014, Prime Minister Narendra Modi launched the Clean India Mission, aimed at providing access to improved sanitation, and cleanup of the River Ganges, among other targets. Corporations are also committing to invest in education for girls and adopting communities for cleanup.

Building green technology as India expands is one example of the leapfrogging potential that all developing economies can benefit from. For example, information technology company Infosys pioneered an effort to raise the profile of green building technologies among Indian firms. The resulting green building, which earned Leed Platinum certification, uses 38% less energy than its counterpart, and cost 1% less to build.

Source: Adapted from Matthew Weeland, *The Guardian*, 4 May 2015

Extract 7: China and Russia: the world's new superpower axis

Russia and China have lots in common apart from a 2,500-mile border- both economies are dominated by state-run firms and oligarchies.

Both countries share a desire to limit American power; they enjoy a burgeoning trade relationship in which, in essence, hydrocarbons are swapped for cheap consumer goods. Trade has increased sixfold over the past decade. Last year they trumpeted the biggest gas deal in history that was worth $400billion. During Chinese President Xi Jinping's visit to Moscow last month, the two leaders signed a decree on cooperation in tying the development of the Eurasian Economic Union (EAEU) with the "Silk Road Economic Belt" project. Moscow and Beijing declared a goal to coordinate the two projects in order to build a "common economic space" in Eurasia, including a Free Trade Agreement between the EAEU and China. The EAEU is a Russia-led trade bloc established in 2015. It currently has four members: Armenia, Belarus, Kazakhstan, and Russia.

"We are intensively working on combining these two projects and Russia's plans to expand its transport network in the east of the country," said Russian President Vladimir Putin.

China's President, Xi Jinping, has set his sights on a "new silk road", using China's billions to help neighbours and regional allies to develop, indirectly supporting growth at home and the expansion of Chinese soft power. Moscow is also hoping Beijing will help with finance for businesses, after western funds dried up last year. Some Chinese firms have seen the Russian economic wobble as an opportunity to make capital investments in the country.

Last year, China replaced Germany as Russia's biggest buyer of crude oil. "China is the major alternative market and is easily accessible for Russia given the location of energy reserves and the geopolitical partnership, so it's an obvious fit," said Grigory Birg, an analyst at Investcafe.

However, Russia's federal migration service is especially wary of an influx of Chinese migrants across the Russia-China border. It has stated that Chinese could become the largest ethnic group in Russia's far east by the 2020s or 2030s.

Source: Adapted from *The Guardian*, 7 July 2015 and *The BRICS Post*, 12 July 2015

Extract 8: China watches Greece

The European Union is China's largest trading partner. "China is ready to play a constructive role," said the Chinese premier when asked about Greece at a news conference. Already struggling to keep growth steady at home with enormous volatility on stock markets over recent days, China has a lot to lose from the uncertainties that surround the eurozone drama.

It is a major investor in Greek infrastructure, in euro bonds and in the EU economy as a whole. Chinese deals rose from $2 billion (£1.2bn) in 2010 to $18 billion in 2014, according to research by Baker & McKenzie and the Rhodium Group.

China's vision for Eurasia is its "one belt one road" strategy, a plan to wrap its own infrastructure and influence westward by land and by sea.

The land route is the most ambitious project to integrate continental Asia and Europe since Genghis Khan 800 years ago. And the sea route is a thread of Chinese ports and bases all the way from southern China through the Indian Ocean to the Horn of Africa and the Mediterranean.

Which is where Greece matters again. It is China's great southern gateway to Europe.

Source: Adapted from Carrie Gracie, *BBC News*, 30 June 2015

Questions

(a) What was the estimated change in the value of the US dollars in terms of China Yuan from November 2014 to August 2015. [2]

(b) **(i)** With reference to Extract 5, and using a diagram, explain the reason for the 'major weakening in the Japanese yen, euro and other currencies'. [3]

(ii) Comment on whether major weakening of the Japanese yen could improve its net exports. [5]

(c) Using AD-AS analysis, explain the impact of a 'flight of foreign capital' on Asian economies. [4]

(d) Discuss the relative usefulness of trade and supply side policies to generate economic growth for China. [6]

(e) **(i)** Explain the meaning of Standard of living. [2]

(ii) To what extent are the Indian and Russian governments' efforts likely to improve the welfare of the residents in their countries in the long term. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3. **(a)** Explain the main factors that determine price elasticity of demand of a demerit good such as cigarettes. [10]

(b) Discuss the extent to which the use of taxation in the market for cigarettes alone can be effective in achieving microeconomic objectives. [15]

4. **(a)** Explain the main causes of inflation and how applicable they are in Singapore. [10]

(b) With reference to Singapore, discuss the extent to which supply side policies are effective in reducing excessive inflationary pressures. [15]

CSQ1

(a) Compare the price of copper relative to the price of aluminium over the period from September 2012 to November 2015. [2]

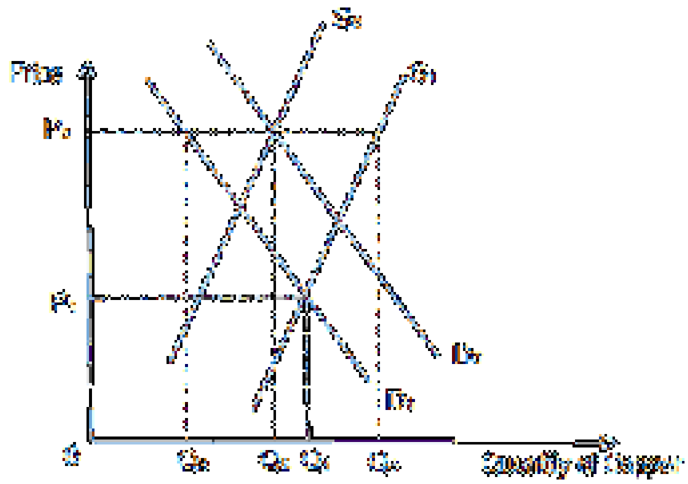
The price of copper has fallen relative to the price of aluminium. [1]
The price of copper is above that of aluminium throughout the period [1]

(b) Using a demand and supply diagram, explain why the price of copper "has fallen steadily in recent years" (Extract 2). [6]

<u>Fall in Demand (2 marks)</u>
There is a fall in demand due to the slowdown in the Chinese economy. As mentioned in Extract 2, "sharp slowdown in industrial activity in China is disastrous for copper producers." Copper is used in the construction of electricity infrastructure As China consumes 45% of the copper output, it has a significant impact on the demand for copper in the world market.

<u>Increase in Supply (2 marks)</u>
There is an increase in supply as more mines have entered the market. This has resulted in the increase in supply of copper in the past 1-2 years.

Figure 1



The fall in demand and increase in supply resulted in a surplus of copper of Q_3Q_4 at the original price of P_0 in the market. This created downward pressure on the price of copper, as producers reduced price in order to sell their excess stocks. As prices fall, the quantity demanded for copper increased, resulting in a new equilibrium at a lower price of P_1.

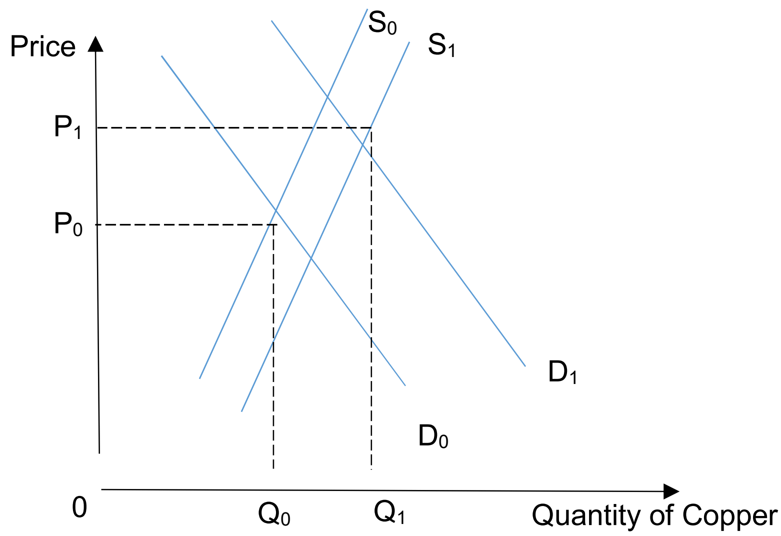
(c) With reference to the data, analyse the likely PED and PES values of copper. [4]

- The price-elasticity of demand for copper is likely to be low, as it is a raw material required in many products such as electrical wiring, cables and pipes, electric cars and wind and solar power generation, and thus has high degree of necessity. There is also a lack of close substitutes as copper has high electrical conductivity, ductility and resistance to corrosion.
- The supply of copper is likely to be relative price inelastic. This is because of the fact that it takes several years to build a mine, as mentioned in Extract 2. Moreover, the laborious approval process for new mines and the high costs of building mines are significant barriers to entry which make it more difficult for new mines to be set up to increase output. Hence, it takes a relatively long time to increase the supply of copper.

(d) Explain how the US Federal Reserve's decision to raise interest rates would affect the demand for

	copper in the world. [2]
	The increase in interest rate would attract short-term capital inflow into the US. This increases the demand for US dollars and results in the strengthening of the US dollar. [1 mark] The appreciation of the US dollar makes copper, which is priced in US dollar, more expensive to other countries buying copper. This would result in a fall in demand for copper (priced in US dollar). [1 mark]
(ei)	Identify one demand factor and one supply factor that would affect the price of copper in the next 2 to 3 years. [2]
	Demand Factors (Any one) • Positive economic outlook of China and other emerging economies • More uses for copper Supply Factors (Any one) • Increase in the cost of producing copper • Concern for the environment
(eii)	Suppose you are an analyst with an investment bank, justify your forecast for the price of copper in the next 2 to 3 years. [6]
	Demand factors • One key demand factor is the economic outlook of China and other emerging economies. If the China economy recovers from its slowdown, there will be an increase in industrial activity as well as demand for consumer goods. The demand for copper for electrical wiring and cables will increase. Moreover, as mentioned in Extract 2, "Chinese demand may also be supplemented by growth in other emerging markets, such as India." If other emerging economies such as India experience higher economic growth, they will also increase their demand for copper for various infrastructure projects. • Another demand factor is the uses of copper. (This may be linked to technology advancement and innovation). With changes in technology and new products being developed, there could be more uses for copper. For example, it is mentioned that new industries such as wind and solar power and electric cars are copper-intensive. Such new industries and products would increase the demand for copper. **Supply factors** • A key supply factor is the cost of production. As mentioned in Extract 2, water shortages are making copper more expensive to extract, and depletion of mines have driven companies to new copper deposits laced with arsenic which require costly cleaning. In addition, workers are also demanding higher wage increases. The increase in the various costs of producing copper could lead to a fall in supply in future. • Another factor affecting the supply of copper is the concern for the environment. As mentioned in Extract 2, people are becoming more vocal about their environmental concerns as copper production is seen to cause deteriorating environmental conditions. In Extract 3, it is also reported that villagers in Chile protested against a dam used to hold waste from a copper mine, which was said to cause pollution of their water supply. Such environmental concerns could result in more restrictions being imposed on copper production or governments withholding approval or permits for mines to be built, leading to a fall in supply.

Figure 2



(Conclusion)

- As discussed above, the demand for copper can be expected to increase in the next 2-3 years as the Chinese economy recovers and emerging economies continue to grow at a faster pace. More use of copper is also likely to intensify, as new products such as electric cars requiring the use of copper are developed and gain in popularity.
- Overall, the expected increase in demand is likely to outstrip the growth in supply, as shown in Fig 2, causing the price of copper to rise in the next 2-3 years.

Mark Scheme

Level	Descriptors
Level 2 **3-4**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ EXCELLENT **depth** in economic analysis that reflects the following in ALL explanations. • **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples and **accurate** use of facts. ➢ **Logical** structure.

Level 1 **1-2**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. The answer should also be supported by: ➢ Example(s). ➢ **Logical** structure.

Level	Descriptors
E2 **2**	For an evaluation that contains • A **clear judgement** on the price forecast for the next 2-3 years • **Good justification** of the price forecast **supported by analysis**
E1 **1**	For an evaluation that contains • Relevant judgement on the price forecast for the next 2-3 years. • Justification of the forecast may lack **depth, clarity, and logic**.

(f) Using economic analysis, discuss whether the government of Chile should intervene to restrict mine production in order to achieve its economic objectives. [8]

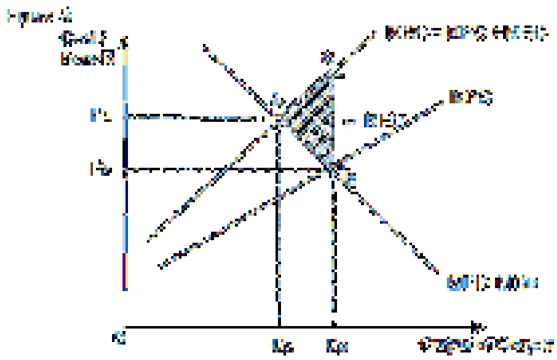
Introduction:

- A government's economic objectives include the 4 macroeconomic objectives of sustained economic growth, low inflation, low unemployment and healthy balance of payments, as well as the microeconomic objectives of efficiency and social welfare.

Thesis:

Explain the need for government intervention to correct market failure of negative externalities and achieve the economic objectives of allocative efficiency and welfare

- Mine production results in deterioration of environmental conditions which affect third parties such as villagers in the nearby community. For example, the building of a dam to hold the waste from a copper mine in Chile led to pollution of the water supply of a nearby village, and led to protest by the villagers. Such third party effects known as negative externalities impose an external cost to society, resulting in a divergence between the marginal private cost (MPC) and the marginal social cost (MSC) of producing copper.
- Referring to Figure 3, the free market equilibrium output is Q_M where the marginal private cost is equal to marginal private benefit (MPC=MPB). Assuming no positive externality, the marginal private benefit is also the marginal social benefit (MPB=MSB). Due to the divergence between MSC and MPC, the social optimal output is Q_S where MSB=MSC. Hence, there is an overproduction of Q_SQ_M of copper.
- The additional cost to society of producing Q_SQ_M is Q_ScaQ_M while the additional benefit of producing Q_SQ_M is Q_ScbQ_M. This results in a deadweight loss of abc, representing a net welfare loss to society.
- The government should therefore intervene to restrict output to Q_S in order to achieve allocative efficiency and maximise the welfare to society.

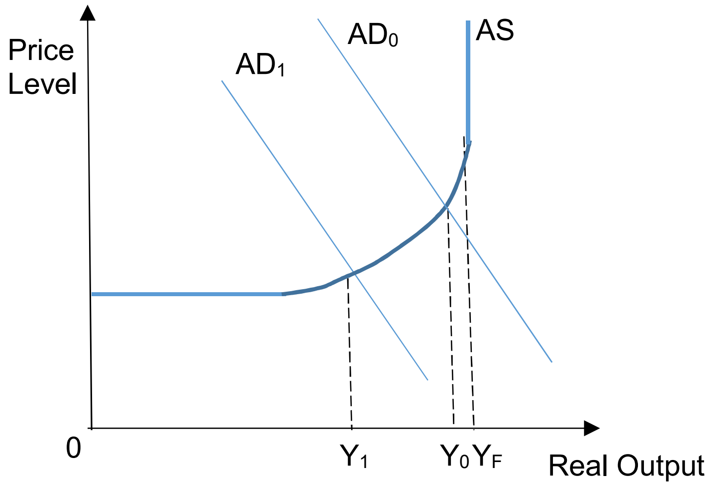


Anti-thesis:

Explain that restricting mine production could conflict with the macroeconomic objectives of economic growth and low unemployment

- Chile is highly dependent on copper production, which accounts for 13% of Chile's economic output and 50% of its exports.
- Restricting mine production could mean a significant reduction of Chile's GDP as its export of its copper will be reduced. This means a fall in Chile's export revenue, which will lead to a fall in AD and a worsening of the balance of trade, ceteris paribus.
- The fall in AD will cause a more than proportionate fall in real output and national income via the reverse multiplier effect, thus conflicting with the macroeconomic objective of sustained economic growth. As shown in Fig 4, the fall in AD due to a decrease in (X-M) would result in a fall in real output from Y_0 to Y_1.

Figure 4



Conclusion:

- It can be seen from the above discussion that there is a conflict between different economic objectives if the government of Chile were to restrict mine production.
- In the context of Chile, the importance of mine production to the Chilean economy means that the negative consequences of unemployment and economic decline may outweigh the benefits of allocative efficiency. It could be argued that priority should first be given to the material well-being of the population by ensuring they are employed and earning an income (in view of the inequality and poverty that exists in Chile), before the government takes into consideration the non-material aspect of standard of living such as the environment.

Mark Scheme

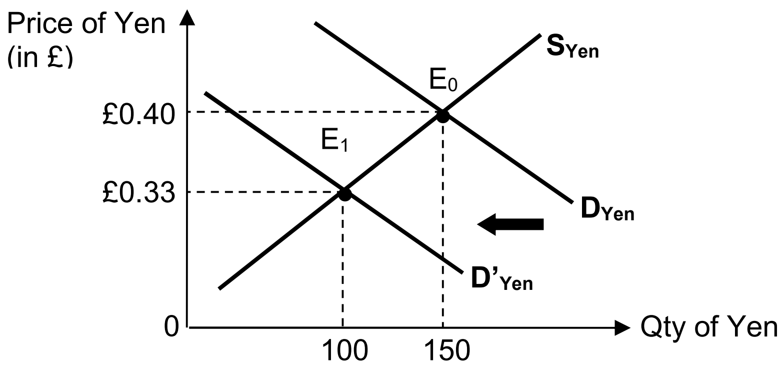
Level	Descriptors

Level 2 **4-6**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. ✓ **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples in context and **accurate** use of facts. ➢ **Logical** structure.
Level 1 **1 – 3**	For an answer that demonstrates some knowledge but lacks understanding, application and analysis: ➢ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT **depth** in economic analysis that may reflect the following: ✓ May lack **accurate** use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing.

Level	**Descriptors**
E2 **2**	For an evaluation that contains • A synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Evaluative comments supported by **accurate, logical** and **clear** analysis • The use of context to arrive at the conclusion is evident.
E1 **1**	For an evaluation that contains • **Relevant** judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. • Comment (s) may lack **depth, clarity, and logic**.

[Total: 30]

CSQ2

(a)	**What was the estimated change in the value of the US dollars in terms of China Yuan from November 2014 to August 2015.**	**[2]**
	The US dollar generally appreciated against the Yuan (1m), by approximately 3.6% (1m).	
(bi)	**With the aid of a diagram, explain the reason for the 'major weakening in the Japanese yen, euro and other currencies (Extract 1)'.**	**[3]**
	• Easing of Monetary policy in extract 1 implies that there is a fall in interest rates of the country. • This leads to short term capital outflow, leading to an increase in supply for the country's currency which will result in depreciation of the currency. Weakening of the Japanese yen 	
(bii)	**Comment on whether the major weakening of the Japanese yen could improve its net exports.**	**[5]**
	• Exports: Depreciation of Japanese yen means that exports in foreign currency becomes cheaper and hence demand for exports will increase, resulting in increase in export revenue • Marshall Learner Condition: Since M-L condition of IPEDx + PEDml >1, net exports increases for Japan • Major countries are facing a fall in the value of currency and with most Asian countries either selling their exports to China or competing with the Chinese for a share of declining global demand, the weakening in Jap Yen may not give Jap exports a competitive edge in terms of export price competitiveness, this means that export revenue may not increase significantly.	
(c)	**Using AD-AS analysis, explain the impact of a 'flight of foreign capital' on Asian economies.**	**[4]**
	• Capital outflows are destabilizing as 'it could lead to bad defaults in the banking sector', leading to fall in investments • Hence, there will be a decrease in AD • National income falls, hurting economic growth and decreasing employment	
(d)	**Discuss the relative usefulness of trade and supply side policies to generate economic growth for China.**	**[6]**
	Introduction Economic growth refers to both actual and potential economic growth. China embarked on different strategies but these policies have its usefulness, but some may be more useful given the context and nature of China's economy. **Body** **Trade and Globalisation policies**	

- China and Russia has declared a goal to coordinate the two projects in order to build a "common economic space" in Eurasia, including a Free Trade Agreement between the EAEU and China. Assuming that PED for China's exports is price elastic, there will be a more than proportionate increase in the quantity demanded for China's exports and agan leading to an increase in export revenues. .
- China is also actively investing overseas. Some Chinese firms have seen the Russian economic wobble as an opportunity to make capital investments in the country. Having a wider market allows for substantial economies of scale to be enjoyed and the cost savings can be passed down in terms of lowered prices of Chinese goods, boosting exports for China, ceteris paribus.

Supply side policies

- Chinese government is actively and directly intervening to **development China's infrastructure with other nations**.
- This will allow for greater flow of trade, increasing China's export revenue and actual economic growth.
- The cost of obtaining raw materials may also be lowered due to cheaper imports coming into China, hence reducing imported inflation and cost push inflation, leading to increase of SRAS and hence NY increases.

Evaluative Conclusion

- In conclusion, the trade and supply side strategies have its usefulness and its shortcomings.

Mark Scheme

Level	Descriptors
Level 2 **3-4**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples and **accurate** use of facts. ➢ **Logical** structure.
Level 1 **1-2**	For an answer that demonstrates knowledge, understanding, application and analysis: • INSUFFICIENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. • INSUFFICIENT **depth** in economic analysis that reflects the following in ALL explanations. **May lack accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. • The answer should also be supported by:

	✓ Diagram(s) that may not be well-labelled may not be well-referred to and may not be drawn with precision (where appropriate). ✓ Example(s). ✓ **Logical** structure.	

Level	*Descriptors*
E2 **2**	For an evaluation that contains • A synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Evaluative comments supported by **accurate, logical** and **clear** analysis • The use of context to arrive at the conclusion is evident.
E1 **1**	For an evaluation that contains • **Relevant** judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. • Comment (s) may lack **depth, clarity, and logic**.

(ei)	**Explain the meaning of Standard of living.**	**[2]**
	Standard of Living comprised of both material and non-material SOL.	
(eii)	**To what extent are the Indian and Russian governments' efforts likely to improve the welfare of the residents in their countries in the long term.**	**[8]**

Introduction

- The Indian and Russian governments have certain efforts to improve the standard of living of their residents. The efforts could lead to improvements in both the material and non-material standard of living in the long term but there could be certain drawbacks of their efforts.

Body

Thesis: Indian and Russian governments' efforts are likely to improve the welfare of the residents in the long term

India:

- India is facing severe air pollution to the extent that crops are affected by the lack of sunlight..
- Hence, the governments' efforts of raising the profile of green building technologies among Indian firms to lessen air pollution will allow crops to survive, allowing farmers/producers to earn and be employed, thus improving their material and non-material SOL in the long term.
- In addition, the Indian government is also embarking on inclusive growth strategy of advocating education for girls in India. This allows them to earn an income and be employed in future, improving both their material and non-material aspect of SOL in the long run.

Russia:

- China and Russian have signed a decree on cooperation in tying the development of the Eurasian Economic Union (EAEU) with the "Silk Road Economic Belt" project.
- With more opportunities for trade for Russia, this will allow them to export more of the Russian goods to China and EAEU. Hence, with the increase in net exports (X-M) and investments (I), it will lead to AD increasing and national income increasing via the multiplier effect.

Anti-thesis:

- India: Government spending will have to increase for the various efforts by the government such as education, reducing poverty and improving sanitation. This may affect the SOL of Indian residents in the long term as less could be spent on them in future.

- Russia: Being open to trade and investments makes Russia more vulnerable to external conditions.

Conclusion

- While there are shortcomings of the governments' efforts, both Indian and Russians will benefit in the long term due to the far-reaching effects of education, technology transfers, investments and trade on the SOL of their residents.

Mark Scheme

Level	Descriptors
Level 2 4-6	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ EXCELLENT **depth** in economic analysis that reflects the following in ALL explanations. **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples and **accurate** use of facts. ➢ **Logical** structure.
Level 1 1-3	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. The answer should also be supported by: ➢ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➢ Example(s). ➢ **Logical** structure.

Level	Descriptors
E2 2	For an evaluation that contains • Evaluative comments supported by **accurate, logical** and **clear** analysis • The use of context to arrive at the conclusion is evident.
E1 1	For an evaluation that contains • **Relevant** judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. • Comment (s) may lack **depth, clarity, and logic**.

(a) Explain the main factors that determine price elasticity of demand of a demerit good such as cigarettes. [15]

<u>Introduction:</u> - Price Elasticity of Demand (PED) measures the degree of responsiveness of the quantity demanded of a good to a change in its price, ceteris paribus. PED thus measures the extent of movement along a given demand curve.
<u>Body 1: Availability and closeness of Substitutes</u> - For a demerit good like cigarettes, there is no availability of close substitute. Substitutes such as nicotine replacement products such as nicotine patches or gum are not able to replace smokers' physical habit of hand to hand holding and puffing of cigarettes. Smokers in general feel like there is something missing once they begin to cut down on smoking. - Hence, the demand for cigarettes in general is deemed to be relatively price inelastic for consumers.
<u>Body 2: Proportion of income spent on the product</u> - The demand for cigarettes tends to be relatively price inelastic especially for consumers in rich countries as compared to poor countries as it forms a lower proportion of their income spent on cigarettes. - However, for a demerit good such as gambling in SG, the $100 admission price could be considered a high proportion of income for average Singaporeans. This could mean that the demand for gambling to be relatively fewer price inelastic as compared to cigarettes.
<u>Body 3: Degree of necessity/ Tastes and Preferences</u> - Cigarettes may be viewed as one with a high degree of need as it is highly addictive; people must buy cigarettes to consume even if the prices increase. - Hence, the demand for cigarettes tends to be relatively price inelastic especially for consumers in poor countries as compared to rich countries as cigarettes are treated as necessities of every-day life.
<u>Conclusion:</u> - In general, demerit goods such as cigarettes, alcohol and gambling are considered to be price inelastic in demand although the value could vary among the demerit goods.

Levels	Description
L3 (8-10)	• EXCELLENT **<u>breadth</u>** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **<u>relevance</u>** and **<u>significance</u>** in answering the question. • EXCELLENT **<u>depth</u>** in economic analysis that reflects the following in **ALL** explanations. There was an accurate use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **ALL** explanations. The answer should also be supported by: • Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with **precision** (where appropriate). • **Relevant** examples and **accurate** use of facts. • **Logical** structure.
L2 (5-7)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate).

	• Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT depth in economic analysis that may reflect the following: • Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.

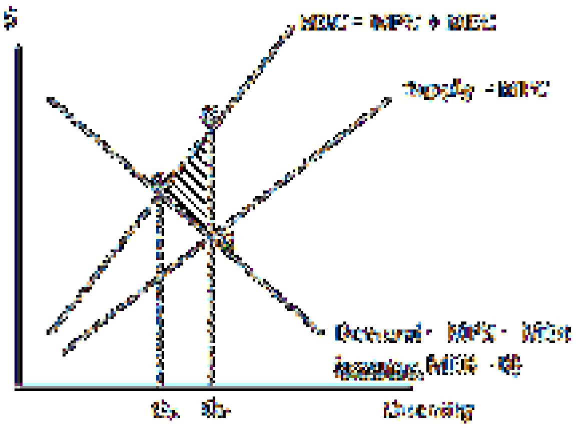
(b) Discuss the extent to which the use of taxation in the market for cigarettes alone can be effective in achieving microeconomic objectives.

<u>Introduction:</u>

- Demerit goods are goods and services, which consumption is considered to be socially undesirable, usually possess negative externalities and that the government feels people will overconsume, possibly due to information failure on the true costs the good imposes.
- Define indirect tax: A sales tax, a specific tax, value added tax (VAT), or goods and services tax (GST)) collected by an intermediary (such as a retail store) from the consumers who bear the ultimate economic burden of the tax.

<u>Body 1: Use of Taxation is effective in achieving micro aims</u>

- Negative externalities are spillover costs on 3rd parties who are not directly involved in the production or consumption of the good.
- Consumption of cigarettes is deemed to have negative externalities. Identify the MPB and MPC of smoking cigarettes. MPB includes the benefits to the individual from the utility derived from smoking. This will enable smokers the ability to work normally. MPC includes the cost of purchasing cigarettes.
- Identify MEC: MEC is the external cost on 3rd parties such passive-smokers who need to incur additional healthcare costs due to breathing difficulties.
- Explain that individuals, acting in pursuit of their self-interest, disregard the external cost and in consequence consume only up to Q_P, a case of over-consumption. Qp (MPB=MPC) is the private output maximizing utility of private individuals while Qs (MSB=MSC) is the socially desired output maximizing welfare of society. The fact that Q_PQ_S was over-consumed results in the additional benefit to society (QsQpac) be less than additional cost to society (QsQpbc). The over-consumption results a welfare loss or deadweight loss of area *abc*.



<u>Taxation can correct the market failure resulting from the existence of negative externality</u>

- Imposition of indirect tax to force consumers of cigarettes to internalise the 3rd parties cost. When faced with negative externalities, a government may choose to impose an indirect specific tax that is equivalent to the value of the marginal external costs generated at the socially optimum level of output, given by the divergence between MSC and MPC_0 at Q_s. The cost that was previously 'external' to the firm, through the indirect tax, now becomes part of the firm's private cost, aligning MPC with MSC. In other words, the pigouvian tax gets firms to "internalise" the external cost.

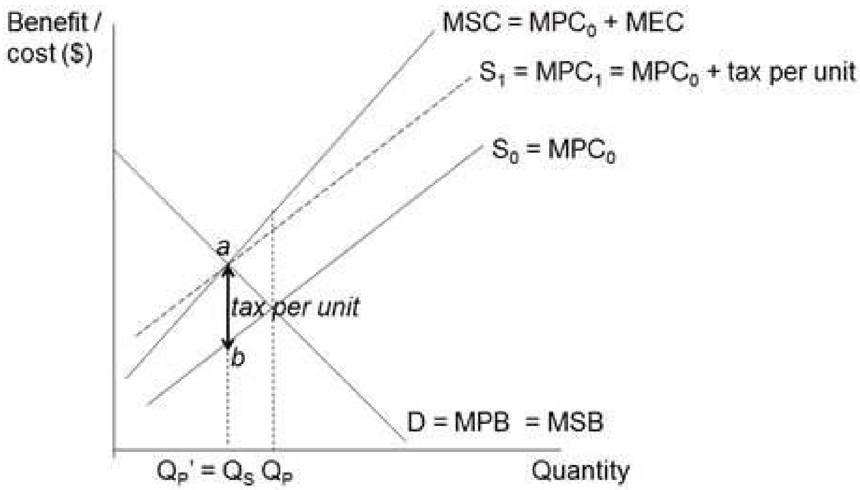


Figure 2 Indirect tax to correct negative externality

- In Figure above, an indirect specific tax equal to *ab* per unit of output will increase the firm's marginal cost, shifting the marginal private costs (MPC) upwards to MPC_1. The new private optimum level of output occurs at Q_P' where MPC_1 = MPB, down from the original private equilibrium output Q_P where MPC_0 = MPB. Notice that the new private optimal output Q_P', MSC = MSB. In other words, by taxing an amount equivalent to the MEC at Q_S, the pigouvian tax aligns firms' marginal private cost with the marginal social cost. Faced with the full cost of production, the firm will therefore cut back its production to the socially optimal level.

<u>Taxation can correct the market failure resulting from the existence of equity</u>

- Government can also improve the equity of outcomes thru indirect taxation via the redistribution of income. The government is able to use the tax revenue to fund transfer payment schemes such as GST voucher or low wage supplements for the lower-income Singaporeans..

<u>Body 2: Limitations in the use of taxation in achieving micro aims</u>

- It is difficult for the government to correctly estimate the amount of indirect tax to be imposed on smokers. It is difficult to quantify the negative externalities. Negative externalities are un-priced effect. The indirect tax imposed might be too much or too little to correct the negative externality. The problem of too little indirect tax being levied is the problem of over-consumption remains and DWL remains unsolved.

<u>Body 3: Education is effective in achieving microeconomic aim of allocative efficiency</u>

- The government can carry out anti-smoking campaigns via education in schools and TV advertisements to send out information to smokers and prospective smokers.
- As a result of the increase in awareness in external cost to third parties, this reduces the demand and therefore quantity transacted of cigarettes. It is considered to be effective in improve the allocation of resources as less cigarettes are being produced and consumed.

<u>Limitations of education</u>

- Depends on the effectiveness of the campaigns in changing the mind-sets of the smokers. Such a measure takes a long time and therefore it is difficult to see changes in the short run.

<u>Body 4: Legislation (ban on smoking in public places) is effective in achieving microeconomic aim of allocative efficiency</u>

- Singapore has imposed a ban on smoking in restaurants and other public places.

- It is considered to be effective in improve the allocation of resources as less cigarettes are being produced and consumed. *Limitations of legislation (ban on smoking in public places)* - However, the ban might not be effective after all. It really depends upon how the checks are conducted and whether the penalties are harsh enough to deter smoking at public places.
Overall Evaluative Conclusion: - *A mixture of market and non-market based policies* are required to bring about optimal outcomes on efficiency and equity due to the merits and limitations of each policy in achieving both microeconomic aims of efficiency and equity..

Levels	Description
L3 (9-11)	• EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. • EXCELLENT **depth** in economic analysis that reflects the following in **ALL** explanations. There was an accurate use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **ALL** explanations. The answer should also be supported by: • Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with **precision** (where appropriate). • **Relevant** examples and **accurate** use of facts. • **Logical** structure.
L2 (5-8)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). • Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. o May not have consider at least 2 sources of market failure in the market of cigarettes (negative externalities and imperfect information) o May not have consider at least 2 policies to solve these sources of market failure in the market of cigarettes o May not have consider at least the limitations of these 2 policies o May not have consider the microeconomic aims of efficiency OR equity ➢ INSUFFICIENT depth in economic analysis that may reflect the following: o Some explanation on at least 1 source of market failure in the market of cigarettes (negative externalities and imperfect information quity) o Some explanation on at least 1 policy to solve these sources of market failure in the market of cigarettes and at least 1 limitation in achieving efficiency ***OR*** equity ➢ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.

E2 (3-4)	• There is a good summative conclusion. • There is a synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Use of well-explained criteria-based evaluative comments supported by **accurate** and **clear** analysis to provide **fairness** in views to form a judgement.
E1 (1-2)	• Unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis.

(a)	Explain the main causes of inflation and how applicable they are in Singapore.	[10]
(b)	With reference to Singapore, discuss the extent to which supply side policies are effective in reducing excessive inflationary pressures.	[15]

(a) Explain the main causes of inflation and how applicable they are in Singapore. [10]

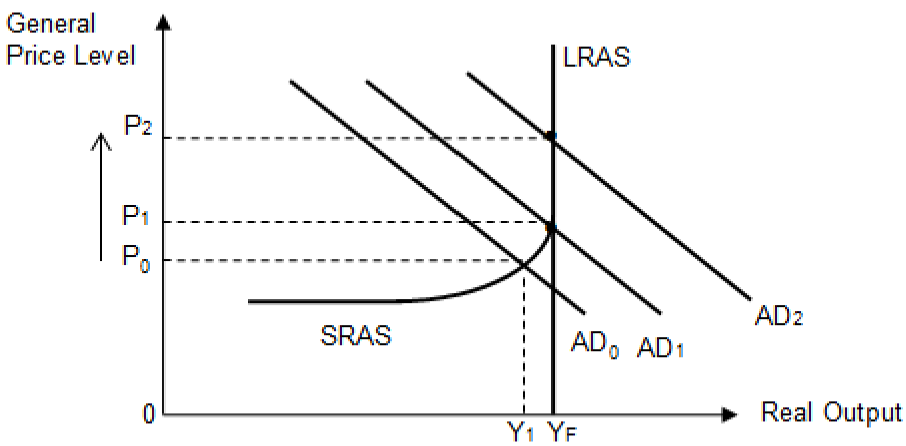
Introduction:

- Briefly explain the nature of Singapore's economy as a small, open economy where the country's inflationary pressure may stem from **domestic factors** but is largely influenced by changes in **external** demand and supply.

Body 1: Demand-Pull Inflation

- Demand-pull Inflation: an excess of aggregate demand in a period close to or at full employment.
- Demand-pull inflation could originate with an autonomous increase in the components of Aggregate Demand (AD) such as high export earnings (X)
- High export earnings due to increase in demand for **capital intensive goods.**
- The autonomous increase in aggregate demand shifts the aggregate demand curve rightwards.
- Demand-pull inflation, arising from high export earnings is a significant contributor to inflation in Singapore as the economy is operating near the full employment level of output (vertical AS)
- Explain why the increase in AD leads to rise in price level when economy is at or near full employment

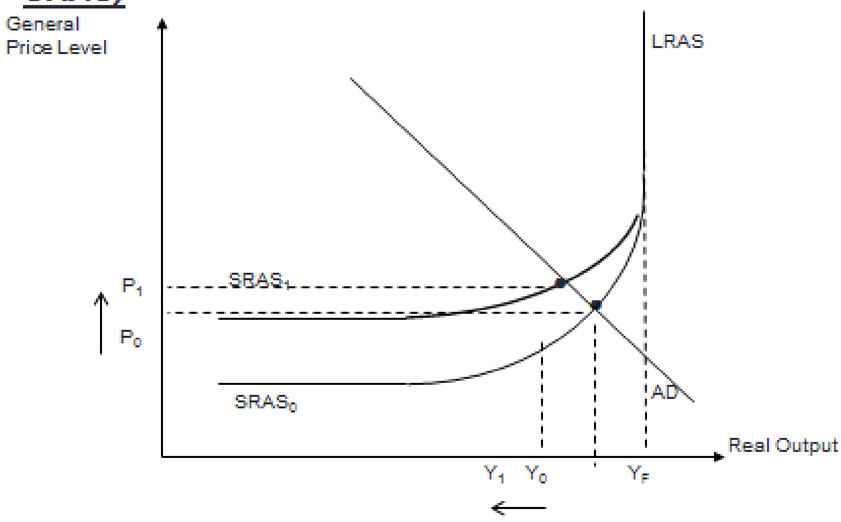
Figure 1: Demand-Pull Inflation



Body 2: Rising global commodity prices

- **Rising global commodity prices**, possibly as a result of increasing demand for commodities due to global recovery from the financial crisis and increasing affluence, will result in the prices of imported raw materials as well as imported basic necessities and this will lead **to high costs of production** in Singapore especially since SG is import reliant. (import price-push inflation leading to imported inflation)

Figure 2: Supply side or Cost-push Inflation ***(with a fall in SRAS)***



Levels	Description
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L2 (5-7)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). • Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. • *Only one DD-pull factor OR cost-push factor* ➢ INSUFFICIENT depth in economic analysis that may reflect the following: ➢ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of

	precision in the use of economic terminologies, language and phrasing.

(b) With reference to Singapore, discuss the extent to which supply side policies are effective in reducing excessive inflationary pressures. [15]

<u>*Introduction:*</u> - Inflation in Singapore is influenced by both internal and external pressures.
<u>*Body 1: Supply-side policies are effective*</u> - Supply-side policies to deal specifically with the increasing cost of labour (due to labour restrictions) can be carried out. - For instance, firms can be encouraged to substitute labour for capital as well as innovate to make use of labour-saving technology to reduce the use of labour as well as increasing labour productivity thus increasing SRAS and LRAS. - The measure will thus be able to deal with the inflationary pressure arising from the cost side of the market but will also help to increase productive capacity that will alleviate demand-pull inflation as well. <u>*Limitations:*</u> - Additional government spending is often needed. While government fiscal position is currently healthy and may be able to afford the spending, there is the question of the opportunity cost of spending the funds on subsidies that may be better spent elsewhere.
<u>*Currency appreciation*</u> - Singapore government traditionally resorts to the use of currency appreciation as a solution to reduce the excessive inflationary pressures in Singapore stemming from external sources. - <u>Briefly mention the effects of currency appreciation on imported inflation:</u> - <u>Explain the effects of currency appreciation on demand-pull inflation</u> - Singapore is a small and open economy and is vulnerable to changes in the international demand and supply conditions. An increase in external demand for our exports and increase in price in imported goods, services and factor of production will have significant impact on our price stability, creating excessive inflationary pressures given that the imports and exports made up more than 400% of our GDP. - Exchange rate appreciation in SG is easy to implement and is effective in reducing excessive inflationary pressures. <u>*Limitations:*</u> - There is a need for alternative economic policies that are appropriate to the causes of inflation, i.e. they deal with the root causes of inflation and are capable of reducing overall inflationary pressure on the economy.
<u>*Trade Policy*</u> - The signing of free trade agreements which will reduce/remove trade barriers for goods and services (e.g. in banking) and investment flows will result in the increase in the openness of the economy and diversification of trade links between Singapore and the rest of the world will help to alleviate inflationary pressures. <u>*Limitations*</u> - Signing an FTA tends to take a long time (years) in order to be concluded and thus the policy tends to be ineffective in the short-run and will not serve as a good solution in the short-run.
<u>*Overall Evaluative Conclusion:*</u> - Complementary nature of policies: The policies, differing in terms of their effectiveness at dealing with the different sources of inflation should thus be introduced together. - Root cause or source of the inflation – Excessive inflationary pressures most likely stems from external sources (excessive export earnings and imported inflation) rather than internal sources (wage increases).

Levels	Description
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L2 (5-8)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). • Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ May or may not consider the limitations of supply-side policies ➢ INSUFFICIENT depth in economic analysis that may reflect the following: ➢ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.

E2 (3-4)	• There is a good summative conclusion. • There is a synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Use of well-explained criteria-based evaluative comments supported by **accurate** and **clear** analysis to provide **fairness** in views to form a judgement.
E1 (1-2)	• Unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis.

NATIONAL JUNIOR COLLEGE
SH2 Preliminary Examinations for General Certificate of Education Advanced Level
Higher 1

ECONOMICS 8819/01

Paper 1 **28 August 2017**

3 hours

Additional Materials: Answer Paper, Cover Pages

READ THESE INSTRUCTIONS FIRST

Write your name and subject class on all the work you hand in.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, glue or correction fluid.
DO **NOT** WRITE IN ANY OF THE MARGINS.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Fill in the necessary information on the cover pages.

At the end of the examination, fasten all your work securely with the cover pages given.
The number of marks is given in brackets [ ] at the end of each question or part question.

NATIONAL JUNIOR COLLEGE
Economics Department

Section A

Answer **all** questions in this section.

Question 1

Challenges and Outlook of the Copper Market

Extract 1: Miners face challenge tapping copper opportunities

Both Rio Tinto and BHP Billiton, two of the world's top ten copper producers, believe the copper market is oversupplied now but will tighten from 2018, with growing deficits. Demand for copper is expected to be steady, given that it has a wide range of applications such as electrical wiring and pipes, and is forecast to be widely needed as China shifts towards more consumer-led growth.

But the complexity and expense of mining projects means the larger miners may not be in a position to generate a quick acceleration of copper output. Rio took a step forward in December to build Resolution, a US copper mine expected to be one of the world's largest. Rio owns 55% of the project, with BHP owning 45%. Yet obtaining all the permits for Resolution could easily take Rio another five to seven years.

Because receiving approval for mines is so laborious, Rio and others have walked away from some projects, even if the copper resources involved are substantial. Since 2013 Rio and Anglo American, another major mining company, have both given up on Pebble, a huge copper deposit in Alaska that is controversial for its potential effect on fisheries, for example.

Another challenge for miners is the expense involved in building mines. Glencore, another major copper miner, sold its Las Bambas project in 2014 to MMG, a subsidiary of China's Minmetals, for about $7 billion. MMG said in October that the remaining 25% of construction would cost between $2.7billion and $3.2 billion. BHP, which owns Olympic Dam, an Australian mine, abandoned an expansion plan in 2012 because of the likely cost.

Source: Adapted from: *The Financial Times*, James Wilson, 6 January 2015

Extract 2: The outlook for copper

The price of copper has fallen steadily in recent years. The sharp slowdown in industrial activity in China is disastrous for copper producers, since China consumes 45% of their output. Its attempt to shift from an investment-led economy to a consumer-led one has raised fears of a structural decline in the amount of copper it will need.

One recent disappointment has been the delay in the roll-out of electricity infrastructure in inland Chinese cities. Analysts at BHP say such infrastructure accounts for the biggest share of copper consumption in China. Yet a crackdown on corruption at state-run energy companies slowed the grid-laying projects during the first half of the year. What is more, China is increasingly using aluminium for its thick power-distribution cables, rather than copper – a cheaper option, even if aluminium is a poorer conductor and is more prone to corrosion.

Yet the outlook for China is not all pessimistic. As incomes increase, the "intensity" of copper use is likely to grow. Nascent industries such as wind and solar power and electric vehicles, all of which are copper-intensive, may also boost future demand.

Before then, supply must fall to balance the market. Some estimate that the industry will still churn out about 500,000 tonnes of excess copper this year. The oversupply will get worse: it takes several years to build a mine, so firms which had invested heavily in copper mines during the boom years now find their mines starting to come into operation. As a result big new increments of supply have hit the market in the past year or two, just at the wrong time. Glencore, one of the five largest mining companies in the world, announced last month that it would close mines in the Democratic Republic of Congo and Zambia, cutting supply by about 400,000 tonnes over 18 months – some 2% of the world's annual output. Besides Glencore, it is reported that other mines producing a further 170,000 tonnes a year have been idled so far this year.

But only the most expensive supplies are being removed from the market. Many firms are instead slashing costs to keep production going. The industry's fragmentation makes it unlikely that producers will agree to rein in output. Investment bank, Goldman Sachs, notes that the top five copper producers have about 35% of the market. While some firms are trying to cut output to reduce costs and stem the price slide, other firms are expanding their output to increase market share. In some cases, it is cheaper over the long run to keep mines running at a loss for a while, to maintain security and retain staff, rather than to close them down.

Within a few years, however, many analysts expect natural constraints to put a floor under prices. The quality of ore in copper mines decreased during the boom. Water shortages make copper more expensive to extract. Mine depletion in Chile and Peru has driven companies towards new deposits laced with arsenic that require costly cleaning. And workers and environmentalists increasingly raise their voices against lousy pay and deteriorating environmental conditions. Higher costs make it less likely copper production will increase, which should eventually help stabilise the market. Chinese demand may also be supplemented by growth in other emerging markets, such as India, which currently consumes just 2% of the world's copper.

Source: Adapted from: *The Economist*, 1 Oct 2015

Extract 3: Fed move adds to pressure on commodities

Prices of most commodities fell after the US Federal Reserve's decision to raise interest rates compounded their long term woes. Low interest rates had helped stoke the commodities boom as companies tapped cheap money to vastly expand production. Now commodities markets are suffering, with the interest rate hike adding to a multitude of industry-specific problems - a toxic combination of oversupply and weak demand from a slowing Chinese economy.

The biggest immediate effect of the Federal Reserve's decision to raise interest rates came through the strengthening US dollar. That makes internationally traded commodities from oil to copper, which are priced in US dollars, more expensive for holders of other currencies. But down the road, analysts foresee more pain from rising rates as companies struggle with increased financing costs and emerging market demand takes another hit. Investors fear that the Fed's rate increase might further sap demand from once insatiable emerging economies, such as India and China. Investors have already withdrawn a net $500 billion from emerging markets in 2015, the first annual outflow in decades, compounding falls in their currencies as capital leaves their shores and make commodities more expensive.

Source: Adapted from *The Wall Street Journal*, 17 December 2015

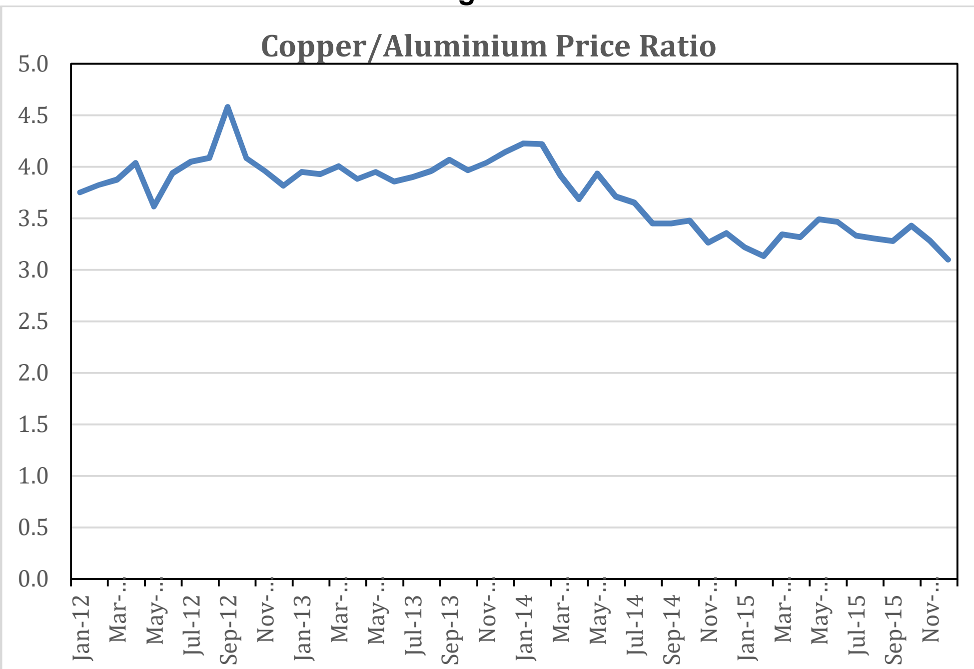
Extract 4: Village protest against dam built by copper miner in Chile

Black flags hang from the doors of the one-storey red brick houses in Caimanes, a village that lies in the hills north of Santiago on the course of the Pupio stream. The banners are the sign of a bitter environmental protest against a nearby dam, which holds waste from a copper mine -- one of Chile's largest -- high up in the Andes. Last November, a group of up to 150 villagers took matters into their own hands and blocked access to the dam, which was said to pollute the village's water supply and pose an environmental threat in case of flooding or an earthquake.

The battle between the people of Caimanes and the owner of the Los Pelambres mine has become a symbol of social change in Chile, which produces 30% of the world's copper. The government of Chile is committed to tackling inequality and as part of that is demanding higher standards from mine owners. But it is happening against a backdrop of slowing growth in China, the world's biggest copper market. Prices of the metal -- which makes up 13% of Chile's economic output and 50% of its exports -- fell to their lowest levels in five years just as the protesters kept guard outside the town. Copper mining made up 20% of the country's tax revenues in 2010 and employed some 1.1 million people in 2013. The shift in policy in Chile is being driven by a greater focus on the environment, in some cases, at the expense of economic growth and employment.

Source: Adapted from: *The Financial Times*, 27 April 2015

Figure 1



Source: London Metal Exchange

Questions

(a) Compare the price of copper relative to the price of aluminium over the period from September 2012 to November 2015. [2]

(b) With reference to Extract 2, and using a demand and supply diagram, explain why the price of copper "has fallen steadily in recent years". [6]

(c) With reference to the data, comment on the likely PED and PES values of copper. [4]

(d) Explain how the US Federal Reserve's decision to raise interest rates would affect the demand for copper in the world. [2]

(e) **(i)** Identify one demand factor and one supply factor that would affect the price of copper in the next 2 to 3 years. [2]

(ii) Suppose you are an analyst with an investment bank, justify your forecast for the price of copper in the next 2 to 3 years. [6]

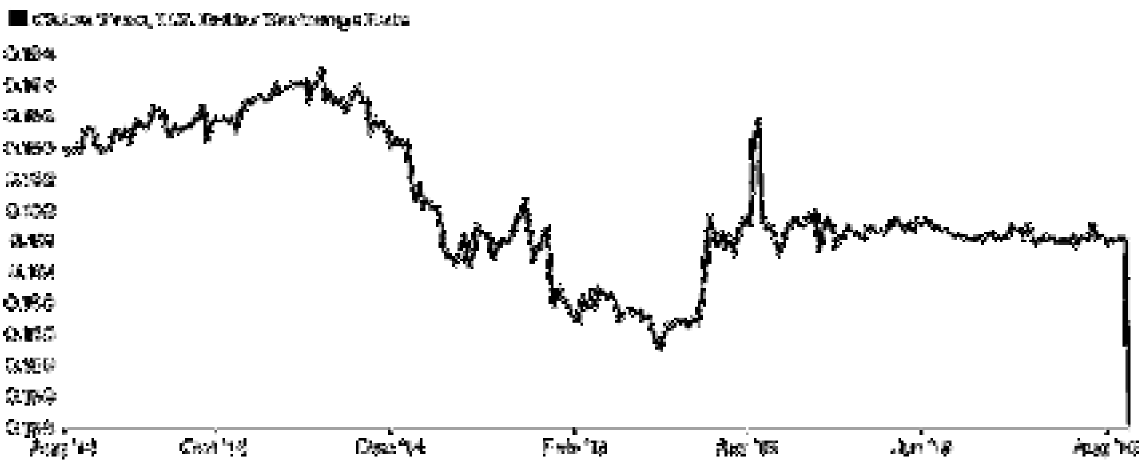
(f) Using economic analysis, discuss whether the government of Chile should intervene to restrict mine production in order to achieve its economic objectives. [8]

[Total: 30]

Question 2

A volatile world

Figure 2: US dollars to 1 China Yuan



Source: Bloomberg

Extract 5: China calls the shots in Asia's currency war

As fears of a global currency war grow, all eyes in Asia are on China's next move. "It's no longer inconceivable that China will go for a weaker currency," said Frederic Neumann, HSBC's co-head of Asian economics research.

The urgency with which Asian central banks are cutting interest rates is an indication of not just the deflationary forces they are seeing but also recognition that if China weakens the yuan, their policy options will be severely limited. Indonesia was the latest to surprise the world with an interest rate cut, joining Singapore, India and China, all of whom have unexpectedly eased monetary policy this year. Bank Indonesia's rate cut was in some ways a reminder of how critical China's yuan is to the region's policy making. The weakening of the Chinese Yuan, coupled with the potential rise of US interest rates could cause steep falls in the Asian currencies and a flight of foreign capital. Capital outflows can be destabilising, causing property prices to collapse further and trigger a vicious cycle of bad debts and defaults in the banking sector.

Deflationary pressures in China are stoking expectations that it could follow Japan and other European nations by easing policy to put a floor under domestic prices, he said. Such moves have triggered major weakening in the Japanese yen, euro and other currencies.

With most Asian countries either selling their exports to China or competing with the Chinese for a share of declining global demand, the race to have competitive currencies could become intense.

Still, analysts reckon things would get ugly only if China makes some kind of dramatic move, such as moving away from shadowing the dollar to tracking a broader basket of currencies. That could spark currency volatility and weakness and massive capital outflows.

"China's currency has become an anchor for the region and we just hope the Chinese will not throw the anchor overboard and cut everyone loose," said Neumann.

Source: Adapted from Vidya Ranganathan, *Reuters*, 19 February 2015

Extract 6: BRIC's huge impact on global sustainability

The world's four largest developing economies, Brazil, Russia, India and China (BRICs), have a huge impact on global sustainability. These four countries, with a combined population of 3 billion people and a GDP of $16 trillion, will have a huge direct impact on global emissions.

India's air pollution is not only far worse than any of the other BRICs, it is so intense that it is reducing plants' ability to photosynthesize sunlight, cutting crop yields in half. In addition, poverty and general lack of access to basic human needs has drawn the lion's share of attention. As a result, much of the sustainable development discussion in India has focused on inclusion and bringing the population into the 21st century. In 2014, Prime Minister Narendra Modi launched the Clean India Mission, aimed at providing access to improved sanitation, and cleanup of the River Ganges, among other targets. Corporations are also committing to invest in education for girls and adopting communities for cleanup.

Building green technology as India expands is one example of the leapfrogging potential that all developing economies can benefit from. For example, information technology company Infosys pioneered an effort to raise the profile of green building technologies among Indian firms. The resulting green building, which earned Leed Platinum certification, uses 38% less energy than its counterpart, and cost 1% less to build.

Source: Adapted from Matthew Weeland, *The Guardian*, 4 May 2015

Extract 7: China and Russia: the world's new superpower axis

Russia and China have lots in common apart from a 2,500-mile border- both economies are dominated by state-run firms and oligarchies.

Both countries share a desire to limit American power; they enjoy a burgeoning trade relationship in which, in essence, hydrocarbons are swapped for cheap consumer goods. Trade has increased sixfold over the past decade. Last year they trumpeted the biggest gas deal in history that was worth $400billion. During Chinese President Xi Jinping's visit to Moscow last month, the two leaders signed a decree on cooperation in tying the development of the Eurasian Economic Union (EAEU) with the "Silk Road Economic Belt" project. Moscow and Beijing declared a goal to coordinate the two projects in order to build a "common economic space" in Eurasia, including a Free Trade Agreement between the EAEU and China. The EAEU is a Russia-led trade bloc established in 2015. It currently has four members: Armenia, Belarus, Kazakhstan, and Russia.

"We are intensively working on combining these two projects and Russia's plans to expand its transport network in the east of the country," said Russian President Vladimir Putin.

China's President, Xi Jinping, has set his sights on a "new silk road", using China's billions to help neighbours and regional allies to develop, indirectly supporting growth at home and the expansion of Chinese soft power. Moscow is also hoping Beijing will help with finance for businesses, after western funds dried up last year. Some Chinese firms have seen the Russian economic wobble as an opportunity to make capital investments in the country.

Last year, China replaced Germany as Russia's biggest buyer of crude oil. "China is the major alternative market and is easily accessible for Russia given the location of energy reserves and the geopolitical partnership, so it's an obvious fit," said Grigory Birg, an analyst at Investcafe.

However, Russia's federal migration service is especially wary of an influx of Chinese migrants across the Russia-China border. It has stated that Chinese could become the largest ethnic group in Russia's far east by the 2020s or 2030s.

Source: Adapted from *The Guardian*, 7 July 2015 and *The BRICS Post*, 12 July 2015

Extract 8: China watches Greece

The European Union is China's largest trading partner. "China is ready to play a constructive role," said the Chinese premier when asked about Greece at a news conference. Already struggling to keep growth steady at home with enormous volatility on stock markets over recent days, China has a lot to lose from the uncertainties that surround the eurozone drama.

It is a major investor in Greek infrastructure, in euro bonds and in the EU economy as a whole. Chinese deals rose from $2 billion (£1.2bn) in 2010 to $18 billion in 2014, according to research by Baker & McKenzie and the Rhodium Group.

China's vision for Eurasia is its "one belt one road" strategy, a plan to wrap its own infrastructure and influence westward by land and by sea.

The land route is the most ambitious project to integrate continental Asia and Europe since Genghis Khan 800 years ago. And the sea route is a thread of Chinese ports and bases all the way from southern China through the Indian Ocean to the Horn of Africa and the Mediterranean.

Which is where Greece matters again. It is China's great southern gateway to Europe.

Source: Adapted from Carrie Gracie, *BBC News*, 30 June 2015

Questions

(a) What was the estimated change in the value of the US dollars in terms of China Yuan from November 2014 to August 2015. [2]

(b) **(i)** With reference to Extract 5, and using a diagram, explain the reason for the 'major weakening in the Japanese yen, euro and other currencies'. [3]

(ii) Comment on whether major weakening of the Japanese yen could improve its net exports. [5]

(c) Using AD-AS analysis, explain the impact of a 'flight of foreign capital' on Asian economies. [4]

(d) Discuss the relative usefulness of trade and supply side policies to generate economic growth for China. [6]

(e) **(i)** Explain the meaning of Standard of living. [2]

(ii) To what extent are the Indian and Russian governments' efforts likely to improve the welfare of the residents in their countries in the long term. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3. **(a)** Explain the main factors that determine price elasticity of demand of a demerit good such as cigarettes. [10]

(b) Discuss the extent to which the use of taxation in the market for cigarettes alone can be effective in achieving microeconomic objectives. [15]

4. **(a)** Explain the main causes of inflation and how applicable they are in Singapore. [10]

(b) With reference to Singapore, discuss the extent to which supply side policies are effective in reducing excessive inflationary pressures. [15]

CSQ1

<table>
<tr><td>(a)</td><td>Compare the price of copper relative to the price of aluminium over the period from September 2012 to November 2015. [2]</td></tr>
<tr><td></td><td>The price of copper has fallen relative to the price of aluminium. [1]
The price of copper is above that of aluminium throughout the period [1]</td></tr>
<tr><td>(b)</td><td>Using a demand and supply diagram, explain why the price of copper “has fallen steadily in recent years” (Extract 2). [6]</td></tr>
<tr><td></td><td>

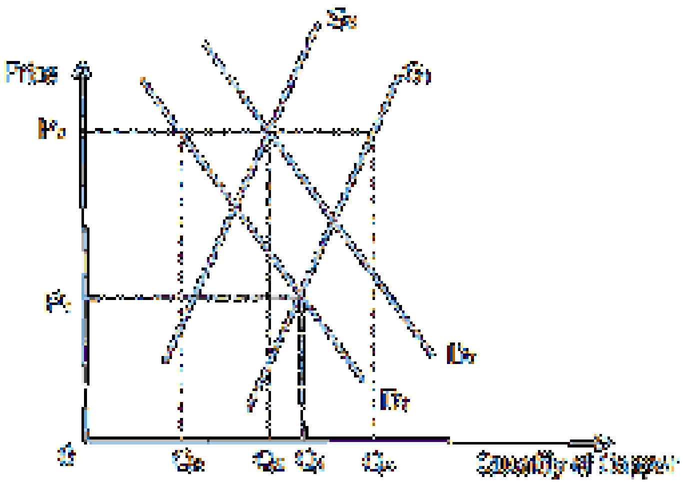
<u>Fall in Demand (2 marks)</u>

There is a fall in demand due to the slowdown in the Chinese economy. As mentioned in Extract 2, “sharp slowdown in industrial activity in China is disastrous for copper producers.” Copper is used in the construction of electricity infrastructure As China consumes 45% of the copper output, it has a significant impact on the demand for copper in the world market.

<u>Increase in Supply (2 marks)</u>

There is an increase in supply as more mines have entered the market. This has resulted in the increase in supply of copper in the past 1-2 years.

Figure 1



The fall in demand and increase in supply resulted in a surplus of copper of Q_3Q_4 at the original price of P_0 in the market. This created downward pressure on the price of copper, as producers reduced price in order to sell their excess stocks. As prices fall, the quantity demanded for copper increased, resulting in a new equilibrium at a lower price of P_1.

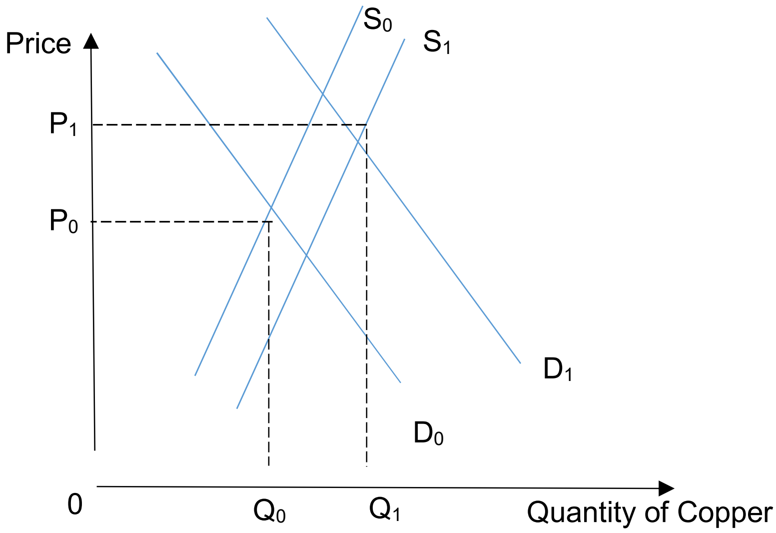
</td></tr>
<tr><td>(c)</td><td>With reference to the data, analyse the likely PED and PES values of copper. [4]</td></tr>
<tr><td></td><td>

- The price-elasticity of demand for copper is likely to be low, as it is a raw material required in many products such as electrical wiring, cables and pipes, electric cars and wind and solar power generation, and thus has high degree of necessity. There is also a lack of close substitutes as copper has high electrical conductivity, ductility and resistance to corrosion.
- The supply of copper is likely to be relative price inelastic. This is because of the fact that it takes several years to build a mine, as mentioned in Extract 2. Moreover, the laborious approval process for new mines and the high costs of building mines are significant barriers to entry which make it more difficult for new mines to be set up to increase output. Hence, it takes a relatively long time to increase the supply of copper.

</td></tr>
<tr><td>(d)</td><td>Explain how the US Federal Reserve’s decision to raise interest rates would affect the demand for</td></tr>
</table>

	copper in the world. [2]
	The increase in interest rate would <u>attract short-term capital inflow</u> into the US. This increases the demand for US dollars and results in the strengthening of the US dollar. [1 mark] The appreciation of the US dollar makes copper, which is priced in US dollar, more expensive to other countries buying copper. This would result in a fall in demand for copper (priced in US dollar). [1 mark]
(ei)	Identify one demand factor and one supply factor that would affect the price of copper in the next 2 to 3 years. [2]
	Demand Factors (Any one) • Positive economic outlook of China and other emerging economies • More uses for copper Supply Factors (Any one) • Increase in the cost of producing copper • Concern for the environment
(eii)	Suppose you are an analyst with an investment bank, justify your forecast for the price of copper in the next 2 to 3 years. [6]
	Demand factors • One key demand factor is the economic outlook of China and other emerging economies. If the China economy recovers from its slowdown, there will be an increase in industrial activity as well as demand for consumer goods. The demand for copper for electrical wiring and cables will increase. Moreover, as mentioned in Extract 2, "Chinese demand may also be supplemented by growth in other emerging markets, such as India." If other emerging economies such as India experience higher economic growth, they will also increase their demand for copper for various infrastructure projects. • Another demand factor is the uses of copper. (This may be linked to technology advancement and innovation). With changes in technology and new products being developed, there could be more uses for copper. For example, it is mentioned that new industries such as wind and solar power and electric cars are copper-intensive. Such new industries and products would increase the demand for copper. **Supply factors** • A key supply factor is the cost of production. As mentioned in Extract 2, water shortages are making copper more expensive to extract, and depletion of mines have driven companies to new copper deposits laced with arsenic which require costly cleaning. In addition, workers are also demanding higher wage increases. The increase in the various costs of producing copper could lead to a fall in supply in future. • Another factor affecting the supply of copper is the concern for the environment. As mentioned in Extract 2, people are becoming more vocal about their environmental concerns as copper production is seen to cause deteriorating environmental conditions. In Extract 3, it is also reported that villagers in Chile protested against a dam used to hold waste from a copper mine, which was said to cause pollution of their water supply. Such environmental concerns could result in more restrictions being imposed on copper production or governments withholding approval or permits for mines to be built, leading to a fall in supply.

Figure 2



(Conclusion)

- As discussed above, the demand for copper can be expected to increase in the next 2-3 years as the Chinese economy recovers and emerging economies continue to grow at a faster pace. More use of copper is also likely to intensify, as new products such as electric cars requiring the use of copper are developed and gain in popularity.
- Overall, the expected increase in demand is likely to outstrip the growth in supply, as shown in Fig 2, causing the price of copper to rise in the next 2-3 years.

Mark Scheme

Level	Descriptors
Level 2 **3-4**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ EXCELLENT **depth** in economic analysis that reflects the following in ALL explanations. • **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples and **accurate** use of facts. ➢ **Logical** structure.

Level	Descriptors
Level 1 **1-2**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. The answer should also be supported by: ➢ Example(s). ➢ **Logical** structure.

Level	Descriptors
E2 **2**	For an evaluation that contains • A **clear judgement** on the price forecast for the next 2-3 years • **Good justification** of the price forecast **supported by analysis**
E1 **1**	For an evaluation that contains • Relevant judgement on the price forecast for the next 2-3 years. • Justification of the forecast may lack **depth, clarity, and logic**.

(f) Using economic analysis, discuss whether the government of Chile should intervene to restrict mine production in order to achieve its economic objectives. [8]

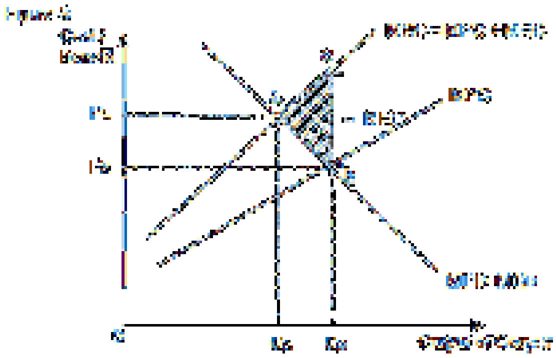
Introduction:

- A government's economic objectives include the 4 macroeconomic objectives of sustained economic growth, low inflation, low unemployment and healthy balance of payments, as well as the microeconomic objectives of efficiency and social welfare.

Thesis:

Explain the need for government intervention to correct market failure of negative externalities and achieve the economic objectives of allocative efficiency and welfare

- Mine production results in deterioration of environmental conditions which affect third parties such as villagers in the nearby community. For example, the building of a dam to hold the waste from a copper mine in Chile led to pollution of the water supply of a nearby village, and led to protest by the villagers. Such third party effects known as negative externalities impose an external cost to society, resulting in a divergence between the marginal private cost (MPC) and the marginal social cost (MSC) of producing copper.
- Referring to Figure 3, the free market equilibrium output is Q_M where the marginal private cost is equal to marginal private benefit (MPC=MPB). Assuming no positive externality, the marginal private benefit is also the marginal social benefit (MPB=MSB). Due to the divergence between MSC and MPC, the social optimal output is Q_S where MSB=MSC. Hence, there is an overproduction of Q_SQ_M of copper.
- The additional cost to society of producing Q_SQ_M is Q_ScaQ_M while the additional benefit of producing Q_SQ_M is Q_ScbQ_M. This results in a deadweight loss of abc, representing a net welfare loss to society.
- The government should therefore intervene to restrict output to Q_S in order to achieve allocative efficiency and maximise the welfare to society.

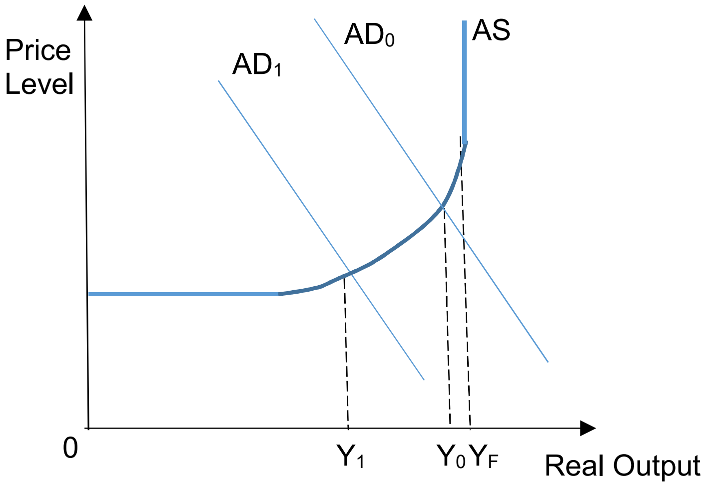


Anti-thesis:

Explain that restricting mine production could conflict with the macroeconomic objectives of economic growth and low unemployment

- Chile is highly dependent on copper production, which accounts for 13% of Chile's economic output and 50% of its exports.
- Restricting mine production could mean a significant reduction of Chile's GDP as its export of its copper will be reduced. This means a fall in Chile's export revenue, which will lead to a fall in AD and a worsening of the balance of trade, ceteris paribus.
- The fall in AD will cause a more than proportionate fall in real output and national income via the reverse multiplier effect, thus conflicting with the macroeconomic objective of sustained economic growth. As shown in Fig 4, the fall in AD due to a decrease in (X-M) would result in a fall in real output from Y_0 to Y_1.

Figure 4



Conclusion:

- It can be seen from the above discussion that there is a conflict between different economic objectives if the government of Chile were to restrict mine production.
- In the context of Chile, the importance of mine production to the Chilean economy means that the negative consequences of unemployment and economic decline may outweigh the benefits of allocative efficiency. It could be argued that priority should first be given to the material well-being of the population by ensuring they are employed and earning an income (in view of the inequality and poverty that exists in Chile), before the government takes into consideration the non-material aspect of standard of living such as the environment.

Mark Scheme

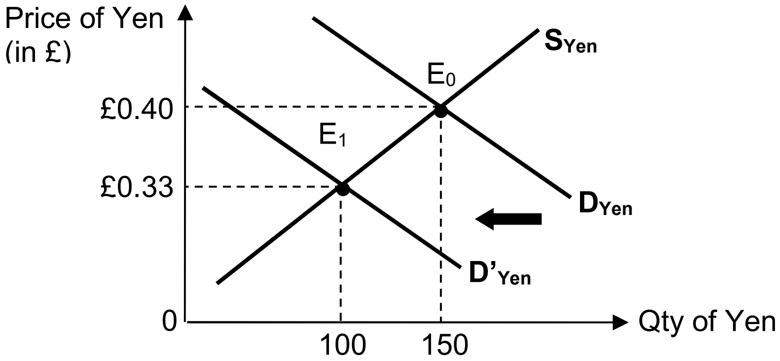
Level	Descriptors

Level 2 **4-6**	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. ✓ **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples in context and **accurate** use of facts. ➢ **Logical** structure.
Level 1 **1 – 3**	For an answer that demonstrates some knowledge but lacks understanding, application and analysis: ➢ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT **depth** in economic analysis that may reflect the following: ✓ May lack **accurate** use of economic concepts, clear elaboration, and precise use of economic terminologies, language and phrasing.

Level	**Descriptors**
E2 **2**	For an evaluation that contains • A synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Evaluative comments supported by **accurate, logical** and **clear** analysis • The use of context to arrive at the conclusion is evident.
E1 **1**	For an evaluation that contains • **Relevant** judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. • Comment (s) may lack **depth, clarity, and logic**.

[Total: 30]

CSQ2

(a)	**What was the estimated change in the value of the US dollars in terms of China Yuan from November 2014 to August 2015.**	**[2]**
	The US dollar generally appreciated against the Yuan (1m), by approximately 3.6% (1m).	
(bi)	**With the aid of a diagram, explain the reason for the 'major weakening in the Japanese yen, euro and other currencies (Extract 1)'.**	**[3]**
	• Easing of Monetary policy in extract 1 implies that there is a fall in interest rates of the country. • This leads to short term capital outflow, leading to an increase in supply for the country's currency which will result in depreciation of the currency. Weakening of the Japanese yen  	
(bii)	**Comment on whether the major weakening of the Japanese yen could improve its net exports.**	**[5]**
	• Exports: Depreciation of Japanese yen means that exports in foreign currency becomes cheaper and hence demand for exports will increase, resulting in increase in export revenue • Marshall Learner Condition: Since M-L condition of IPEDx + PEDml >1, net exports increases for Japan • Major countries are facing a fall in the value of currency and with most Asian countries either selling their exports to China or competing with the Chinese for a share of declining global demand, the weakening in Jap Yen may not give Jap exports a competitive edge in terms of export price competitiveness, this means that export revenue may not increase significantly.	
(c)	**Using AD-AS analysis, explain the impact of a 'flight of foreign capital' on Asian economies.**	**[4]**
	• Capital outflows are destabilizing as 'it could lead to bad defaults in the banking sector', leading to fall in investments • Hence, there will be a decrease in AD • National income falls, hurting economic growth and decreasing employment	
(d)	**Discuss the relative usefulness of trade and supply side policies to generate economic growth for China.**	**[6]**
	Introduction Economic growth refers to both actual and potential economic growth. China embarked on different strategies but these policies have its usefulness, but some may be more useful given the context and nature of China's economy. **Body** **Trade and Globalisation policies**	

- China and Russia has declared a goal to coordinate the two projects in order to build a "common economic space" in Eurasia, including a Free Trade Agreement between the EAEU and China. Assuming that PED for China's exports is price elastic, there will be a more than proportionate increase in the quantity demanded for China's exports and agan leading to an increase in export revenues. .
- China is also actively investing overseas. Some Chinese firms have seen the Russian economic wobble as an opportunity to make capital investments in the country. Having a wider market allows for substantial economies of scale to be enjoyed and the cost savings can be passed down in terms of lowered prices of Chinese goods, boosting exports for China, ceteris paribus.

Supply side policies

- Chinese government is actively and directly intervening to **development China's infrastructure with other nations**.
- This will allow for greater flow of trade, increasing China's export revenue and actual economic growth.
- The cost of obtaining raw materials may also be lowered due to cheaper imports coming into China, hence reducing imported inflation and cost push inflation, leading to increase of SRAS and hence NY increases.

Evaluative Conclusion

- In conclusion, the trade and supply side strategies have its usefulness and its shortcomings.

Mark Scheme

Level	Descriptors
Level 2 3-4	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples and **accurate** use of facts. ➢ **Logical** structure.
Level 1 1-2	For an answer that demonstrates knowledge, understanding, application and analysis: • INSUFFICIENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. • INSUFFICIENT **depth** in economic analysis that reflects the following in ALL explanations. **May lack accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. • The answer should also be supported by:

	✓ Diagram(s) that may not be well-labelled may not be well-referred to and may not be drawn with precision (where appropriate). ✓ Example(s). ✓ **Logical** structure.

Level	*Descriptors*
E2 **2**	For an evaluation that contains • A synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Evaluative comments supported by **accurate, logical** and **clear** analysis • The use of context to arrive at the conclusion is evident.
E1 **1**	For an evaluation that contains • **Relevant** judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. • Comment (s) may lack **depth, clarity, and logic**.

(ei)	**Explain the meaning of Standard of living.**	**[2]**
	Standard of Living comprised of both material and non-material SOL.	
(eii)	**To what extent are the Indian and Russian governments' efforts likely to improve the welfare of the residents in their countries in the long term.**	**[8]**

Introduction

- The Indian and Russian governments have certain efforts to improve the standard of living of their residents. The efforts could lead to improvements in both the material and non-material standard of living in the long term but there could be certain drawbacks of their efforts.

Body

Thesis: Indian and Russian governments' efforts are likely to improve the welfare of the residents in the long term

India:

- India is facing severe air pollution to the extent that crops are affected by the lack of sunlight..
- Hence, the governments' efforts of raising the profile of green building technologies among Indian firms to lessen air pollution will allow crops to survive, allowing farmers/producers to earn and be employed, thus improving their material and non-material SOL in the long term.
- In addition, the Indian government is also embarking on inclusive growth strategy of advocating education for girls in India. This allows them to earn an income and be employed in future, improving both their material and non-material aspect of SOL in the long run.

Russia:

- China and Russian have signed a decree on cooperation in tying the development of the Eurasian Economic Union (EAEU) with the "Silk Road Economic Belt" project.
- With more opportunities for trade for Russia, this will allow them to export more of the Russian goods to China and EAEU. Hence, with the increase in net exports (X-M) and investments (I), it will lead to AD increasing and national income increasing via the multiplier effect.

Anti-thesis:

- India: Government spending will have to increase for the various efforts by the government such as education, reducing poverty and improving sanitation. This may affect the SOL of Indian residents in the long term as less could be spent on them in future.

- Russia: Being open to trade and investments makes Russia more vulnerable to external conditions.

Conclusion

- While there are shortcomings of the governments' efforts, both Indian and Russians will benefit in the long term due to the far-reaching effects of education, technology transfers, investments and trade on the SOL of their residents.

Mark Scheme

Level	Descriptors
Level 2 4-6	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ EXCELLENT **depth** in economic analysis that reflects the following in ALL explanations. **Accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing. The answer should also be supported by: ➢ Well-labelled and well-referred to diagram(s) drawn with **precision** (where appropriate). ➢ **Relevant** examples and **accurate** use of facts. ➢ **Logical** structure.
Level 1 1-3	For an answer that demonstrates knowledge, understanding, application and analysis: ➢ GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. ➢ GOOD **depth** in economic analysis that reflects the following in ALL explanations. The answer should also be supported by: ➢ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). ➢ Example(s). ➢ **Logical** structure.

Level	Descriptors
E2 2	For an evaluation that contains • Evaluative comments supported by **accurate, logical** and **clear** analysis • The use of context to arrive at the conclusion is evident.
E1 1	For an evaluation that contains • **Relevant** judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments. • Comment (s) may lack **depth, clarity, and logic**.

(a) Explain the main factors that determine price elasticity of demand of a demerit good such as cigarettes. [15]

<u>Introduction:</u> - Price Elasticity of Demand (PED) measures the degree of responsiveness of the quantity demanded of a good to a change in its price, ceteris paribus. PED thus measures the extent of movement along a given demand curve.
<u>Body 1: Availability and closeness of Substitutes</u> - For a demerit good like cigarettes, there is no availability of close substitute. Substitutes such as nicotine replacement products such as nicotine patches or gum are not able to replace smokers' physical habit of hand to hand holding and puffing of cigarettes. Smokers in general feel like there is something missing once they begin to cut down on smoking. - Hence, the demand for cigarettes in general is deemed to be relatively price inelastic for consumers.
<u>Body 2: Proportion of income spent on the product</u> - The demand for cigarettes tends to be relatively price inelastic especially for consumers in rich countries as compared to poor countries as it forms a lower proportion of their income spent on cigarettes. - However, for a demerit good such as gambling in SG, the $100 admission price could be considered a high proportion of income for average Singaporeans. This could mean that the demand for gambling to be relatively fewer price inelastic as compared to cigarettes.
<u>Body 3: Degree of necessity/ Tastes and Preferences</u> - Cigarettes may be viewed as one with a high degree of need as it is highly addictive; people must buy cigarettes to consume even if the prices increase. - Hence, the demand for cigarettes tends to be relatively price inelastic especially for consumers in poor countries as compared to rich countries as cigarettes are treated as necessities of every-day life.
<u>Conclusion:</u> - In general, demerit goods such as cigarettes, alcohol and gambling are considered to be price inelastic in demand although the value could vary among the demerit goods.

Levels	Description
L3 (8-10)	• EXCELLENT **<u>breadth</u>** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **<u>relevance</u>** and **<u>significance</u>** in answering the question. • EXCELLENT **<u>depth</u>** in economic analysis that reflects the following in **ALL** explanations. There was an accurate use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **ALL** explanations. The answer should also be supported by: • Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with **precision** (where appropriate). • **Relevant** examples and **accurate** use of facts. • **Logical** structure.
L2 (5-7)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate).

	• Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ INSUFFICIENT depth in economic analysis that may reflect the following: • Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.

(b) Discuss the extent to which the use of taxation in the market for cigarettes alone can be effective in achieving microeconomic objectives.

Introduction:

- Demerit goods are goods and services, which consumption is considered to be socially undesirable, usually possess negative externalities and that the government feels people will overconsume, possibly due to information failure on the true costs the good imposes.
- Define indirect tax: A sales tax, a specific tax, value added tax (VAT), or goods and services tax (GST)) collected by an intermediary (such as a retail store) from the consumers who bear the ultimate economic burden of the tax.

Body 1: Use of Taxation is effective in achieving micro aims

- Negative externalities are spillover costs on 3rd parties who are not directly involved in the production or consumption of the good.
- Consumption of cigarettes is deemed to have negative externalities. Identify the MPB and MPC of smoking cigarettes. MPB includes the benefits to the individual from the utility derived from smoking. This will enable smokers the ability to work normally. MPC includes the cost of purchasing cigarettes.
- Identify MEC: MEC is the external cost on 3rd parties such passive-smokers who need to incur additional healthcare costs due to breathing difficulties.
- Explain that individuals, acting in pursuit of their self-interest, disregard the external cost and in consequence consume only up to Q_P, a case of over-consumption. Qp (MPB=MPC) is the private output maximizing utility of private individuals while Qs (MSB=MSC) is the socially desired output maximizing welfare of society. The fact that Q_PQ_S was over-consumed results in the additional benefit to society (QsQpac) be less than additional cost to society (QsQpbc). The over-consumption results a welfare loss or deadweight loss of area *abc*.

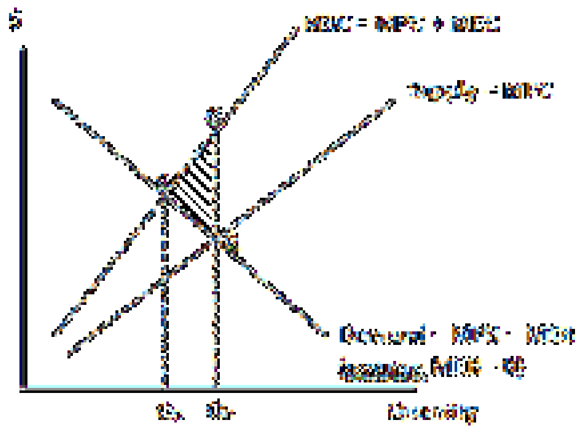


Figure 1: Over-consumption of goods with negative externalities

<u>Taxation can correct the market failure resulting from the existence of negative externality</u>

- Imposition of indirect tax to force consumers of cigarettes to internalise the 3rd parties cost. When faced with negative externalities, a government may choose to impose an indirect specific tax that is equivalent to the value of the marginal external costs generated at the socially optimum level of output, given by the divergence between MSC and MPC_0 at Q_s. The cost that was previously 'external' to the firm, through the indirect tax, now becomes part of the firm's private cost, aligning MPC with MSC. In other words, the pigouvian tax gets firms to "internalise" the external cost.

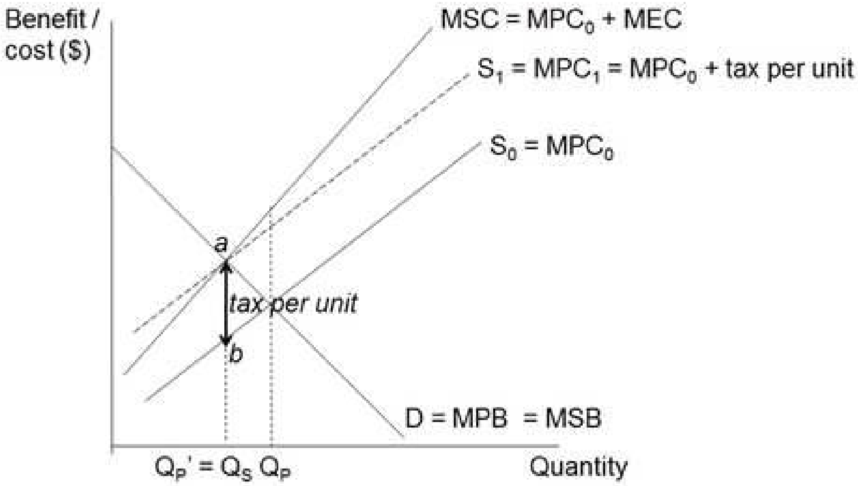


Figure 2 Indirect tax to correct negative externality

- In Figure above, an indirect specific tax equal to *ab* per unit of output will increase the firm's marginal cost, shifting the marginal private costs (MPC) upwards to MPC_1. The new private optimum level of output occurs at Q_P' where MPC_1 = MPB, down from the original private equilibrium output Q_P where MPC_0 = MPB. Notice that the new private optimal output Q_P', MSC = MSB. In other words, by taxing an amount equivalent to the MEC at Q_S, the pigouvian tax aligns firms' marginal private cost with the marginal social cost. Faced with the full cost of production, the firm will therefore cut back its production to the socially optimal level.

Taxation can correct the market failure resulting from the existence of equity

- Government can also improve the equity of outcomes thru indirect taxation via the redistribution of income. The government is able to use the tax revenue to fund transfer payment schemes such as GST voucher or low wage supplements for the lower-income Singaporeans..

Body 2: Limitations in the use of taxation in achieving micro aims

- It is difficult for the government to correctly estimate the amount of indirect tax to be imposed on smokers. It is difficult to quantify the negative externalities. Negative externalities are un-priced effect. The indirect tax imposed might be too much or too little to correct the negative externality. The problem of too little indirect tax being levied is the problem of over-consumption remains and DWL remains unsolved.

Body 3: Education is effective in achieving microeconomic aim of allocative efficiency

- The government can carry out anti-smoking campaigns via education in schools and TV advertisements to send out information to smokers and prospective smokers.
- As a result of the increase in awareness in external cost to third parties, this reduces the demand and therefore quantity transacted of cigarettes. It is considered to be effective in improve the allocation of resources as less cigarettes are being produced and consumed.

Limitations of education

- Depends on the effectiveness of the campaigns in changing the mind-sets of the smokers. Such a measure takes a long time and therefore it is difficult to see changes in the short run.

Body 4: Legislation (ban on smoking in public places) is effective in achieving microeconomic aim of allocative efficiency

- Singapore has imposed a ban on smoking in restaurants and other public places.

- It is considered to be effective in improve the allocation of resources as less cigarettes are being produced and consumed. *Limitations of legislation (ban on smoking in public places)* - However, the ban might not be effective after all. It really depends upon how the checks are conducted and whether the penalties are harsh enough to deter smoking at public places.
Overall Evaluative Conclusion: - *A mixture of market and non-market based policies* are required to bring about optimal outcomes on efficiency and equity due to the merits and limitations of each policy in achieving both microeconomic aims of efficiency and equity..

Levels	Description
L3 (9-11)	• EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. • EXCELLENT **depth** in economic analysis that reflects the following in **ALL** explanations. There was an accurate use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **ALL** explanations. The answer should also be supported by: • Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with **precision** (where appropriate). • **Relevant** examples and **accurate** use of facts. • **Logical** structure.
L2 (5-8)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). • Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. o May not have consider at least 2 sources of market failure in the market of cigarettes (negative externalities and imperfect information) o May not have consider at least 2 policies to solve these sources of market failure in the market of cigarettes o May not have consider at least the limitations of these 2 policies o May not have consider the microeconomic aims of efficiency OR equity ➢ INSUFFICIENT depth in economic analysis that may reflect the following: o Some explanation on at least 1 source of market failure in the market of cigarettes (negative externalities and imperfect information quity) o Some explanation on at least 1 policy to solve these sources of market failure in the market of cigarettes and at least 1 limitation in achieving efficiency ***OR*** equity ➢ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.

E2 (3-4)	• There is a good summative conclusion. • There is a synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Use of well-explained criteria-based evaluative comments supported by **accurate** and **clear** analysis to provide **fairness** in views to form a judgement.
E1 (1-2)	• Unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis.

(a)	Explain the main causes of inflation and how applicable they are in Singapore.	[10]
(b)	With reference to Singapore, discuss the extent to which supply side policies are effective in reducing excessive inflationary pressures.	[15]

(a) Explain the main causes of inflation and how applicable they are in Singapore. [10]

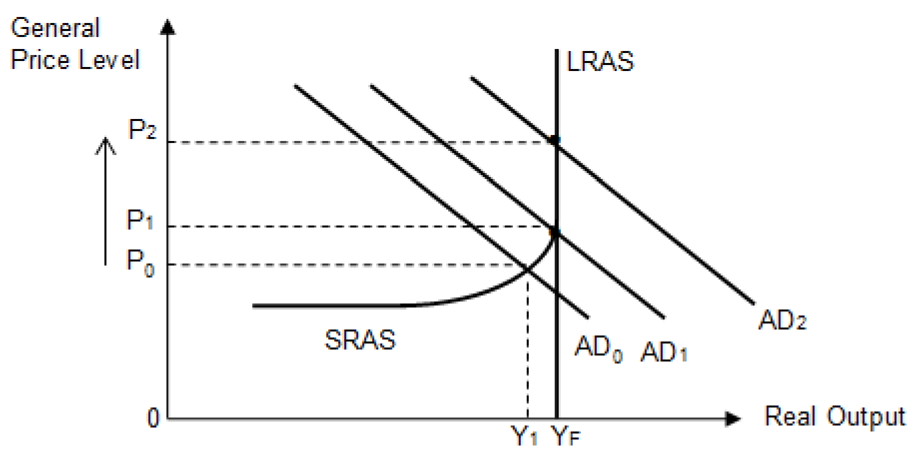
Introduction:

- Briefly explain the nature of Singapore's economy as a small, open economy where the country's inflationary pressure may stem from **domestic factors** but is largely influenced by changes in **external** demand and supply.

Body 1: Demand-Pull Inflation

- Demand-pull Inflation: an excess of aggregate demand in a period close to or at full employment.
- Demand-pull inflation could originate with an autonomous increase in the components of Aggregate Demand (AD) such as high export earnings (X)
- High export earnings due to increase in demand for **capital intensive goods.**
- The autonomous increase in aggregate demand shifts the aggregate demand curve rightwards.
- Demand-pull inflation, arising from high export earnings is a significant contributor to inflation in Singapore as the economy is operating near the full employment level of output (vertical AS)
- Explain why the increase in AD leads to rise in price level when economy is at or near full employment

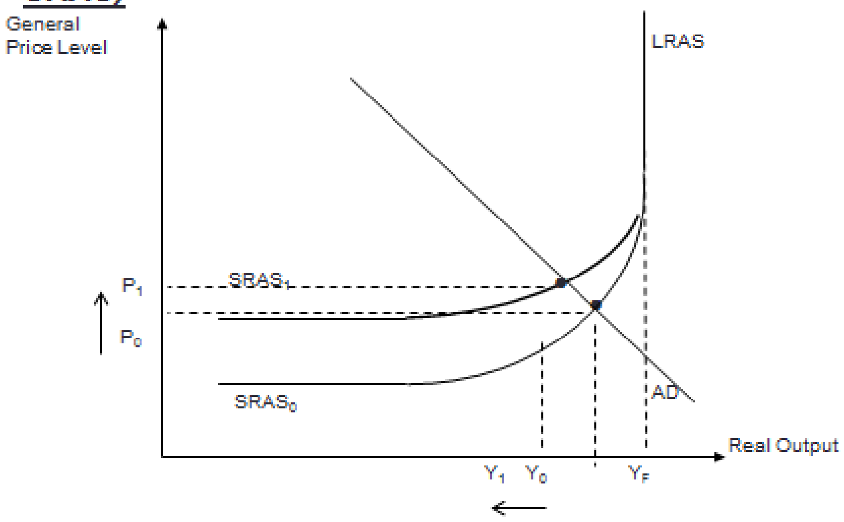
Figure 1: Demand-Pull Inflation



Body 2: Rising global commodity prices

- **Rising global commodity prices**, possibly as a result of increasing demand for commodities due to global recovery from the financial crisis and increasing affluence, will result in the prices of imported raw materials as well as imported basic necessities and this will lead **to high costs of production** in Singapore especially since SG is import reliant. (import price-push inflation leading to imported inflation)

Figure 2: Supply side or Cost-push Inflation ***(with a fall in SRAS)***



Levels	Description
L3 (8-10)	• EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. • EXCELLENT **depth** in economic analysis that reflects the following in **ALL** explanations. There was an accurate use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **ALL** explanations. The answer should also be supported by: • Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with **precision** (where appropriate). • **Relevant** examples and **accurate** use of facts. • **Logical** structure.
L2 (5-7)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). • Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. • *Only one DD-pull factor OR cost-push factor* ➢ INSUFFICIENT depth in economic analysis that may reflect the following: ➢ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of

	precision in the use of economic terminologies, language and phrasing.

(b) With reference to Singapore, discuss the extent to which supply side policies are effective in reducing excessive inflationary pressures. [15]

Introduction: - Inflation in Singapore is influenced by both internal and external pressures.
Body 1: Supply-side policies are effective - Supply-side policies to deal specifically with the increasing cost of labour (due to labour restrictions) can be carried out. - For instance, firms can be encouraged to substitute labour for capital as well as innovate to make use of labour-saving technology to reduce the use of labour as well as increasing labour productivity thus increasing SRAS and LRAS. - The measure will thus be able to deal with the inflationary pressure arising from the cost side of the market but will also help to increase productive capacity that will alleviate demand-pull inflation as well. *Limitations:* - Additional government spending is often needed. While government fiscal position is currently healthy and may be able to afford the spending, there is the question of the opportunity cost of spending the funds on subsidies that may be better spent elsewhere.
Currency appreciation - Singapore government traditionally resorts to the use of currency appreciation as a solution to reduce the excessive inflationary pressures in Singapore stemming from external sources. - Briefly mention the effects of currency appreciation on imported inflation: - Explain the effects of currency appreciation on demand-pull inflation - Singapore is a small and open economy and is vulnerable to changes in the international demand and supply conditions. An increase in external demand for our exports and increase in price in imported goods, services and factor of production will have significant impact on our price stability, creating excessive inflationary pressures given that the imports and exports made up more than 400% of our GDP. - Exchange rate appreciation in SG is easy to implement and is effective in reducing excessive inflationary pressures. *Limitations:* - There is a need for alternative economic policies that are appropriate to the causes of inflation, i.e. they deal with the root causes of inflation and are capable of reducing overall inflationary pressure on the economy.
Trade Policy - The signing of free trade agreements which will reduce/remove trade barriers for goods and services (e.g. in banking) and investment flows will result in the increase in the openness of the economy and diversification of trade links between Singapore and the rest of the world will help to alleviate inflationary pressures. *Limitations* - Signing an FTA tends to take a long time (years) in order to be concluded and thus the policy tends to be ineffective in the short-run and will not serve as a good solution in the short-run.
Overall Evaluative Conclusion: - Complementary nature of policies: The policies, differing in terms of their effectiveness at dealing with the different sources of inflation should thus be introduced together. - Root cause or source of the inflation – Excessive inflationary pressures most likely stems from external sources (excessive export earnings and imported inflation) rather than internal sources (wage increases).

Levels	Description
L3 (9-11)	• EXCELLENT **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of **relevance** and **significance** in answering the question. • EXCELLENT **depth** in economic analysis that reflects the following in **ALL** explanations. There was an accurate use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **ALL** explanations. The answer should also be supported by: • Well-labelled and well-referred to diagram(s) / tool(s) of analysis drawn with **precision** (where appropriate). • **Relevant** examples and **accurate** use of facts. • **Logical** structure.
L2 (5-8)	• GOOD **breadth** that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. MOST points chosen should be of **relevance** and **significance** in answering the question. • GOOD **depth** in economic analysis that reflects the following in **MOST** explanations. There an **accurate** use of economic concepts, **clear** elaboration, and **precise** use of economic terminologies, language and phrasing in **most** explanations. The answer should also be supported by: • Diagram(s) / Tool(s) of analysis that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate). • Example(s). • **Logical** structure.
L1 (1-4)	➢ INSUFFICIENT **breadth** that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. ➢ May or may not consider the limitations of supply-side policies ➢ INSUFFICIENT depth in economic analysis that may reflect the following: ➢ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.

E2 (3-4)	• There is a good summative conclusion. • There is a synthesis of earlier economic arguments to arrive at **relevant** judgements/decisions (i.e. answer the question). • Use of well-explained criteria-based evaluative comments supported by **accurate** and **clear** analysis to provide **fairness** in views to form a judgement.
E1 (1-2)	• Unexplained evaluative judgement(s)/statement(s) i.e. evaluative judgement(s)/statement(s) not supported by analysis.

NYJC

PRELIMINARY EXAM 2017

Economics JC2 H1 (8819/01)

PAPER 1

Tuesday
12 September 2017
08:00 – 11:00 **TIME** : 3 hours

INSTRUCTIONS TO CANDIDATES

Do not open this paper until you are told to do so.

Write your name, class and name of economics tutor in the space provided on the writing paper.

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

Section A
Answer **all** questions.

Section B
Answer **one** question.

The number of marks is given in the brackets [ ] at the end of each question or part question.
Write your answers on the writing papers provided. If you use more than one sheet of paper, fasten the sheets together.

You are advised to spend several minutes per question reading through the data and questions before you begin writing your answers.

There are 8 printed pages including this cover page

SECTION A

Answer **all** questions.

Question 1

Trade Slump and Deflation

Extract 1: UK slips into deflation as prices fall 0.1%

The UK has officially slipped into deflation for the first time in more than half a century, but economists and policy makers are not concerned, saying that a brief period of gently falling prices is more likely to help growth than harm it.

The UK has been teetering on the brink of deflation for several months because of the slide in global oil prices, falling household incomes and the strength of sterling, which has reduced UK's export competitiveness.

Suneil Mahindru, chief investment officer international equity at Goldman Sachs Asset Management, reacted by saying: "We are not concerned about the UK". Falling prices are "freeing disposable income and many industries, such as retail, are benefiting", he added. UK households have suffered from falling real wages over the past few years. Now that prices of consumer essentials like food and energy are stagnant or falling, many households are finally getting a boost in living standards.

Chancellor George Osborne said the data were good news for family budgets and should not be mistaken for "damaging deflation" — a vicious cycle of falling prices and wages which shrinks an economy. He added that once deflation sets in consumers would expect prices to fall and they would delay spending for as long as possible in order to save money. This would perpetuate the problem and is known as a deflation trap. The deflation trap would lead to falling economic growth.

Source: Adopted from The Financial Times, 19 May 2015

Extract 2: Deflation risk and trade slump cast chill over global economy

The world economy is at risk of slipping into a deflation trap and faces a historic slump in global trade that should serve as a wake-up call for governments around the world. The International Monetary Fund warned on Tuesday that a "broad-based phenomenon" of low inflation, fed by a collapse in commodity prices and faltering demand, risked deteriorating into a full-blown deflation trap, particularly in advanced economies.

The fund's warning, came as the World Trade Organisation forecast global trade volumes would rise only 1.7 per cent this year. This would be the slowest increase since the 2008 financial crisis, and a big reduction from the 2.8 per cent growth it forecast in April. "The dramatic slowing of trade growth is serious and should serve as a wake-up call," said Roberto Azevêdo, the WTO's director-general.

The trend was particularly worrying in the context of an increase in protectionism and anti-globalisation rhetoric seen in the US and around the world, he said, adding: "This is a moment to heed the lessons of history and recommit to openness in trade, which can help to spur economic growth."

The twin warnings highlight mounting concerns over the world economy's slow recovery from the 2008 crisis and the tepid response by policymakers. They also point to two key areas of concern. International institutions are increasingly worried about the potential impact on a fragile global economy of the rise of populist politicians, such as US presidential candidate Donald Trump, and the protectionist policies they put forward.

They are equally frustrated by what they see as the failure of many governments to take tough decisions and their continuing overreliance on central banks and monetary policy to respond to slow growth. The IMF has for years urged governments to adopt more growth-friendly fiscal policies and to push structural reforms to stimulate consumption and investment. Alongside the warning of a deflation trap, the IMF called for governments to target stagnant wages and adopt policies such as raising the minimum wage to boost incomes. Such a response, IMF economists wrote, was particularly necessary in advanced economies, where “the scope of monetary policy to further stimulate demand is perceived to be increasingly constrained” and “policy rates are not far from their effective lower bounds”.

Source: Adopted from The Financial Times, 28 September 2015

Extract 3: MAS 'must remain alert' to signs of slow growth

Singapore's central bank should "remain vigilant" to signs of slow growth in the country and make policy adjustments if needed, the International Monetary Fund (IMF) said. In a statement released yesterday, after a visit here, fund representatives noted that Singapore's growth prospects remain subdued, given a lacklustre global outlook.

The IMF also said the Monetary Authority of Singapore's (MAS) latest move to stop the local currency from rising further against a basket of key currencies was "appropriate", given slowing growth, a weakening labour market as well as low oil prices worldwide. The fund noted that Singapore's economic growth has slowed markedly in recent years owing to both domestic and external factors.

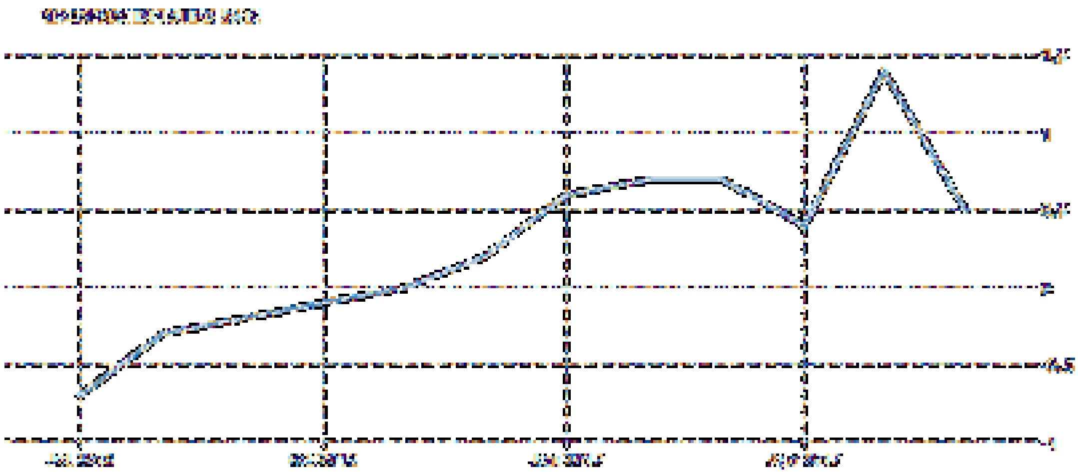
At home, growth is constrained by an ageing labour force, tighter limits on foreign workers and the transition costs of the shift to an innovation-based growth model. On the external front, the outlook for global growth and trade remains subdued, the IMF said. The fund also said Singapore's growth is likely to slow further this year, as the full impact of the slowdown in global trade and capital outflows is felt and companies continue to hold back on hiring and investment. The most important short-term external risk is a sharper-than- expected global slowdown, which could result from weak growth in China, other emerging economies as well as key advanced economies.

Still, the Singapore Government has enough in its coffers to ramp up spending and provide a short-term lift if the economic outlook worsens further, said the IMF. "The authorities are prepared to implement fiscal stimulus through targeted measures, for example providing more income transfers to poor families and seniors and accelerating infrastructure spending," added the fund in its statement.

In the longer run, raising productivity will be essential to Singapore's growth, given slower labour force expansion, the IMF said.

Source: The Straits Times on 11 May 2016

Figure 1: Inflation Rate in Singapore



Source: SingStats

Questions

(a) Describe the trend in the consumer prices in Singapore between July 2016 and April 2017. [2]

(b) Using extract 1, comment on whether economies should fear deflation. [4]

(c) Using aggregate demand and supply analysis, explain the causes of deflation in the UK in 2015 as identified in extract 1. [6]

(d) In extract 2, the IMF claimed that "the scope of monetary policy to further stimulate demand is perceived to be increasingly constrained"

Explain a possible factor that would determine the effectiveness of monetary policy to stimulate demand. [2]

(e) Using both the case study and your own relevant knowledge, discuss whether "an increase in protectionism and anti-globalisation rhetoric" seen in the US and around the world can be justified in terms of economic theory. [8]

(f) Discuss whether depreciation of the Singapore dollar would be most appropriate way of responding to slow growth in Singapore. [8]

[Total: 30 marks]

Question 2

Are low oil prices here to stay?

Extract 4: Predicting the oil price is challenging

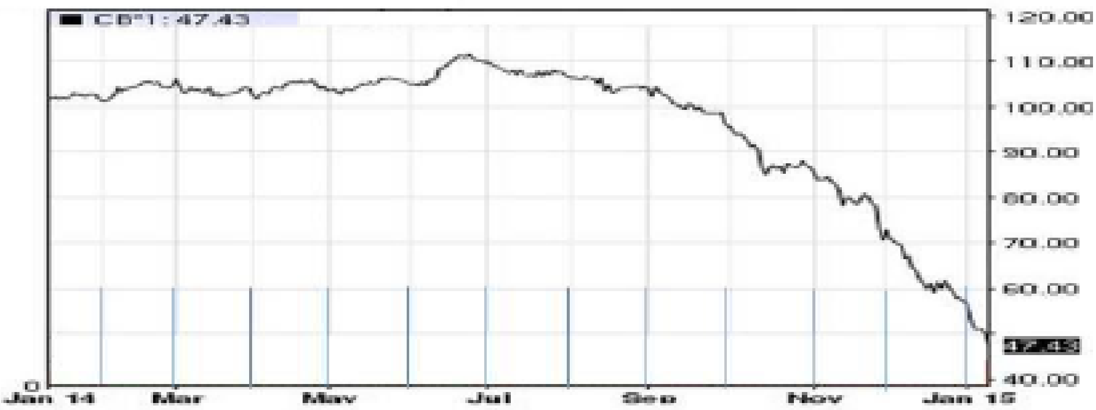
What we do know is that, despite a recent upturn, the price of oil has slumped almost 50% since last summer following the longest-running decline for 20 years.

And we know why - US shale oil, and to a lesser extent Libyan oil returning to the market, has pushed up supply together with a slowdown in the Chinese and EU economies.

With the booming US shale industry showing little signs of slowing, and growing concerns about the strength of the global economy, there are good reasons to suspect that the current slump in the oil price will continue for some time.

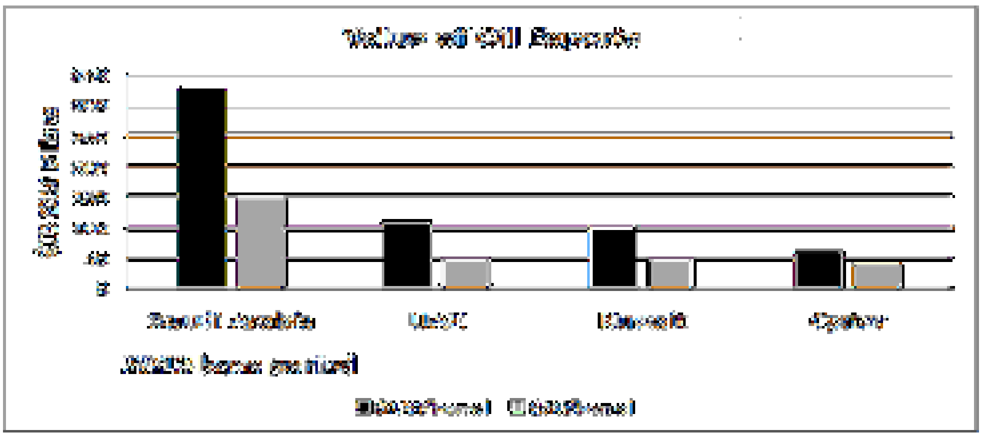
Source: BBC News, 24 February 2015

Figure 2: Latest Price for Crude Oil



Source: Nasdaq.com Jan 14th 2015

Figure 3: ***The value of oil exports based on different oil prices per barrel for selected countries***



Source: Energy Matters, 18 Nov 2015

Extract 5: What are the effects of fracking on the environment?

The oil and gas industry has been expanding consistently for decades due, in part, to the advances in technology in the processes of extracting, transporting and delivering the resource to consumers. One of the most-discussed technological advances is hydraulic fracturing, also known as fracking. This extraction process combines often dangerous chemicals with large amounts of water and sand at high rates of pressure into rock formations to fracture surrounding material for the purpose of extracting oil and gas. Fracking is controversial because of the amount of natural resources needed to complete its process, and more notably because of the negative effects like air pollution and water contamination. In addition to air and water pollution, fracking also increases the potential for oil spills, which can harm the soil and surrounding vegetation. Fracking may cause earthquakes due to the high pressure used to extract oil and gas from rock and the storage of excess wastewater on site.

Source: Investopedia, 19 January 2015

Extract 6: Can Indonesia phase out energy subsidies without hurting the poor?

Indonesia enacted a major reform recently. On 1 January, President Joko Widodo followed through with his electoral promise to cut decades-long subsidies for energy products. Many leaders had tried before him, but retreated in the face of fierce resistance from the people. Thanks in part to low oil prices, the newly-elected President got the reform through without much trouble. The true challenge will be how to support poor households when prices start rising again.

Source: OECD Insight 28 April 2015

Extract 7: Little cheer for Singapore's economy despite lower oil prices

Singapore: Lower global oil prices should stimulate global economic growth, according to the International Monetary Fund, which estimates that every US$10 fall in per-barrel oil price can lift global GDP by 0.2 per cent. In particular, countries which are net importers of oil, such as Singapore, should benefit more from lower global oil prices. For example, electricity bills and petrol costs have fell about 15% and 5.5% respectively. Crude oil prices have slumped by 48% on average from 2014 to last year.

But now that oil has dipped below US$30 a barrel, and is hovering its lowest price levels in over a decade, initial cheer from energy cost savings appears to be turning into fear over a global economic slowdown. The current slump in oil prices has done little to prop up consumer spending and spur growth, according to CIMB Private Banking economist Song Seng Wun, "because the slump in global trade has overtaken the benefits of cheaper oil", he said. Hit by slowing global demand, Singapore's trade-dependent economy grew 2.1 per cent in 2015, clocking its weakest pace of growth since 2009.

"Last year for example, was one of the worst years for the petrochemical industry, even though the industry had the benefit of lower input prices. Due to low global demand, the firms over-invested and could not run at capacity," said Mr Song. Singapore-based Keppel Corp announced that it had cut around 8,000 jobs as weak energy prices hammered profits at the world's largest oil rig builder. Further, the global economic slump that has resulted from low oil price has also had a chain effect on Singapore's economy. These effects extend beyond just the oil and gas industry.

Overall, some clear winners from lower oil prices could be consumers, and businesses in energy-intensive industries, such as aviation and shipping, which stand to gain from lower utility bills. Meanwhile, the losers include oil-related firms, like rig builders and offshore and marine companies, which have seen orders thin out in line with lower oil exploration activity.

Source: CNA online 22 Jan 2016

Questions

(a)	(i)	Using Figure 2, describe the trend of oil prices between January 2014 and January 2015?	[2]
	(ii)	With the help of a diagram, explain the demand and supply factors that are responsible for the trend in oil prices identified in (i).	[4]
(b)		Using the evidence from Figure 3, what can you conclude about the price elasticity of demand for oil in Saudi Arabia?	[3]
(c)		With reference to Extract 6, explain how a complete removal of energy subsidies will affect households' expenditure on electricity.	[3]
(d)	(i)	Explain one possible reason why the price of crude oil has fallen by 48% whereas price of petrol has fallen only by 5.5%.	[2]
	(ii)	With reference to Extract 7, discuss the impact of changes in oil prices on the economic growth of Singapore.	[8]
(e)		Explain and evaluate one market-based policy to deal with economic inefficiency in resource allocation due to fracking.	[8]

[Total: 30 marks]

SECTION B

Answer **one** question from this section

(1) (a) Explain how the existence of merit goods such as art galleries represent market failure. [10]

(b) Discuss the view that subsidies to provide free entry to art galleries is the best way to achieve efficient allocation of resources. [15]

(2) (a) Explain how standard of living is measured in an economy. [10]

(b) Discuss whether an improvement in trade balance will help to achieve a higher standard of living in an economy. [15]

********** **The End** **********

Question 2

Trade Slump and Deflation

Extract 5: UK slips into deflation as prices fall 0.1%

The UK has officially slipped into deflation for the first time in more than half a century, but economists and policy makers are not concerned, saying that a brief period of gently falling prices is more likely to help growth than harm it.

The UK has been teetering on the brink of deflation for several months because of the slide in global oil prices, falling household incomes and the strength of sterling, which has reduced UK's export competitiveness.

Suneil Mahindru, chief investment officer international equity at Goldman Sachs Asset Management, reacted by saying: "We are not concerned about the UK". Falling prices are "freeing disposable income and many industries, such as retail, are benefiting", he added. UK households have suffered from falling real wages over the past few years. Now that prices of consumer essentials like food and energy are stagnant or falling, many households are finally getting a boost in living standards.

Chancellor George Osborne said the data were good news for family budgets and should not be mistaken for "damaging deflation" — a vicious cycle of falling prices and wages which shrinks an economy. He added that once deflation sets in consumers would expect prices to fall and they would delay spending for as long as possible in order to save money. This would perpetuate the problem and is known as a deflation trap. The deflation trap would lead to falling economic growth.

Source: Adopted from The Financial Times, 19 May 2015

Extract 6: Deflation risk and trade slump cast chill over global economy

The world economy is at risk of slipping into a deflation trap and faces a historic slump in global trade that should serve as a wake-up call for governments around the world. The International Monetary Fund warned on Tuesday that a "broad-based phenomenon" of low inflation, fed by a collapse in commodity prices and faltering demand, risked deteriorating into a full-blown deflation trap, particularly in advanced economies.

The fund's warning, came as the World Trade Organisation forecast global trade volumes would rise only 1.7 per cent this year. This would be the slowest increase since the 2008 financial crisis, and a big reduction from the 2.8 per cent growth it forecast in April. "The dramatic slowing of trade growth is serious and should serve as a wake-up call," said Roberto Azevêdo, the WTO's director-general.

The trend was particularly worrying in the context of an increase in protectionism and anti-globalisation rhetoric seen in the US and around the world, he said, adding: "This is a moment to heed the lessons of history and recommit to openness in trade, which can help to spur economic growth."

The twin warnings highlight mounting concerns over the world economy's slow recovery from the 2008 crisis and the tepid response by policymakers. They also point to two key areas of concern. International institutions are increasingly worried about the potential impact on a fragile global economy of the rise of populist politicians, such as US presidential candidate Donald Trump, and the protectionist policies they put forward.

They are equally frustrated by what they see as the failure of many governments to take tough decisions and their continuing overreliance on central banks and monetary policy to respond to slow growth. The IMF has for years urged governments to adopt more growth-friendly fiscal policies and to push structural reforms to stimulate consumption and investment. Alongside the warning of a deflation trap, the IMF called for governments to target stagnant wages and adopt policies such as raising the minimum wage to boost incomes. Such a response, IMF economists wrote, was particularly necessary in advanced economies, where “the scope of monetary policy to further stimulate demand is perceived to be increasingly constrained” and “policy rates are not far from their effective lower bounds”.

Source: Adopted from The Financial Times, 28 September 2015

Extract 7: MAS 'must remain alert' to signs of slow growth

Singapore's central bank should "remain vigilant" to signs of slow growth in the country and make policy adjustments if needed, the International Monetary Fund (IMF) said. In a statement released yesterday, after a visit here, fund representatives noted that Singapore's growth prospects remain subdued, given a lacklustre global outlook.

The IMF also said the Monetary Authority of Singapore's (MAS) latest move to stop the local currency from rising further against a basket of key currencies was "appropriate", given slowing growth, a weakening labour market as well as low oil prices worldwide. The fund noted that Singapore's economic growth has slowed markedly in recent years owing to both domestic and external factors.

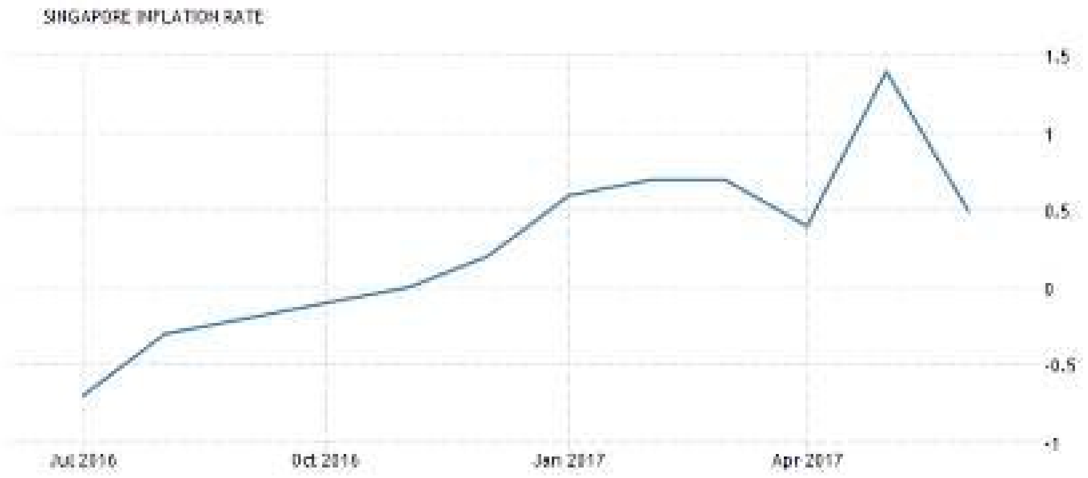
At home, growth is constrained by an ageing labour force, tighter limits on foreign workers and the transition costs of the shift to an innovation-based growth model. On the external front, the outlook for global growth and trade remains subdued, the IMF said. The fund also said Singapore's growth is likely to slow further this year, as the full impact of the slowdown in global trade and capital outflows is felt and companies continue to hold back on hiring and investment. The most important short-term external risk is a sharper-than- expected global slowdown, which could result from weak growth in China, other emerging economies as well as key advanced economies.

Still, the Singapore Government has enough in its coffers to ramp up spending and provide a short-term lift if the economic outlook worsens further, said the IMF. "The authorities are prepared to implement fiscal stimulus through targeted measures, for example providing more income transfers to poor families and seniors and accelerating infrastructure spending," added the fund in its statement.

In the longer run, raising productivity will be essential to Singapore's growth, given slower labour force expansion, the IMF said.

Source: The Straits Times on 11 May 2016

Figure 3: Inflation Rate in Singapore



Source: SingStats

Suggested Answers

(a)	**Describe the trend in the consumer prices in Singapore between July 2016 and April 2017.**	**[2]**
	• Consumer prices show a falling trend between July 2016 and Oct/Nov 2016 (1m) • before rising from Oct/Nov 2016 to April 2017 (1m).	
(b)	**Using extract 5, comment on whether economies should fear deflation.**	**[4]**
	i. Thesis • Yes economies should fear deflation if the economy is experiencing deflation trap or ‘damaging deflation’ as mentioned in Extract 5 para 4. Deflation trap is known as ‘a vicious cycle of falling prices and wages which shrinks an economy’ as ‘consumers would expect prices to fall and they would delay spending for as long as possible’, leading to a continuous fall in C and fall in AD (Draw) and fall in RNY, leading to ‘falling economic growth’ . **ii. Anti-Thesis** • No economies should not fear deflation as ‘consumer essentials like food and energy are stagnant or falling, many households are finally getting a boost in living standards’ as stated in Extract para 3. Thus deflation can benefit households and make groceries more affordable for everyone, especially benefitting the low income groups or unemployed who spend a large proportion of income on groceries / food which is a basic necessity, hence promoting income equity. **iii. Judgement** Whether economies should fear deflation depends on whether the consumers are expecting prices to fall. If consumers expect that deflation is only temporary and economic conditions and prices will eventually improve in the months ahead, then deflation is not a concern. Note: • *Two-sided answer on whether economies should fear deflation (3m)* • *Judgement on the overall SOL (1m)*	
(c)	**Using aggregate demand and supply analysis, explain the causes of deflation in the UK in 2015 as identified in extract 5.**	**[6]**
	Deflation in UK is due to ‘slide in global oil prices, falling household incomes and the strength of sterling, which has reduced UK’s export competitiveness’ as mentioned in Extract 5 para 2 **i. Falling AD (4m)** • Falling household incomes in UK has contributed to fall in purchasing power, leading to a fall in consumption, resulting in a fall in AD. • Furthermore the strength of sterling has led to rise in export prices in foreign currency, since prices in domestic currency has not changed but there is a fall in volume of export revenue falls. (Draw fall in Xrev, via falling DD for exports) • Hence, fall in C and X, will cause AD curve to shift to the left (Draw), leading to fall in GPL.	

	ii. Falling AS (2m) • Slide in global oil prices will lead to lower cost of production, as oil is factor input which is required in most production process. • Hence, this will lead to rise in AS and AS curve shift downwards (Draw), leading to fall in GPL.	
(d)	**In extract 2, the IMF claimed that "the scope of monetary policy to further stimulate demand is perceived to be increasingly constrained"** **Explain a possible factor that would determine the effectiveness of monetary policy to stimulate demand.**	**[2]**
	Identify (1m) Explain (1m) Acceptable answers (any one) 1. Size of the multiplier. Less effective if multiplier is small. The rise in AD due to a fall in interest rates will be limited if the multiplier is small. 2. Steepness of MEI curve. Less effective if MEI is steep. The fall in interest rate will not raise Investment by much. 3. Liquidity Trap. If there is a liquidity trap then a rise in money supply will not cause the interest rate to fall.	
(e)	**Using both the case study and your own relevant knowledge, discuss whether "an increase in protectionism and anti-globalisation rhetoric" seen in the US and around the world can be justified in terms of economic theory.**	**[8]**
	• In anticipation of a deflation trap and falling economic growth, it is not uncommon to see in countries 'an increase in protectionism and anti-globalisation rhetoric seen in the US and around the world. • By imposing protectionism e.g. tariff (draw tariff diagram), there will be a fall in import expenditure(show on diagram). This will force the locals to turn to domestic consumption as it is relatively cheaper. The rising domestic consumption will give rise to a rise in AD and hence combatting a deflation trap and raise GDP(draw AS-AD). • Although seem justifiable for the country imposing tariff, the outcome may be counter intuitive due to 'beggar-thy-neigbour' effect. Trading partners whose exports are now having less demand due to the tariff, would face falling GDP. This will result in falling purchase of imports. • Hence countries that place tariffs in order to raise domestic consumption would face falling export revenue. The extent of the fall in export revenue would depend on the fall in the GDP of the trading partner as well as the responsiveness of demand for exports due to the fall in income. If the export revenue falls more than the rise in consumption, then there will be contraction for the economy that impose the tariff. • In addition, should trading partner retaliates, it may be counter-productive and it could lead to a lose-lose situation. • Other areas of consideration would include the impact of the tariff on the allocation of resources. Once a tariff is imposed, there would be a dead weight loss. (Use diagram) and explain. • Protectionism also goes against the benefits offered by the theory of comparative advantage. (Draw PPC vs CPC diagram). • Conclusion, although protectionism can help alleviate short term economic problem, in the long run it seem to harm economies. I believe	

that free trade is essential and hence agree with Roberto Azevêdo, the WTO's director-general who said "This is a moment to heed the lessons of history and recommit to openness in trade, which can help to spur economic growth."

L1	One sided answer on the benefits of protectionism or arguments against protectionism with the use of economic theory (framework)	1-3
L2	Two sided answer on the arguments for and against protectionism. Expected use of economic theory (framework)	4-6
E	Judgement of the justification of protectionism	1-2

(f) Discuss whether depreciation of the Singapore dollar would be most appropriate way of responding to slow growth in Singapore. [8]

i. Explain briefly the causes of slow growth in Singapore

- Domestic causes: Ageing labour force, tighter limits on foreign workers and the transition costs of the shift to an innovation-based growth model. (Extract 7 para 3).
- E.g. tighter limits on foreign labour will lead to rising wages and falling SRAS.

- External causes: Fall in X and possibly FDI hence AD due to the 'outlook for global growth and trade remains subdued' (Extract 7 para 3)

Thesis

ii. Explain how depreciation will increase growth in Singapore

- Assuming M-L condition holds, which is the sum of PED for exports and imports is greater than one, depreciation will lead to rise in net exports.
- Hence, this will help increase AD (Draw) and increase RNY.

Anti-thesis

iii. Explain the limitations of exchange rate depreciation

- M-L condition may not hold in the SR (give reasons). Hence in the SR, AD may actually fall leading to even slower growth.
- Temporary and short-term measure to boost export competitiveness and weaker exchange rate will eventually lead to rise in price of locally produced goods that use imported inputs to go up, leading to cost-push inflation and will eventually erode export competitiveness

iv. Explain how other policies will be more appropriate

- Exchange rate depreciation may not be appropriate as it is unable to target internal causes such as aging labour force which would lead to shrinking size of labour force in the future and fall in productive capacity and fall in LRAS and fall in RNY and Yf.
- Hence, 'raising productivity will be essential to Singapore's growth' as stated in Extract 7 last para.
- Explain at least 1 measure of SS side policy (e.g. education or retraining) and show how it will help increase growth, especially for potential growth.

- Extract 7 para 4 also mentions that "The authorities are prepared to implement fiscal stimulus through targeted measures, for example providing more income transfers to poor families and seniors and accelerating infrastructure spending"

- Explain at 1 least measure of the fiscal policy as a DD side policy and show how it will help increase actual growth

v. **Explain the limitations of the alternative policies**
   - Time Lag
   - Small K

Conclusion

vi. Take a stand

L1	A brief description of how depreciation will improve growth without considering the causes of slow growth in Singapore .	1-3
L2	Provides a clear two-sided explanation on how depreciation and other measures will help improve growth in Singapore through the use of relevant diagrams. Clear explanation on rise in AS and AD that links to Sg's growth.	4-6
E1	Provides an unexplained judgement on the appropriateness of exchange rate depreciation on improving Sg's growth. Good use of data in considering the appropriateness of exchange rate depreciation on improving Sg's growth.	1-2

Are low oil prices here to stay?

Extract 4: Predicting the oil price is challenging

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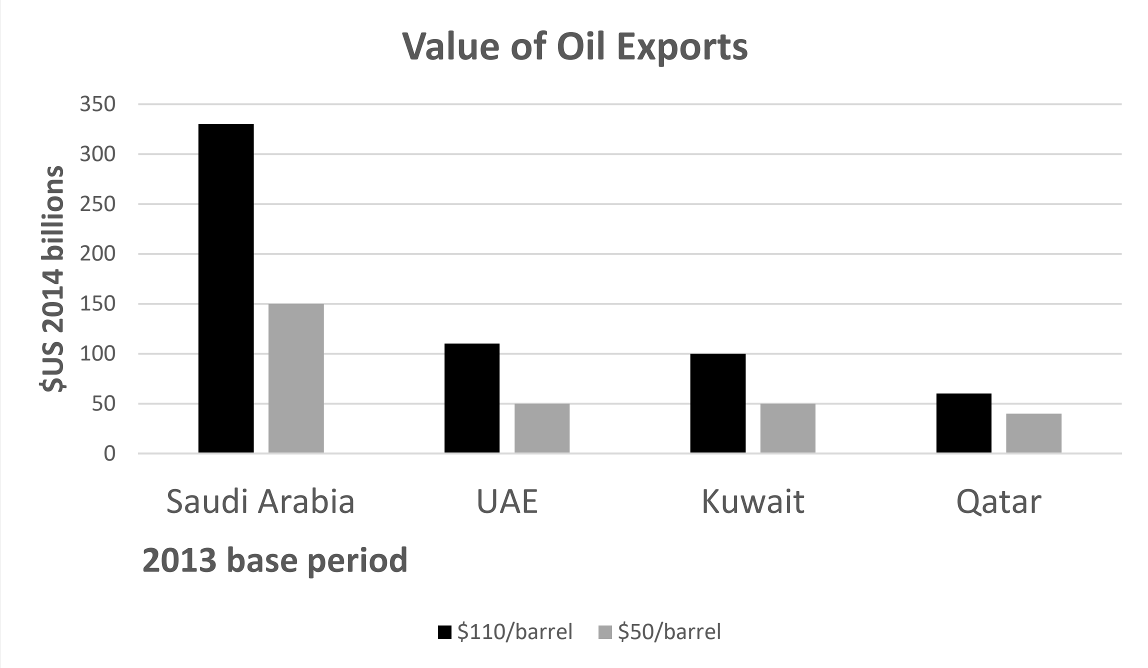

Source: Energy Matters, 18 Nov 2015

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The oil and gas industry has been expanding consistently for decades due, in part, to the advances in technology in the processes of extracting, transporting and delivering the resource to consumers. One of the most-discussed technological advances is hydraulic fracturing, also known as fracking. This extraction process combines often dangerous chemicals with large amounts of water and sand at high rates of pressure into rock formations to fracture surrounding material for the purpose of extracting oil and gas. Fracking is controversial because of the amount of natural resources needed to complete its process, and more notably because of the negative effects like air pollution and water contamination. In addition to air and water pollution, fracking also increases the potential for oil spills, which can harm the soil and surrounding vegetation. Fracking may cause earthquakes due to the high pressure used to extract oil and gas from rock and the storage of excess wastewater on site.

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Source : OECD Insight 28 April 2015

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But now that oil has dipped below US$30 a barrel, and is hovering its lowest price levels in over a decade, initial cheer from energy cost savings appears to be turning into fear over a global economic slowdown. The current slump in oil prices has done little to prop up consumer spending and spur growth, according to CIMB Private Banking economist Song Seng Wun, "because the slump in global trade has overtaken the benefits of cheaper oil", he said. Hit by slowing global demand, Singapore's trade-dependent economy grew 2.1 per cent in 2015, clocking its weakest pace of growth since 2009.

"Last year for example, was one of the worst years for the petrochemical industry, even though the industry had the benefit of lower input prices. Due to low global demand, the firms over-invested and could not run at capacity," said Mr Song. Singapore-based Keppel Corp announced that it had cut around 8,000 jobs as weak energy prices hammered profits at the world's largest oil rig builder. Further, the global economic slump that has resulted from low oil price has also had a chain effect on Singapore's economy. These effects extend beyond just the oil and gas industry.

Overall, some clear winners from lower oil prices could be consumers, and businesses in energy-intensive industries, such as aviation and shipping, which stand to gain from lower utility bills. Meanwhile, the losers include oil-related firms, like rig builders and offshore and marine companies, which have seen orders thin out in line with lower oil exploration activity.

Source: CNA online 22 Jan 2016

Questions:

(a)	(i)	Using Figure 2, describe the trend of oil prices between January 2014 and January 2015? **Oil prices are generally falling/decreasing between Jan 2014 and Jan 2015. (1m)** **Steep fall in oil prices after July 2014 to Jan 2015 (1m)**	[2]
	(ii)	With the help of a diagram, explain the demand and supply factors that are responsible for the trend in oil prices identified in (i). **<u>Reasons for falling oil prices</u> :** **Fall in demand due to a slowdown in global economies (extract 1 : "growing concerns about the strength of the global economy")** **Increase in supply due to increase in oil supplies due to shale gas production & increase in oil production by Libya (extract 1)** **Explain how the fall in demand and increase in supply cause a sharp fall in price** **Diagram** **2 m for identify & explanation, 2 m for diagram and price adjustment**	[4]
(b)		Using the evidence from Figure 3, what can you conclude about the price elasticity of demand for oil in Saudi Arabia? **Define PED (1m)** **From figure 2, price of oil in Saudi Arabia fall and total export revenue falls.** **This implies a fall in price exceeds leads to a less than proportionate increase in quantity, hence, demand for oil is price inelastic (2m)**	[3]
(c)		With reference to Extract 6, explain how a complete removal of energy subsidies will affect households' expenditure on electricity. **Removal of energy subsidies will lead to an increase in cost of production of electricity (decrease SS) which will lead to an increase in the price of electricity. (1m)** **Household expenditure on electricity is price of electricity multiplied by the volume of electricity consumed. Increase in price of electricity will lead to a less than proportionate fall in volume of electricity consumed since demand for electricity is price inelastic (high degree of necessity) and hence leading to an increase in household expenditure on electricity. (2m)**	[3]

(d)	(i)	Explain one possible reason why the price of crude oil has fallen by 48% whereas price of petrol has fallen only by 5.5%. **Price of petrol has fallen only marginally because price of petrol includes costs of processing/refining the crude oil, costs of rental and government indirect taxes. So the initial price fall was eroded along the process and resulted in only a smaller price fall for the price of petrol.**	[2]
	(ii)	With reference to Extract 7, discuss the impact of changes in oil prices on the economic growth of Singapore. **<u>1) Short-Run: Economic Growth</u>** **(1) Increase in SRAS** **Singapore is a net oil importer. As a result of the decrease in price of crude oil leading to a fall in the price of petrol & electricity leading to fall in costs of production. This will lead to an increase in SRAS leading to an increase in real NY (diagram).** **For eg, the aviation, shipping, logistic and transportation industries where petroleum accounts for a large percentage of input costs will benefit from the fall in price.** **(2) Increase in AD** **Falling oil prices would result in fall in costs of production leading to an improvement in export competitiveness. This will cause AD to increase leading to an increase in real NY (diagram)** **Singapore will experience economic growth in the short run.** **<u>2) Long-Run: Economy may be worse off</u>** **A number of industries that are part of the oil supply chain could be hurt by weaker oil demand – like marine and offshore engineering. The reason why they are affected is because they supply oil rigs or machinery for the extraction of crude oil. Since oil price decreases due to the global oversupply of oil, there will be less demand for such orders since extraction should be reduced. This will result in a fall in AD and reduce real NY and employment. This fall in real NY will result in fall in purchasing power and hence causing a further fall in consumption and net exports which will lead to a slump in global trade (extract 7)** **In addition, investors may be pessimistic about future business outlook and cut back on investment. (Diagram)** **In conclusion, a fall in the oil prices in the short run will promote EG. This will create jobs in certain industries (eg aviation and logistics) which lead to an increase in economic growth. However, in the LR with further fall in oil prices and poor business outlook in the rig builders and offshore marine companies it will slow down economic growth for Singapore. In addition, any further fall in oil prices may cause the investors to lose confidence which will be detrimental to economic growth and employment.**	[8]

Level	Descriptors	Mark
L2	**Well-developed analysis of both the short run AND long run impacts on the economic growth in Singapore with examples to substantiate which industries would benefit / be worse off.**	**4-6**
L1	**One sided discussion of either short run or long run impacts on Singapore economic growth. OR Weak analysis of both the short and long run impact on economic growth.**	**1-3**
E	**Substantiated judgement is made on the eventual outcome of the impact on economic growth in Singapore**	**1-2**

(e) Explain and evaluate one market-based policy to deal with economic inefficiency in resource allocation due to fracking. [8]

Identify and explain source of market failure: negative externality in production.
Explain and evaluate one market-based policy like indirect taxation to achieve efficiency in resource allocation.

- **Define market failure**
- **Identify the source of market failure (negative externality in production)**
- **Define negative externality**
- **Illustrate with diagram) to show MSC>MPC; fracking cause pollution and its harmful effects on the health of the residents near the fracking area (MEC), hence leading to economic issue of allocative inefficiency (over-production of oil).**
- **Show deadweight loss and allocative inefficiency**
- **Explain how government internalise the external costs through the use of indirect taxation (Assume Taxation = Marginal External costs)**

Limitations of taxation

- **Difficult to estimate the external costs accurately and hence the right amount of tax to impose. Thus overestimation may lead to underproduction and underestimation may not completely eliminate the deadweight loss to society.**
- **It is not feasible and administrative cumbersome to impose different tax rates as firms may emit different types & amount of negative externality.**

Conclusion :

Indirect Taxation is effective in dealing with inefficient resource allocation as it allows the firms to pursue their profit maximisation objective & at the same time to internalise the external costs of production. The tax revenue collected also allows the government to subsidise R&D to improve a more efficient methods of fracking and implement measures to reduce the health cost on the residents.

Level	Descriptors	Mark
L2	For a well-developed answer on inefficient resource allocation and how indirect taxation (market-based policy) correct the deadweight loss. Limitations of taxation are well explained.	4-6
L1	For an undeveloped explanation of the concepts of resource allocation and market failure and undeveloped analysis of measures used.	1-3
E	Substantiated judgement on the effectiveness of market-based policy to reduce negative externality.	1-2

2017 JC2 H1 Econs Prelim Exam

Suggested Answers for Question 3

3	(a)	Explain how the existence of merit goods such as art galleries represent market failure.	[10]
	(b)	Discuss the view that subsidies to provide free entry to art galleries is the best way to achieve efficient allocation of resources.	[15]

a) Explain how the existence of merit goods such as art galleries represent market failure. [10]

Command Word: Explain

Context: Art Galleries

Content: Market failure (Merit Goods)

Intro:

Merit goods are goods that the government feels that the people will under-consume due to poor economic decisions (imperfect information) that they make on their own behalf and that it give rise to positive externalities when consumed.

1: Imperfect Information

Due to imperfect information, consumers may not realise that making visits to art galleries enhances the quality of life and helps them to develop their critical thinking, to cultivate creative problem-solving and to communicate and express themselves effectively. Therefore, they may not visit the art galleries at the socially optimal level. This can shown in the diagram below (Figure 1) where consumers perceived the marginal private benefit to be at MPB $_{perceived}$ which is lower than the actual MPB (MPB $_{actual}$). Hence, with no government intervention, consumers will only be concerned about MPB $_{perceived}$ and MPC and visit art galleries at Qc which is below the socially optimal level, Qs (where MSC = MSB).

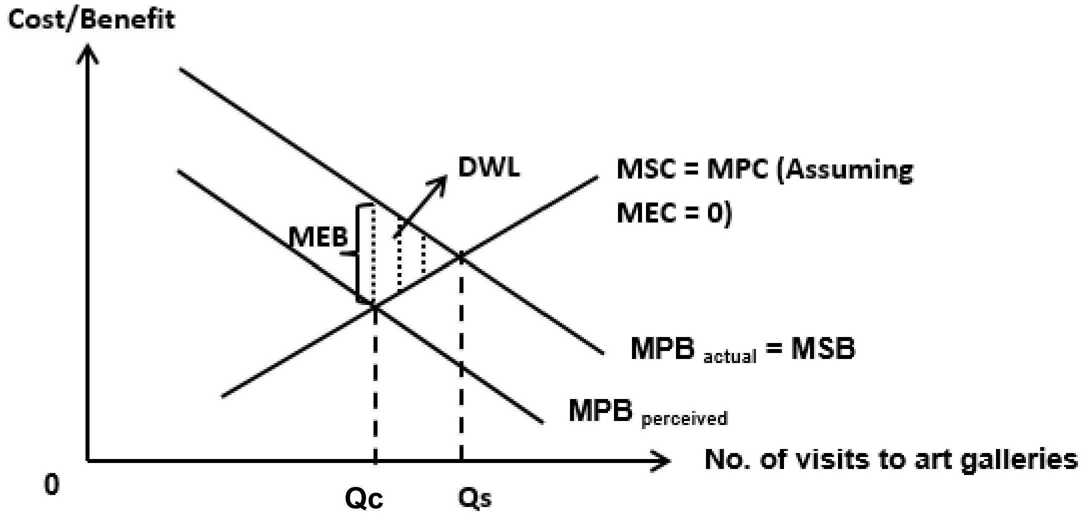


Figure 1

Hence, as a result of under-consumption of visits to art galleries, it result in a deadweight loss of the shaded area as shown in Figure 1 leading to inefficient allocation of resources and thus market failure.

2: Positive Externality

In addition, when merit goods are consumed, it gives rise to positive externalities. When visiting art galleries, consumers are only concerned with the own private benefit (e.g. leisure) and private cost (e.g. entry fee). However, it gives rise to external benefit as well which are the economic benefits to the country. Art galleries provide job opportunities directly and indirectly due to tourists visiting the art galleries and spending in other sectors during their stay in the country.

If there is no government intervention, consumers will only consider their private benefit (MPB) and private cost (MPC) and consume at Qc (refer to Figure 2), ignoring the external benefit (MEB). The presence of external benefit result in the divergence of MSB and MPB and the socially optimal number of visits to the museums is at Qs where MSB cuts MSC. This leads to an under-consumption of visits to art galleries resulting in the presence of deadweight loss as shown by the shaded area shown in Figure 2. Thus, the market has failed as there is under-allocation of resources to the visits of art galleries.

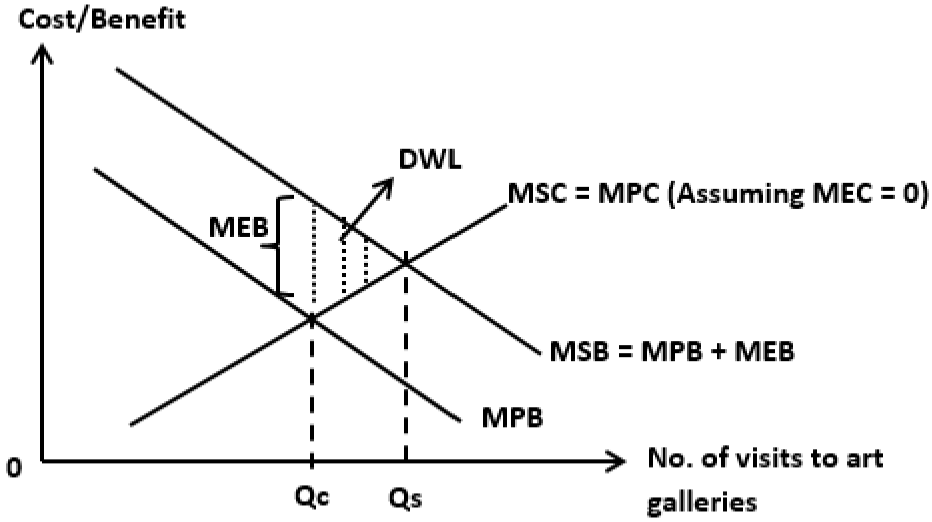


Figure 2

Conclusion:

As the market has failed to allocate resources to the visits of art galleries which is a form of merit goods, it is important that the government intervenes through various ways such as providing subsidies to increase the consumption level to Qs.

Marking Scheme

L3	For a well-developed explanation of how existence of merit goods such as art galleries represent market failure (both positive externality and imperfect information).	**7-10m**
L2	Underdeveloped explanation of how existence of merit goods such as art galleries represent market failure. Max 6 marks for candidates who only mentioned about positive externality **or** imperfect information leading to market failure.	**5-6m**
L1	Descriptive answer lacking in economic analysis and consists of conceptual errors.	**1-4m**

b) Discuss the view that subsidies to provide free entry to art galleries is the best way to achieve efficient allocation of resources. [15]

Command Word: Discuss

Context: Art Galleries

Content: Subsidies (Free Entry) to solve market failure arising from the presence of merit goods, alternative policies to subsidies

Intro:

- Presence of merit goods leads to market failure due to imperfect information and positive externality.
- To achieve efficient allocation of resources, government has to implement policies to encourage more consumers to visit art galleries.

Body:

1: Thesis→ Subsidies to provide free entry to art galleries is one of the best ways to achieve efficient allocation of resources

- By giving subsidies to provide free entry, consumers will consume up to the point where MPB equates to zero as the cost to them is zero.

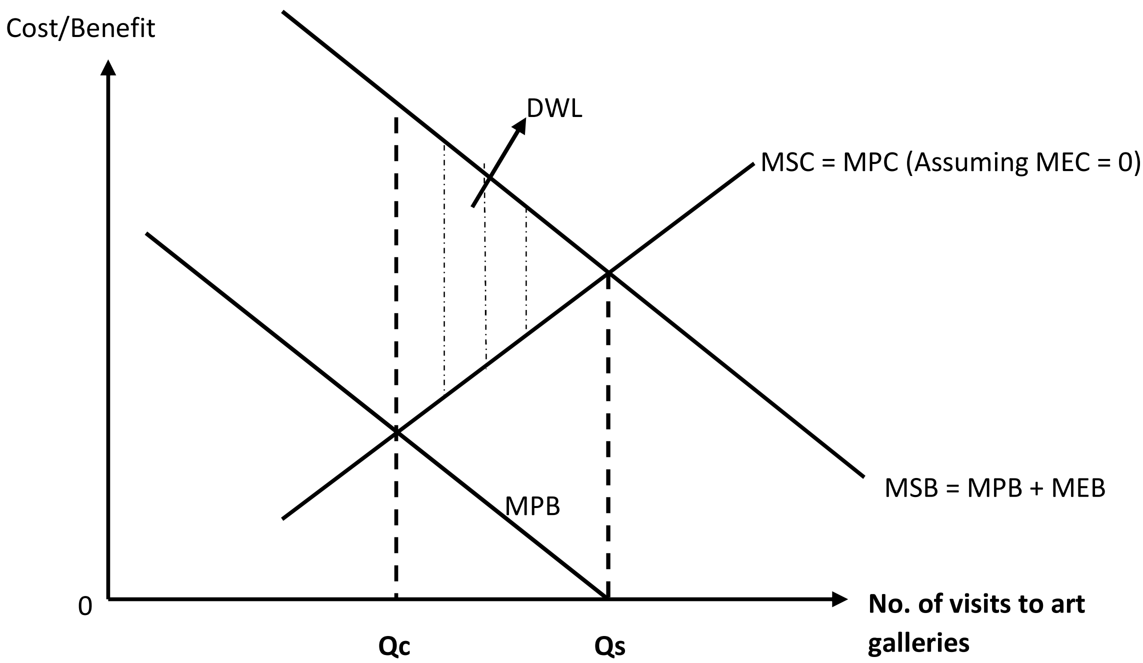


Figure 3

- With reference to Figure 3, when MPB = 0, consumers will now consume at Qs level which is the socially optimal level of consumption. Thus, the market has achieved efficient allocation of resources.
- Nevertheless, this is the best method only if MPB = 0 at the Qs level.

2: Anti-thesis: Limitations of subsidies to provide free entry

- As mentioned, it is only the best method if MPB = 0 at Qs level. However, when services are provided for free, consumers tend to overconsume the goods and hence, they will visit the art galleries beyond the Qs level as shown in figure 4.

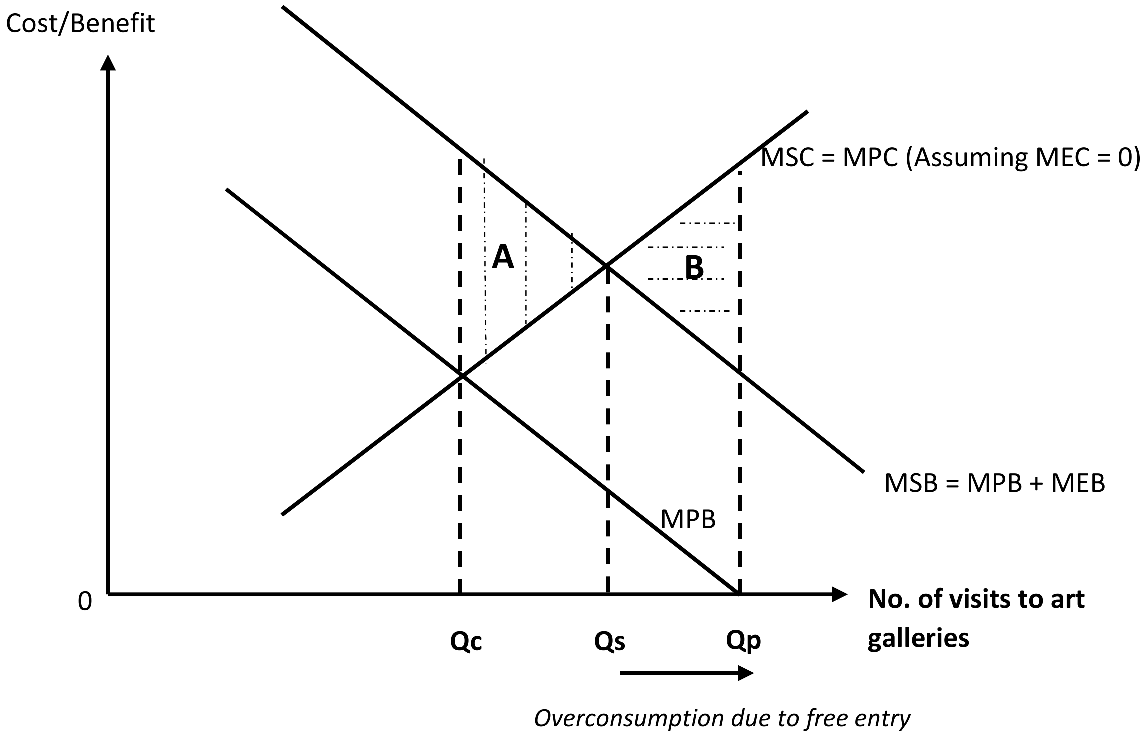


Figure 4

- As Qp > Qs, there is overconsumption of the visits to art galleries and it will create a new deadweight loss of area B as shown in figure 4. The deadweight loss may be even larger than the initial deadweight loss (when there is no government intervention) if Qp is significantly larger than Qs.
- Furthermore, the government incurs a large opportunity costs as the large sum of money that is used to provide free entry can be spent in other areas such as healthcare and education services.

- The government may even experience budget deficit if it has to provide entrance to art galleries for free for a long period of time so as to increase consumption.
- Also, by providing it for free may only solve part of the problem due to the presence of positive externality. Providing it for free does not tackle the problem with regard to imperfect information. There may be free entrance but if consumers do not think that it's beneficial for them, the increase in visiting the museums may be limited.
- Therefore, subsidies to provide free entry to art galleries is not the best way to achieve efficient allocation of resources

3: Anti-thesis: Alternative policies should be implemented instead

Alternative policy 1: Partial Subsidy

- Instead of providing it for free, the government should implement partial subsidy. If the government has sufficient information about the external benefit, they can equate the amount of subsidy to be the MEB value instead of providing it for free to avoid overconsumption.
- Hence, consumers' MPC will now fall by the MEB value to MPC_1 as shown in figure 5 and it will intersect MPB at Qs level. Thus, the deadweight loss is reduced and efficient allocation of resources is achieved.
- Government is also able to adjust the level subsidy over time to ensure the visit to art galleries to be at Qs level. Therefore, this may be a better alternative to free provision.

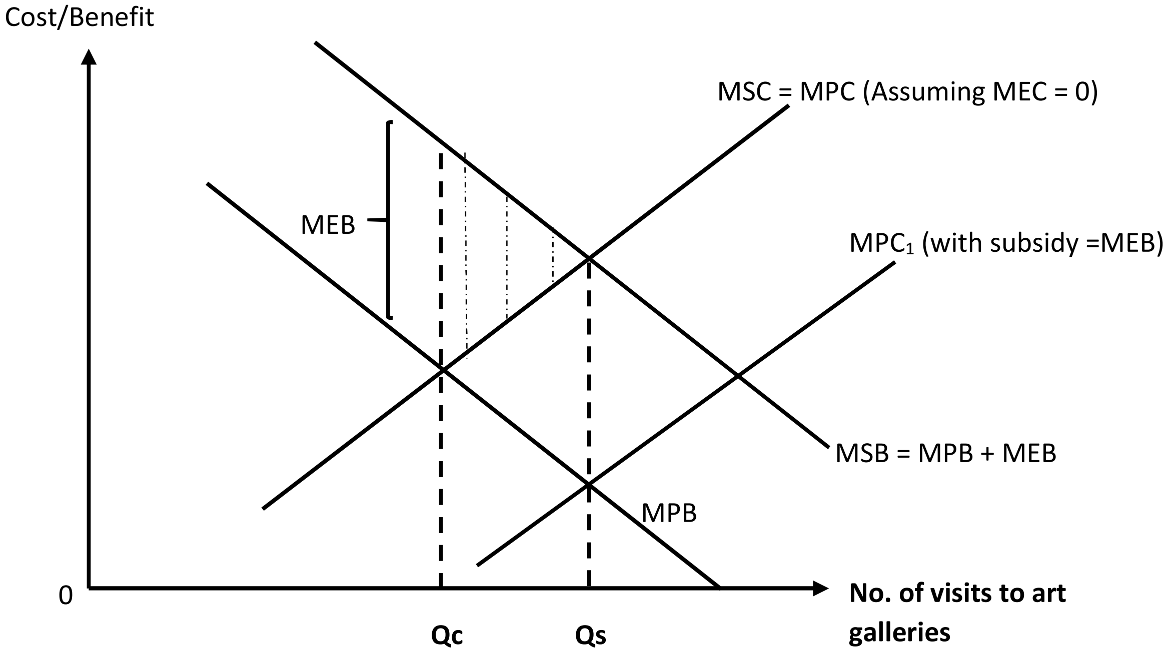


Figure 5

- However, the government must have sufficient information and the ability to accurately to measure the value of MEB. Government may over or under subsidise due to imperfect information and the deadweight loss may not be reduced.
- Providing partial subsidy also incurs an opportunity cost and it doesn't tackle the issue of consumers having imperfect information to make the right decision.

Alternative policy 2: Education

- To solve the problem of imperfect information, government may want to provide the public with information on the various exhibitions showcased by the various art galleries so as to increase the number of visits.
- Also, the government can include visits to art galleries as part of the education curriculum in schools and highlight the importance of the arts to the students from a young age so that they can understand and appreciate the importance of the arts.
- However, the results are uncertain. Even if consumers understand the benefits of visiting art galleries, they may still choose not to visit the art galleries for various reasons such as having to pay entrance fee which may be quite high for some art galleries.

Conclusion:

Whether subsidies to provide free entry to art galleries is the best method to achieve efficient allocation of resources would depend on

- the financial capability of the government to provide it for free
- whether the government is able to estimate the value of MEB accurately
- whether the deadweight loss of overconsumption will be large if there is free provision
- whether the issue of the presence of positive externality or imperfect information is a more pressing problem to solve.

If the deadweight loss due to overconsumption as a result of free provision is limited and that the government has the financial capability to provide it for free, then it would be perhaps the best method among all the available policies.

In addition, the problem of imperfect information is not solved even with free provision. Thus, the government has to implement a mixture of policies such as partial subsidy and education to ensure that both the issue of positive externality and imperfect information will be tackled.

Marking Scheme

L3	For a well-developed explanation of how subsidies to provide free entry to art galleries can achieve efficient allocation of resources with limitations provided. Alternative policies are also provided and well explained. **One of the alternative policies explained must focus on reducing imperfect information.*	**9-11m**
L2	An unclear explanation on whether subsidies to provide free entry to art galleries and an alternative policy can help achieve efficient allocation of resources. Max of 7 marks for a good explanation on how free entry will solve market failure with limitations explained.	**6-8m**
L1	Descriptive answer lacking in economic analysis.	**1-5m**

E2	• Substantiated judgement	**3-4m**
E1	• Unsubstantiated judgement	**1-2m**

2017 JC2 H1 Econs Prelim Exam
Suggested Answers for Question 4

a) Explain how standard of living is measured in an economy. [10]

b) Discuss whether an improvement in trade balance will help to achieve a higher standard of living in an economy. [15]

Introduction

The term Standard of living (SOL) is broad and is usually examined in terms of material SOL and non-material SOL. The material SOL measures the quantity and quality of goods and services accruing to each person in the country. The non-material SOL measures the intangibles and focuses on the quality of life.

Body – Measuring material SOL

Material SOL can be measured using nominal GDP. Nominal GDP is a national income accounting statistic evaluated at current market prices reflects the money value of all goods and services produced within the territory. Such a statistic is also known as "*current dollar GDP*". *Nominal* GDP estimates reflect the money value of all goods and services produced within the territory but have not been adjusted for price changes. Within the year, there could have been actual increases in output or price increases (eg. inflation) or both. Hence in times of inflation, nominal GDP will increase BUT this may have no positive impact on the amount of goods and services available overtime because no additional goods may have been produced. The magnitude of the increase in nominal GDP estimates during times of inflation may also be due to higher prices rather than the increase of output.

Real GDP on the other hand, measures the money value of all goods and services produced within the territory adjusted for price changes. Hence if there is a rise in real GDP, it is definite that there has been an increase in physical output.

More precisely, real GDP per capita or real GNP per capita are used as we try to measure the material standard of living each person has.

Real GDP per capita = Real GDP ÷ Population size

On average, people in high GDP per capita countries enjoy larger, better-constructed, and more comfortable homes, higher quality food and clothing, a greater variety of entertainment and cultural opportunities, better access to transportation and travel and other communications, indicating a higher material standard of living.

The Real GDP pc of a country may have increased over time, however it is important to note that the national pie may not be divided equally among the population of the country despite the higher Real GDP pc overtime. Hence although more goods and services are available, it may not be equally accessible to all.

If the increase in national income is accrued to a minority, this does not mean that everyone is better off. Thus it would be correct to say that more goods and services are accessible to the minority only. In this scenario, although the Real GDPpc may be higher, the income is not evenly distributed and hence the conclusion drawn from the Real GDPpc that each person is now better off may be misleading. Hence it is important to consider the distribution of income before concluding on the welfare of the residents of a country.

The Gini coefficient is an inequality indicator which measures the inequality of income distribution in a country.It varies from zero, which indicates perfect equality, with every household earning exactly the same, to one, which implies absolute inequality, with a single household earning a country's entire income. Hence a country with higher Real GDPpc as well as a smaller Gini coefficient overtime shows a more reliable conclusion about material SOL improvements in general than one with a larger Gini coefficient.

Body – Measuring non-material SOL

The non-material SOL focuses on the life expectancy, standards of education, health, hygiene in the country & other social indicators such as the amount of leisure time, divorce rates etc.

The qualitative aspect of SOL cannot be captured by output or income figures as the average person’s well-being is not determined solely by the quantity of goods and services he can consume. Thus there is a need to look at qualitative indicators like the number of leisure hours the average person enjoys.

Measuring leisure hours can provide an indication of the non-material SOL. The fall in leisure time may result in more people falling ill due to being overworked as well as less likely to gain access or enjoy the available goods and services or spend time with family and friends. This may have social implications. Thus the quality of life i.e. the non-material aspect of life may be affected. Similarly the working hours may not have changed but the working conditions could have gotten better (or worse) which may have an impact on the non-material aspect of life.

Measuring pollution level can provide an indication of the non-material SOL. A higher pollution level if unaddressed may also reduce the quality of life. People may be faced with health issues that may arise from water or even air pollution. Again, although a larger real GDPpc from increased production of goods would imply a higher material SOL, the increasing negative externality due to the increased production would result in a lower non-material SOL.

Conclusion

Many ideas have been developed and promoted, to complement the GDP figures with other indicators of welfare to better reflect both material and non-material aspects of life or the quality of life for policymaking. An example would be a composite indicator such as the Human Development Index (HDI).

The HDI is a simple average of three indicators of development designed to capture three key components of human development:

1. Life expectancy at birth
2. Education attainment (adult literary and years of schooling)
3. GDP per capita (measured using PPP exchange rates).

A composite index therefore may provide a more complete measurement that includes both the material and non-material aspects of SOL.

L1	- An answer that lacks the use of relevant economic concepts - Largely irrelevant answer - Listing of points without explanation. - Glaring conceptual errors.	**1 - 4**
L2	- An answer that uses relevant economic concepts	**5 - 6**

	• Real GDP per capita • Other indicators - Some explanation (but with gaps) of real GDP per capita and other indicators in assessing rise in SOL.	
L3	- Good elaboration of the indicators that can be used to assess material and non-material SOL with some mention of composite indicators.	**7-10**

b) Discuss whether an improvement in trade balance will help to achieve a higher standard of living in an economy. [15]

Introduction

The balance of the export and import values is called the balance of visible trade or visible trade balance. A trade surplus is when the value of visible exports exceeds the value of visible imports. A trade deficit is when the value of visible exports is less than the visible imports. An improvement in the trade balance may have positive and/or negative impacts on the material and non-material standard of living.

Body – Improvement in trade balance helps to achieve a higher material standard of living

Actual growth occurs when there is an improvement in trade balance. With reference to the AD-AS framework, an increase in (X-M) that gives rise to an increase in real national income on the horizontal axis due to a rightward shift of the AD curve.

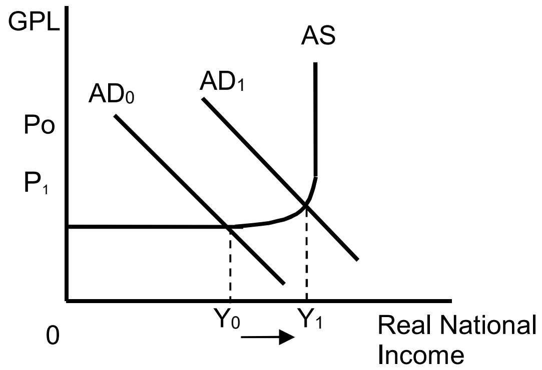


Figure 1a: Actual growth due to shift in AD

Provided economic growth outstrips population growth, it will lead to higher real income per head. Since labour is a derived demand, when demand for goods and services increase, demand for labour increases, creating more employment opportunities. If national incomes rises, government can redistribute incomes from the rich to the poor without the rich losing. For example, as people's income rise, they automatically pay more taxes. This extra revenue for the government can be spent on programmes to alleviate poverty. All these leads to higher levels of consumption of goods and services and higher material standard of living.

Body – Improvement in trade balance helps to achieve a higher non-material standard of living

With economic growth due to an improvement in trade balance, cyclical unemployment will fall as firms will hire more workers in export-oriented industries to increase production since demand for labour is a derived demand. The fall in unemployment could possibly lead to fewer social problems like falling crime rates and hence rise in non-material SOL.

A higher income from an improving trade balance may also allow greater access to better healthcare resulting in a longer life-expectancy hence rise in non-material SOL.

Higher national income may allow governments to improve on the standard and increase the access of education leading to an improvement in non-material SOL.

Body – Improvement in trade balance may not achieve a higher material standard of living

Improvement in trade balance leads to economic growth. An economy that is near full employment enjoying high economic growth leads to demand pull inflation. Demand-pull inflation is usually the consequence of high growth as AD rises at a rate that is not matched by the increase in output of goods and services (ie, AS). Also, wages tend to go up when the economy is near full employment as resources become scarcer leading to wage-push inflation. A sustained increase in general price level will lead to a deterioration of material SOL.

Improvement in trade balance due to changing CA may result in structural economic changes. Different groups of labour with different skills and education will benefit differently. For example, Singapore moving away from low-end manufacturing result in many low skilled and educated workers losing their jobs. On the other hand, other workers in sunrise export oriented industries will benefit from more job opportunities and higher salaries. Thus different groups will experience differing rates of returns, resulting in widening disparity in income hence worsening material SOL.

Body – Improvement in trade balance may not achieve a higher non-material standard of living

A higher demand for a country's exports from an improvement in trade balance may result in an increase in the working hours of the population. The opportunity cost of increasing working hours is leisure time. The fall in leisure time may result in more people falling ill due to being overworked as well as less likely to gain access or enjoy the available goods and services or spend time with family and friends. This may have social implications. Thus the quality of life i.e. the non-material aspect of life may be negatively affected.

An improvement in trade balance can also result in greater pollution level due to the increased levels of non-environmentally friendly production. A higher pollution level if unaddressed may reduce the quality of life. People may be faced with health issues that may arise from water or even air pollution. The increasing negative externality due to the increased production would result in a lower non-material SOL.

Suggested evaluation

Evaluate the overall impact of an improvement in trade balance on SOL

- Different reasons for BOT improvement may have difference outcomes
    - Acquiring a new CA?
    - Depreciation?
    - High investment in R&D?
    - Expenditure reducing/switching policies, protectionism?
    - FTAs?
- Short term vs Long term impact
- Economy at different stages of development

L3	For a well-developed explanation of how an improvement in BOT will affect material and non-material standard of living positively and negatively.	**9-11m**
L2	For an under-developed explanation of how an improvement in BOT will affect material and non-material standard of living positively and negatively. Max of 7 marks for one sided discussion – Only material or non-material SOL OR only improvement or deterioration of SOL	**6-8m**
L1	Descriptive answer lacking in economic analysis.	**1-4m**

E2	• Clear judgement with strong substantiation	**3-4m**
E1	• Judgement with some clarification and substantiation	**1-2m**

PJC 2017 H1 Prelim Exam Paper 1

Question 1: The impact of climate change

(a) Using Table 1, compare the overall change in food prices between 2006 and 2010 with that between 2011 and 2015. **[3]**

Suggested answer:
Food prices from 2006 to 2010 has been increasing while food prices from 2011 to 2015 has been falling.
Food prices rose at a faster rate (47%) from 2006 to 2010 while food prices from 2011 to 2015 fell at a slower rate (28.6%).
There was a fall in food prices from 2008 to 2009 while the fall in food price trend from 2011 to 2015 has been consistent.

(b) With reference to Extract 2, define opportunity cost and give an example. **[3]**

Suggested answer**:**
Opportunity cost is the next best alternative foregone.

Firms have to choose between investing in clean energy sector and investing in capital good to increase output. If firms choose to invest in clean energy sector, they would forgo the profit that they would earn from increasing their output.
Or
Governments have to choose between spending in clean energy to reduce negative externalities and promote steady sustainable growth, and to spending to promote actual economic growth. If they choose spend to ensure sustainable growth, they would forgo current growth.

Note: Due to question requirement 'reference to extract 2', answers from extract 1 or not related to climate change/growth will not be accepted.

(c) With reference to Extract 3, explain whether supply or demand factors are likely to be more important in explaining changes in the price of food. **[6]**

Suggested answer**:**
With reference to Extract 3, changes in food prices can be affected by reasons such as rising population, weather changes, price elasticity of demand and supply and R&D.

Demand factor
As world population rises, there will be more mouths to feed and this will lead to a rise in demand for food as food is necessary for survival. The rise in demand for food will lead to a shortage at the original price, and with an upward pressure on price, price of food will increase. As food crops require time for gestation and as a perishable good (mentioned in Extract 3 Para 1), the rise in demand against a price inelastic supply curve will cause food prices to rise significantly.

Supply factor
Poor weather conditions have made food crop cultivation unfavourable. This implies that food production will be disrupted, leading to a fall in supply for food in the market for food. With demand for food being price inelastic as it is a necessity to all and supply falling drastically, the price of food will increase significantly.

Overall judgement/conclusion

In the short run, supply side factors seem to be more influential in terms of affecting food prices as producers and countries may not be able to pre-empt and tackle such changes effectively. With stocks being low, the inelastic supply of food makes changes in food prices even more volatile.

However, in the long run, when food supply becomes more stable and increases as R&D efforts pay off (Extract 3, last para), demand factors possibly due to a rise in income and population may play a bigger role in affecting food prices. This is because the nature of food will not change and it is almost impossible to curb demand for food when population and income both rise over time.

(d) With reference to Extract 3, explain why countries like the UK and the US are able to cope better compared to Africa and the Middle East in view of the significant rise in food prices. **[4]**

Suggested answer**:**
In UK and US, consumers consume a considerably greater amount of processed food compared to Africa and the Middle East. Hence when food prices rise, the cost of production for processed food will rise as fresh food is used as a factor input to produce processed food. This would result in a fall in the supply of processed food and a rise in the price of processed food. In comparison, this increase in the price of fresh food will be felt to a greater extent by consumers in Africa and the Middle East as they consume mainly fresh food and relatively less processed food, implying that consumers in UK and US will be able to cope better when food prices rise significantly.

In addition, due to differences in the absolute level of income, the proportion of income spent on food by UK and US consumers is relatively lower compared to consumers in Africa and the Middle East. This is supported by evidence from Extract 3 where it was mentioned that the poorest households in Africa and the Middle East are spending about 50% of their income on food, implying that when fresh food prices rise and with a lower absolute level of income compared to UK and US consumers, they will be more affected.

(e) With reference to Extract 3, explain whether the use of export controls by governments to prevent rising food prices is justified. **[6]**

Suggested answer**:**
The reason for imposing export controls cited in Extract 3 was to cope with rising food prices which affected poorer households greatly and worsens equity.

The use of export controls by governments of food producing countries is justified.

By imposing export controls, this will increase the supply of food for the domestic economy (from S_D to S'_D). At the original price, quantity supplied will outweigh quantity demanded, resulting in a downward pressure on price, leading to a fall in the price of food. The fall in the price of food will alleviate the pressures felt by poorer households. This is necessary as food is a necessity to all households and government has an obligation to ensure food prices are affordable to all.

However, the use of export controls is protectionistic in nature and may result in retaliatory actions taken by the country's trade partners. Such actions will reduce the export revenue of the country that implemented the export controls and bring about a contractionary impact on the economy. The impact will be even more significant if the country depends on trade greatly as a key driver of economic growth. In addition, protectionism goes against the comparative advantage theory, perpetuating inefficiency and limits the gains from trade.

Conclusion/Judgement
Export controls are at most a short term measure to deal with ising food prices. In order to stabilize food prices and reduce food price volatility, there must be efforts put in to raise supply through use of advanced farming techniques and technology.

(f) Discuss the view that the problem of negative externalities caused by carbon emission from firms can best be solved by using a policy of tradable permits. **[8]**

Suggested answer**:**

Intro
Negative externalities are generated from carbon emission from firms. This result in market failure, where the free market fails to achieve economic efficiency without government intervention. Hence, **governments would consider whether market failure due to the carbon emission can best be solved by using a policy of tradable permits (Claim).** However, its feasibility and effectiveness may cause it not to be the best policy to correct market failure.

The policy of tradable permits is the best to correct market failure.
The carbon emission from firms will result in external cost borne by third parties who are not directly involved in the production or consumption of goods, which is not considered by firms. For example, high carbon emission resulting in severe climate change that damaged food crops. When the governments introduce the policy of tradable permits, it would force the firms to find the lowest possible cost method to reduce emission.

Governments will distribute tradeable permit to different firms up to a certain quota. These permits would allow firms to produce a certain level of output (Qs) and pollution. If firms need to produce more, they will either buy more permits or adopt a more efficient production method, whichever is cheaper, If firms find producing in a more efficient method that could reduce carbon emission (e.g.: investing in clean technology to meet new emission quota), it would reduce the external marginal cost (negative externalities). As seen in Fig 1, This will reduce the divergence between the private marginal cost (PMC) and social marginal cost (SMC) from SMC to SMC2. This would increase social optimal output of production from Qs to Qs2 (where SMC2 = SMB), which reduce deadweight loss from area AGF to area HJF.

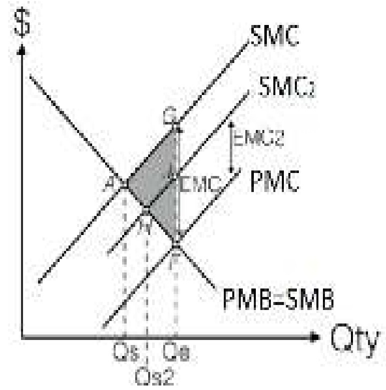


Figure 1

If firms want to produce beyond the emission quota, they would need to pay for the permits to do so. This will force them to internalise external cost, causing them to incur higher private marginal cost (from PMC to PMC2) as seen in Fig 2. This would cause the firm's output level to fall to Q2 (where PMC2 = PMB). Hence, the deadweight loss to society has reduced from area ADE to area ABC, reducing market failure.

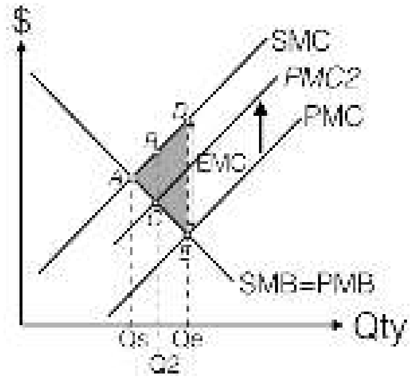


Figure 2

This policy is beneficial to create a profit incentive that encourages firms to cut emission and develop methods of production over time. For those who do not cut emission would then have to pay the true cost of production by internalising the external cost of production.

However, governments might not find it feasible to implement it as they would face large administrative costs to monitor and measure emission level of individual firms when they produce goods and services. Failure to monitor them closely would make the policy ineffective as firms would have little or no incentive to cut emission. There will also be unintended consequences as firms may shift production overseas to avoid incurring higher cost of production through investing in cleaner technology and paying for permits. This could lead to higher unemployment in these industries, and even a fall in exports.

Hence, to reduce cost of production as firms try to meet emission quota, governments should also give subsidies to firms which use low emission technology. This would allow them to reduce the external marginal cost of production without firms from incurring higher cost of production. This would be better than tradable permits as the firms would have more incentives to use cleaner methods of production to reduce carbon emission while maintaining its profit.

This policy however, might be unsustainable for governments which have budget deficit as they might incur higher opportunity cost when diverting its funds from other projects (education, healthcare, national defence) to reduce carbon emission.

As there is no effective policies that does not require government to monitor carbon emission, governments will need to set aside funds to ensure constant monitoring. However, it does create the incentive for firms to invest in research and development if is cheaper than buying tradable permits. However, it is not the best policy to solve market failure in the long run, especially if the price of permit is less than spending on clean technology. Thus, it had to be complemented with other policies to prevent firms who are facing higher cost of production due to the new initiative from moving away from the country. Hence, if government the subsidies given to firms which promote cleaner production, it would be a long term solution to reduce the effect of climate change. This would increase incentive for firms to invest technology to reduce carbon emission instead of moving away due to the introduction of tradable permits.

PJC 2017 H1 Prelim Exam Paper 1

Question 2: Economic Performance, Prospects and Lessons

(a) Describe the change in China's real GDP between 2011 and 2015 **[2]**

Suggested answer**:**
China's real GDP increases at a decreasing rate between 2011 and 2015.

(b) Extract 7 suggests an increase in China investment overseas.
Comment on the likely effects of this on China's balance of payments **[4]**

Suggested answer**:**
An increase in China investment overseas will lead to a deterioration of her capital account in the short run as this is recorded as a debit entry in the long run capital account. Ceteris paribus, her BOP will deteriorate. However, in the long run her balance of payment may improve as investment overseas reap returns in the form of investment income such as profits and dividends. These are remitted back to China and are recorded as credit entry in China's Current account in her Balance of Payment.

(c) Explain the case **for** the use of protectionist measures by the EU government **[4]**

Suggested answer**:**
The argument advanced for protectionism is to save jobs as dumping of cheap stainless steel product has "put thousands of jobs at stake' in the EU stainless steel industry. With China dumping cheap stainless steel in the EU market below cost, many EU firms are forced to sell at 'below cost price' as they cannot compete with cheap China made stainless steel. As a result, many were force to cut back production and hence employment.

To prevent such massive job losses, governments have resorted to protectionism such as imposition of tariff so that imported stainless steel products are more expensive and EU stainless steel producers can still sell their products and hence prevent job losses. This will allow an increase in demand for domestic produce stainless steel and reduce demand for imported stainless steel. When demand rises, there will be an increase in production and hence a rise in derived demand for labor, hence preventing further job losses. In this way jobs may be saved.

(d) With reference to Extract 7, using AD/AS analysis, explain how the 'Belt-and-Road Initiative' impact the Chinese economy. [4]

Suggested answer**:**
The 'Belt-and-Road Initiative' is an infrastructure development plan proposed to improve the connectivity of the country. As this project is undertaken by the Chinese government, it represents an increase in G and hence an increase in AD of which G is a component. Through the multiplier process, this will bring about an increase in actual growth in the short run as seen in the increase in real GDP. As real GDP increase, firms hire more labour to produce more output. This improve the employment of the economy as well. In the long run, an improvement in infrastructure increase connectivity and efficiency. Better infrastructure leads to time save on the road and allows time for productive activity. This increases workers productivity and a fall in per unit cost represented by an outward shift of the LRAS. This will result in a fall in GPL and an increase in long run economic growth. The fall in GPL may also help improve her BOP as this enhances her exports competitiveness.

(e) Discuss whether the data provided are sufficient to assess changes in standard of living of China over the period of 2011 and 2015. [8]

Suggested answer:
Define SOL
Standard of living of a country refers to the social and economic well-being of a country which includes both the material and non-material aspects of life. The material well-being is determined by the quantity and quality of goods and services for consumption while the non-material well-being is the quality of life and environment which ones lives determined by the intangible factors such amount of leisure and life expectancy.

Real GDP is the total money value of final output produced within the geographical boundary of the country, regardless of ownership of factors of production, over one year and before adjustment for depreciation excluding the effect of inflation. The real positive GDP growth data shows that the level of real GDP rose during the period. This means that there are more goods and services produced in the economy. Assuming that the population size rises marginally, real GDP per capita implies that on average citizens have more goods and services available for consumption. A higher level of good and services led to an increase in demand for labour, resulting in an increase in wages. A higher wage means Chinese households was earning higher income and disposable income and they had higher purchasing power to buy more and better quality goods and services.

If the increase in real GDP is due to longer working hours of workers, this meant that the Chinese had less leisure time and rest. This could lead to a declining health condition and an increase in stress level. As a result, the workers could have experienced a fall in a quality of life. Hence, we need to know whether there is an increase in working hours to determine whether the workers could have experienced a fall in a quality of life.

Unemployment rate measures the % of the labour force who is willing and able to work but cannot find a job despite an active search. An increase in unemployment rate from 4.3 to 4.6. A rise in unemployment rate could be due to China's transition from export led model of growth to a consumption and innovation driven one which could cause structural unemployment as workers do not have the necessary skills required in the labour market. With a rise in unemployment, it would lead to lower wages and hence lower ability to consume and lower material SOL. However, given that unemployment rose marginally by 0.3, it had minimal effect on the standard of living in China as the improvement in the standard of living due to the high real GDP growth in the same period outweighed the effects of unemployment on the standard of living.

PM2.5 air pollution represents the atmospheric particulate matter that have diameter less than 2.5micrometers which is the air quality report from environmental authorities. PM2.5 air pollution has increased. This could imply that the quality of air had dropped due to a greater amount of pollutants in the environment. Thus, we could expect an increase in health problems such as respiratory problems which reduced the quality of life of individuals staying in China.

Given data is necessary but not sufficient to assess how China's average SOL has changed over time. There is a lack of information to indicate the change in the both material and non-material well-being. E.g. the higher growth may bring about greater pollution and less leisure. Thus, a higher real GDP may not necessarily lead to higher SOL if people's health is affected by pollution and greater stress. To have better assessment of SOL, more indicators such as PSI, literacy rate and working hours are required. Composite index such as measure of economic welfare (MEW) could be given to indicate change in material and non-material SOL. MEW adds to GDP intangibles such as leisure and services of public amenities which will increase the non-material well-being and deducts negative externalities such as pollution which will reduce the non-material well-being. Thus, it is a better indicator for assessing changing of SOL.

(f) In view of the anti-globalisation sentiments, discuss whether globalisation should be the driver of growth for emerging economies such as China. [8]

Suggested answer:
Claim: Globalisation should be the driver of growth for emerging economies such as China.

Globalisation is the greater integration of the global economies due to greater trade and capital flows. With globalisation, China can gain access to more markets and can export more of its goods that it has comparative advantage (CA) in to the rest of the world resulting in higher export earnings (X). This causes her AD to rise in resulting in her NY rising by a larger extent via k effect. This can be seen in the positive economic growth rates of more than 6% as shown in Table 2. In addition, greater flow of investment resulted in transfer of knowledge and technology from foreign MNCs to China's firms, and subsequently expands China's AS. As stated in Extract 7, China firms like Haier are now able to produce better quality products as they obtained improved manufacturing facilities and talents through increased outbound FDI. Capital flows also allow China to gain presence in new markets, which will benefit the economy as an additional source of export earnings. Lastly, as China struggles with rising wage rates and cost of production, globalisation and ease of capital flows will allow firms to tap on pools of resources in other developing countries with more competitive cost of production such as India.

As a whole, globalisation should be the driver of growth for China as it brings about increases in AD and AS leading to a sustained economic growth in China.

However, while increased trade and capital flows due to globalisation helps an economy achieve sustained economic growth, it has also led to greater interdependence among countries. If China focuses on globalisation as a driver of growth, China will be vulnerable to changes in the level of economic activities in the global economy. As mentioned in Extract 7, in the face of shrinking external demand, rising trade disputes and protectionism as well as other factors that result in China losing its competitiveness in low cost of production, the Chinese government wants to move the economy towards a consumption and innovation driven one. This is evidently important, as seen in the economy's success in bringing up the percentage contribution of consumption expenditure (C) towards its GDP. On top of that, as mentioned in Extract 5, globalisation threatens the employment of jobs in developed countries that are in direct competition with developing countries, particularly low-skilled jobs. Even though China is also a developing country, it is a fact that the economy is suffering from rising wage rates and overall cost of production. This puts its low-skilled workers in a vulnerable position as they may lose their jobs if firms decide to outsource the production to economies with lower cost of production. In light of rising cost of production, China's government needs to focus on improving the economy's productivity so as to improve its competitiveness in the global economy. Lastly, globalisation led to rapid urbanization of China, exposing the country to various environmental and income distribution challenges. The Chinese government has implemented many relevant initiatives and plans such as the Belt and Road and the New Type Urbanization Plan to tackle these issues.

Despite the challenges, globalisation should still be the driver of growth for emerging economies such as China. The economy will benefit from increased trade and capital flows, as long as the government put in place appropriate policies to minimize the negative impacts of globalisation and must not be complacent and should regularly review their policies. In the long run, China needs to balance its economic growth dependence on external and internal demand. The government can also retrain their workers and reallocate their resources to industries where they have CA, this would enable them to promote greater growth and welfare than if they had resisted globalisation through putting up more protectionistic barriers.

PJC 2017 H1 Prelim Exam Paper 1

Question 3:

(a) Explain what might cause price elasticity of demand to be different for different products. [10]

(b) Profits are earned when revenue exceeds costs of production. Discuss whether it is both possible and beneficial for producers to change the price elasticity of demand for their products. [15]

Price elasticity of demand (PED) measures the degree of responsiveness of quantity demanded due to a change in the price of the same good, ceteris paribus. Demand for some products are price elastic when a change in the price causes a ***more than proportionate*** change in the quantity demanded. This means that the value of PED (ignore the negative sign) is more than one. For products that have price inelastic demand, the value of PED is between 0 and 1 as a change in the price causes a ***less than proportionate*** change in the quantity demanded. The value of price elasticity of demand tends to be different for different products due to factors such as availability of close substitutes, proportion of income spent on the good and nature of the good.

The value of price elasticity of demand tends to be different for different products due to availability of close substitutes.

The greater the number of substitutes and the closer the substitutes for the good, the more price elastic will be the demand for the good. The presence of close substitutes enables consumers to respond and switch to other substitutes when the price of the good rises. This causes the quantity demanded of the good to fall significantly when price rises. For example, the demand for Nike shoes will tend to be price elastic as there are many close substitutes available in the market such as Adidas, Reebok and New Balance shoes. On the other hand, demand for petrol is price inelastic as there are no close substitutes available in the market.Hence, the more close substitutes a good has, the more elastic will be its demand.

The value of price elasticity of demand tends to be different for different products due to the proportion of income spent on the good. The higher the proportion of income spent on a good, the more price elastic will be the demand for the good. For example, if the price of ballpoint pen increases by 20% (from $1 to $1.20 per pen), consumers are unlikely to cut down the use of ballpoint pen significantly since expenditure of ballpoint pen is only a very small proportion of consumers' income. In contrast, if the price of a winter holiday package increases by 20% (from $2000 to $2400), it is likely to affect the consumer's spending ability to a large extent as expenditure on a winter holiday package takes up a much larger proportion of consumers' income. Thus, a consumer is more likely to be more responsive to a change in price for goods when consumer expenditure takes up a large proportion (%) of his income.

Lastly, the nature of the good also determines the value of price elasticity of demand. Necessities are goods that are considered to be essential or necessary. Thus, necessities such as rare-earth and diabetes medication tend to have an inelastic demand. Producers of televisions and computer screens require the use of rare-earth in producing electronic goods are not sensitive to a price increase. Similarly, diabetic patients' demand for diabetes medication is also price inelastic. In addition,goods which are addictive goods such cigarettes tend to be more price inelastic in demand since habitual cigarette smokers are not responsive to a price increase. On the contrary, demamnd for luxuries such as fine dinning is price elastic. As luxuries are not considered to be indispensable, consumers will be sensitive to price changes. For example, if the price of fine-dinning rises by 15%, quantity demand is expected to fall by more than proportinately. Thus, the nature of the good does affect the value of price elasticity of demand for the good.

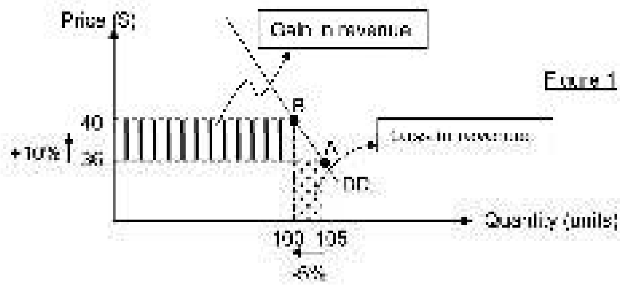
From the above we can see that the determinants of price elasticity of demand are as follows: availability of close substitutes, proportion of income spent on the good and nature of the good. It is important for a producer to know the value of price elasticity of demand for the firm's good as price adjustments has a direct impact firms' total revenue.

PJC 2017 H1 Prelim Exam Paper 1
Question 3: (b) Profits are earned when revenue exceeds costs of production. Discuss whether it is both possible and beneficial for producers to change the price elasticity of demand for their products. [15]

It is possible and beneficial to change the price elasticity of demand for the product.

Producers can change the price elasticity of demand for a product by making the demand for the good to be more price inelastic. This aims to make consumers less sensitive to price changes. A producer can make the demand for a good to be more price inelastic via advertising or long-term research and development to improve the product quality. These strategies will reduce the number of close substitutes available in the market. Effective advertising can convenience consumers that the firm's product has features that are unique. As for R&D (research and development), it results in improvement in quality of the good which helps to differentiate the firm's products from others.

If the producer is successful in making the demand for the good to be price inelastic, prices can be raised to increase the total revenue. Total revenue is the money received by firms when they sell a good. Total revenue is equal to price of the good multiply by the quantity of the good sold (TR = PXQ). When demand for a good is price inelastic, an increase in price causes a rise in total revenue. This is because a rise in price will result in less than proportionate fall in quantity demanded, and hence, total revenue will increase. Graphically, this can be seen in Fig 1.



Refer to Figure 1. A rise in price from $36 to $40 (+10%) leads to an fall in the quantity demanded of the good from 105 to 100 units (-5%).

At price $36 (point A), Total revenue = $36 X 105 = $3780
At price $40 (point B), Total revenue = $40 X 100 = $4000

From the above, we can see that total revenue rises as price increase for inelastic demand. This is because when price falls, quantity demanded increases less than proportionately. (↓ TR = ⇓ P X ↑ Q)

For a given supply curve, the more price inelastic the demand for a good, the higher will be the tax borne by the consumers. This is because the producers are able to increase the price of the good after the tax by a large extent as the quantity demanded will only decrease by a relatively small extent given the inelastic demand curve.

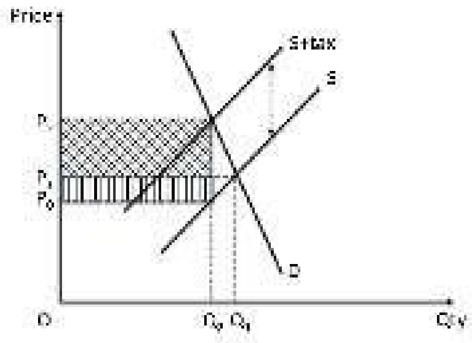


Figure 2

The original equilibrium price and output is OP_1 and output is OQ_1. With the imposition of a specific tax, the supply curve shift from S to S+tax as shown in Figure . As a result, the price increases to OP_2.

Government's tax revenue is represented by the shaded areas:

The consumers' burden of the tax for each unit of the good is represented by the increase in the price = P_1P_2. Thus, the total consumer burden for OQ_2 units is shown by the shaded area .

The total producers' burden for OQ_2 units is shown by area .

Given the price inelastic demand (relative to the supply), the consumer is bearing a greater burden than the producer.

Hence, from the above, it is possible and beneficial to change the price elasticity of demand for the product.

Nevertheless, producers need to consider the impact on profits. An attempt to reduce the value of PED is likely to raise costs. Since profit = total revenue – costs, costs may rise more significantly than total revenue. Hence, profit may fall. Hence, firms may not benefit from reducing the PED value of its products.

Furthermore, in reality, it is difficult for firms to determine the value of the price elasticity of demand and set price their products accordingly. When we calculate the PED value, we need to assume the ceteris paribus condition. This means that we have to separate out all the other factors that influence the demand for the product and just measure the impact of the price change alone on quantity demanded. However, these non-price factors such as consumers' preference and income could have changed over time.

To sum up, it is possible and beneficial to change the price elasticity of demand for the product. However, producers need to carefully consider (i) the impact of changing the change the price elasticity of demand for the products on (i) revenue and costs and (ii) the accuracy in determining the price elasticity of demand and (iii) whether the assumption of ceteris paribus condition holds true.

PJC 2017 H1 Prelim Exam Paper 1
Question 4: **a) Explain how weakening of a country's foreign exchange rate can cause inflation rates to rise. [10]** **b) Discuss whether the use of supply side policy as a means of solving the problem of inflation is likely to be effective. [15]**
a) Explain how weakening of a country's foreign exchange rate can cause inflation rates to rise. [10]
Inflation is a situation where there is a sustained increase in the general price level. There are mainly two types of inflation, namely demand-pull and cost-push inflation. A weakening of a country's foreign exchange rate causes prices of exports in foreign currencies to fall and prices of imports in domestic currency to rise. This can cause both demand-pull (rising AD) and cost-push (falling AS) inflation. Weakening of the exchange rate causes demand pull inflation. When a currency weakens, it means that the decrease in value of the currency in foreign currencies. Thus, with depreciation, the prices of exports fall in foreign currency while the price of imports in domestic currency rise. With a fall in price of exports, trading partners will increase their quantity demanded for exports. Assuming that the demand for exports is price elastic (PEDx>1), quantity demanded of exports will rise more than proportionately. Hence, export earnings in foreign currency will rise. Imports are more expensive to the locals. This will result in a fall in quantity demanded for imports. Assuming that the demand for imports is price elastic (PEDm>1), quantity demanded of imports will decrease more than proportionately. Thus, expenditure on imports will decrease following appreciation. The rise in export earnings and the fall in import expenditure will mean that the current account will improve. Based on the explanation above, current account will improve if elasticities of demand of imports and exports (PEDx>1 and PEDm >1) are present. With a rise in (X-M), it causes a rise in AD resulting in higher utilization of resources. This increase in utilization soon leads to firms having to pay more for factor inputs such as office space. The increase in rentals and demand for office spaces thus depletes the scarce resources even more resulting in demand-pull inflation. The rise in AD when the economy is at or near full employment will cause a rightward shift in AD curve, from AD1 to AD2 and thus will cause a rise in the GPL, assuming AS remains unchanged. This leads to a rise in the quilibirum general price level from P1 to P2. As resources in the economy are utilized,, the shortage of unemployed resources drives up prices that producers pay for factor inputs and they expect higher prices to produce the real output Yf. Thus, demand pull inflation occurs. Weakening of the exchange rate causes cost-push inflation through imported inflation especially in countries such as Singapore due to her reliance on imports. With a weakening of the exchange rate, imports will become more expensive. Countries who relies heavily on imported products such as oil or primary products such as tin for its production will experience a higher cost of production for many firms. This causes firms to respond by raising the prices of their goods and services to protect profit margins. This causes AS curve to shift upwards from AS1 to AS2 and raises the equilibrium GDP from P1 to P2. Thus, weakening of the exchange rate will cause imported inflation in Singapore. With a depreciation of a country's currency, it can cause demand pull and cost push inflation in a country. In response, the government takes active policies to deal with inflation.

b) Discuss whether the use of supply side policy as a means of solving the problem of inflation is likely to be effective. [15]
Low inflation is an objective of the government as it helps the economy develop and achieve greater efficiency and equity. Inflation can be caused by both demand pull and cost-push inflation. To achieve low inflation, the government adopts supply-side policy to reduce the impact of rising costs and rising AD. The effectiveness of supply side policy in addressing problem of inflation depends on whether it addresses the root cause of inflation. Supply-side policies are effective in controlling inflation to reduce the impact of rising costs and rising AD in the long term. Supply side policies aim to improve the productive capacity of the economy via improving the quantity, quality and efficiency in the use of the 4 factors of production. With training and innovation, assuming labour productivity rises more than wages, firms' average costs will fall and the economy's productive capacity will rise. These lead to outward shifts in the AS curve as rising labour productivity increases the productive capacity of the economy, this means reduced likelihood of demand pull inflation since when AS shift from AS1 to AS2, an increase in AD from AD1 to AD2 only increases GPL from P1 to P2. Thus, the economy is able to accommodate increase in AD without having to bear with sudden price increases. (Insert an AD/AS diagram) Hence, supply-side policy should be adopted as it is seen as a proactive measure that have the ability to maintain a low and stable rate of inflation but usually with results only in the long run as skills training and upgrading takes time. In addition, retraining and skills upgrading is costly, which could give rise to problems of a depletion of national reserves or a national debt if such policies are financed through borrowing. This would be detrimental to the future generation in terms of lower standard of living and lower incomes if higher taxes are imposed to service the debt. Countries who are in debt may not be able to carry out supply side policies extensively due to debt problems. Supply-side policies have to be complemented with other short run policies to ensure effectiveness in addressing inflation especially in the short run. If the root cause of inflation is imported inflation and demand pull inflation from rising exports, exchange rate policy is more effective. For economies like Singapore, who is highly dependent on imports due to small economy lacking resources, are susceptible to imported inflation when world prices of raw materials and essential goods rise. Through an appreciation of exchange rate, Singapore is able to keep the price of her imports low so that she can reduce her rate of inflation due to high price of imports. By keeping the prices of these imported raw materials low, this will enable our firms to keep the cost of production low, hence lowering cost push inflation in Singapore. The lower price of foodstuff ensures that a lower cost of living for her residents and hence they will not demand for high wages thus helping once again to minimise cost push inflation. With an appreciation of exchange rate, it will increase the price of exports in foreign currency and fall in price of imports in domestic currency. Assuming that demand for exports and demand for imports is price elastic, this will lead to a fall in (X-M). This causes a fall in AD reducing demanding pull inflation. Thus exchange rate policy is effective in addressing imported inflation and demand pull inflation from rising exports.

If the root cause of inflation is demand pull inflation from rising domestic demand such as consumption and investment, interest rate policy is more effective.

Suppose an economy experiences demand-pull inflation due to excessive rise in C and I (rise in domestic demand). A government can use contractionary monetary policy (centered on interest rates) to control inflation via raising interest rates. Central bank can raise interest rates (i/r) causing a rise in cost of borrowing. This will result in a fall in consumption of big ticket item and a lower C. A higher interest rate will cause a rise in return to savings meaning a higher opportunity cost to consume leading to a fall in C. Higher i/r, given the same expected returns to investment would meant that less investment projects are profitable and Investment falls. A fall in C and I would cause a fall in AD. An initial change in AD will trigger the reverse multiplier because a fall in investment and autonomous consumption lead to further reduction of spending. In view of the fall in AD, inflationary pressure will ease.

However, contractionary monetary policy is less effective when firms expect returns to more than offset the higher cost of borrowing. For example, under demand-pull inflation where the excessive demand is high relative to supply, the increased profits can more than offset the extra cost of borrowing. Hence, despite the high cost of borrowing due to the increase in interest rates, firms will still continue to borrow to expand their business because of the strong demand for goods and services coupled with the high level of business optimism.

To conclude, supply side policy is effective as a means of solving the problem of inflation as it can reduce the impact of rising costs and rising AD. However, supply-side policy is ineffective as it may not directly address the root causes of inflation in the short run. Thus, the government should adopt a mix of policies such as exchange rate policy and interest rate policy to address the root cause of the inflation as a short term policy and supply side policy as a long term policy.

Name:____________________ Centre No. / Index No.:______/______ Class:__________

PIONEER JUNIOR COLLEGE, SINGAPORE
JC2 Preliminary Examination 2017
Higher 1

ECONOMICS

8819/01

Paper 1

14 September 2017

3 hours

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your Centre number, index number and name 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.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Please begin your answer to each question on a fresh piece of writing paper.

At the end of the examination, fasten your work for Questions 1, 2 and 3 or 4 separately.

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

This document consists of **6** printed pages.

Pioneer Junior College

Ministry of Education

Section A

Answer **all** questions in this section.

Question 1 **The impact of climate change**

Table 1: Food Price Index (2002-2004 = 100)

The table below shows an index of food prices over the period of 2006 to 2015.

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Index	127.2	161.4	201.1	160.3	188.0	229.9	213.3	209.8	201.8	164.0

Source: *Food and Agriculture Organisation of the United Nation*

Extract 1: The Paris Agreement

A historic, legally binding climate deal that aims to hold global temperatures to a maximum rise of 1.5 degrees celsius above pre-industrial levels, starving off the worst effects of catastrophic global warming, has been secured.

The culmination of more than 20 years of fraught United Nations (UN) climate talks has seen all countries agree to reduce emissions, promise to raise $100 billion a year by 2020 to help poor countries adapt their economies, and accept a new goal of zero net emissions by later this century.

Source: *The Guardian*, 13 December 2015

Extract 2: Climate change and the continual demand for economic growth

The agreement reached at the climate change talks in Paris is certainly a great improvement on anything that has gone before. Whether it is enough to save the planet is questionable. It was suggested that the agreement will create more jobs and economic growth driven by investment in clean energy sector. But growth, even "green growth", is precisely the problem. In order to reduce the consequences of climate change such as rising carbon emission, growth could be sacrificed. We live on a finite planet with finite resources which we are already exploiting to the limit and beyond. The aim must be to achieve a steady-state economy, with resources fairly shared, but that is incompatible with conventional growth strategy, which was to simply raise output.

Adapted from: *The Guardian*, 14 December 2015

Extract 3: Climate change and food prices

Due to climate change, extreme weather events that impact food production could be happening in seven years out of ten by the end of this century. Poor harvests and low stocks of grains in 2008, combined with a host of other factors resulted in a spectacular rise in food prices. In 2010, a heat wave in Russia led to the country's worst drought in 40 years, destroying the grain harvest and leading indirectly, to food riots in North African countries as prices of bread rose rapidly.

In addition, increasing population will drive demand for food up by 60% by 2050 in any case, so there is going to be significant pressure on food production. The biggest impact of these production shocks were likely to be felt across Africa and the Middle East.

Countries like the UK and the US would be able to cope because more processed food is consumed in the wealthier regions so the changing price of basic commodities was less of a factor in the final price of the product. The most vulnerable countries that are going to be worst affected are low income food-deficit countries, predominantly those in sub-Saharan Africa. This is because the poorest households in these sorts of countries are spending about 50% of their income on food. So if food prices increase by 50-100%, it would leave the citizens in sub-Saharan Africa in an almost unbearable position. The researchers say that international trade worked well when food was in plentiful supply but when global demand increased, countries often imposed export controls which usually made the situation worse.

Hence, governments must try to understand the risks, rather than simply stockpiling food and grains. There should be efforts to reform world trade so that countries don't retreat behind barriers when crops fail. Significant research on agriculture must be carried out to ensure it can cope with increased demand and increasing temperatures.

Source: *BBC*, 14 August 2015

Extract 4: Is there an economic case for tackling climate change?

What is the economic case for tackling climate change? Economists have been wrestling with the question since the early 1980s.

There are externalities: emissions produced by a person or business lead to costs - and sometimes benefits - for others which the emitter has no incentive to consider. The mainstream economic view of how to deal with an undesirable externality is that you tax it. In this case it is greenhouse gas emissions that would be taxed. This approach is generally known as a carbon tax or sometimes as a carbon price.

There are alternatives, notably emissions caps with tradable permits. The idea is that the curbs in emissions would be made by those businesses that could do it at the lowest cost. There have been experiments with this approach, notably in the European Union. If implemented effectively, the approach does have much in common with a carbon tax. Emitters have to pay and in doing so are in effect forced to take account of the externality. The other main approach has been to use regulation or subsidies to promote particular low emissions technologies, especially in electricity generation. Markets are generally seen as more effective than governments, although needing a bit of a nudge in cases of market failure, such as climate change. Moderate warming might actually be beneficial at least for some, with reduced heating costs and cold weather related health problems, and increased crop yields in some places.

Source: *BBC*, 28 November 2015

Questions

(a) Using Table 1, compare the overall change in food prices between 2006 and 2010 with that between 2011 and 2015. [3]

(b) With reference to Extract 2, define opportunity cost and give an example. [3]

(c) With reference to Extract 3, explain whether supply or demand factors are likely to be more important in explaining changes in the price of food. [6]

(d) With reference to Extract 3, explain why countries like the UK and the US are able to cope better compared to Africa and the Middle East in view of the significant rise in food prices. [4]

(e) With reference to Extract 3, explain whether the use of export controls by governments to prevent rising food prices is justified. [6]

(f) Discuss the view that the problem of negative externalities caused by carbon emission from firms can best be solved by using a policy of tradable permits. [8]

[Total:30]

Question 2 **Economic Performance, Prospects and Lessons**

Extract 5: The Rise of Anti-Globalisation and its Impact in Asia

There is no question that globalization has been a good thing for many developing countries who now have access to more markets and can export cheap goods. However, globalization has become deeply discredited in parts of the developed world. The general complaint about globalization is that it has made the rich richer while making the non-rich poorer. In developed countries, jobs are lost and transferred to lower cost countries. Workers in developed countries like the US and EU face pay-cut demands from employers who threaten to export jobs.

Globalization is an economic tsunami that is sweeping the planet. We can't stop it but there are many policies and strategies we can use to make it more equitable. We can enforce the trade laws, force the competition to play by the same rules, and stop giving our competitors the tools (technology and R& D) to ultimately win the global war. The anti-globalists claim that globalization is not working for the majority of the world. The United Nations Development Program reports that the richest 20 percent of the world's population consume 86 percent of the world's resources while the poorest 80 percent consume just 14 percent. Wage stagnation, insecure jobs and widening inequality between rich and poor are just some of the factors that led to rising anti-globalisation and increase protectionism sentiment seen in the West.

The increase in protectionist measures have profound implications for cross border global flows and negatively impact Asia that have built their fortunes on exports.

Adapted from *Forbes, 6 May 2015*

Extract 6: EU slaps anti-dumping duties on China stainless steel

The EU announced that it will impose anti-dumping duties on imports of flat-rolled stainless steel used to make products like washing machines, dishwashers, medical tools and automobiles from China. Duties of around 25% will be imposed for the targeted Chinese firms including industrial giant Baosteel.

This came about after European industry complained of stainless steel products being dumped on the market at below cost price, putting thousands of jobs at stake. In the absence of measures, the dumped imports from the China will continue to force EU industry to sell at loss-making prices. The EU industry concerned suffered a production volume decline of five percent, which led to an eight percent drop in capacity utilisation.

Adapted from *Eurativ, 26 March 2015*

Extract 7: Economic Review for China

In 2015, China's economy grew 6.9 percent, one of the slowest growth rates among the recent years.

Facing shrinking external demand, expanding overcapacity, increasing competition, intensifying trade protectionism and growing trade disputes, China is in the midst of a fundamental transition. She is moving from an investment-intensive, export-led model of growth, to a consumption and innovation-driven one. Last year, China's outbound foreign direct investment (FDI) surpassed its inbound FDI for the first time. More investments were made in North America, Europe and other developed economies, where there are more high-quality targets to obtain advanced technologies that can be deployed domestically. For example, Haier, a Chinese consumer electronic appliances multinational corporation, announced the acquisition of General Electric's Appliances business for USD 5.4 billion, which will not only allow Haier to expand its presence in the US market, but also provide Haier with great products, state-of-the-art manufacturing facilities and a talented team. China's FDI are also going into developing countries such as India as Chinese manufacturing sector is struggling with rising wages at home.

Back home, e-commerce is turning into a pillar of growth: reducing costs and other barriers to entry, increasing competition, driving down prices, and unlocking new demand. The role of e-commerce has become a dominant feature in the consumer spending landscape. In 2015, the online retail sales of goods and services totalled RMB 3.8 trillion, an increase of 37.2 percent. Recent economic data shows that the contribution from consumption as a percentage of GDP in China is rising, accounted for 52.7 percent of China's GDP in 2015, up from 51.4 percent in 2014. By comparison, consumption expenditure in the US accounted for 68.4 percent of the US GDP in 2015.

To meet the challenges of China's rapid rate of urbanisation such as traffic congestion and poor regional connectivity, the government has implemented a series of initiatives. The 'New-type Urbanization Plan' aims to connect ecological progress, urbanisation quality, expanding domestic demand and rural-urban coordination while the 'Belt-and-Road Initiative' is an infrastructure development plan proposed to improve the connectivity of the country.

Adapted from *China Outlook 2016, KPMG's Global China Practice*, March 2016

Table 2: China: Selected Economic Indicators 2011 – 2015

	2011	2012	2013	2014	2015
Real GDP growth (Annual %)	9.5	7.9	7.8	7.3	6.9
Inflation (annual % change in CPI)	8.2	2.4	2.2	0.8	0.1
Government budget balance (% of GDP)	1.53	1.27	0.76	0.84	-
Unemployment rate (%)	4.3	4.5	4.5	4.6	4.6
PM2.5 air pollution (micrograms per cubic meter)	57	57	57	58	58
Internet users (per 100 people)	38.3	42.3	45.8	47.9	50.3

Source: *Various*

Questions

(a) Describe the change in China's real GDP between 2011 and 2015. [2]

(b) Extract 7 suggests an increase in China investment overseas.
Comment on the likely effects of this on China's balance of payments. [4]

(c) Explain the case **for** the use of protectionist measures by the EU government. [4]

(d) With reference to Extract 7, using AD/AS analysis, explain how the 'Belt-and-Road Initiative' impacts the Chinese economy. [4]

(e) Discuss whether the data provided are sufficient to assess changes in standard of living of China over the period of 2011 and 2015. [8]

(f) In view of the anti-globalisation sentiments, discuss whether globalisation should be the driver of growth for emerging economies such as China. [8]

[Total: 30 marks]

Section B

Answer **one** question from this section.

3 **(a)** Explain what might cause price elasticity of demand to be different for different products. [10]

(b) Profits are earned when revenue exceeds costs of production. Discuss whether it is both possible and beneficial for producers to change the price elasticity of demand for their products. [15]

4 **(a)** Explain how weakening of a country's foreign exchange rate can cause inflation rates to rise. [10]

(b) Discuss whether the use of supply side policy as a means of solving the problem of inflation is likely to be effective. [15]

ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2017 (JC2)
General Certificate of Education Advanced Level
Higher 1

ECONOMICS 8819/01

28 August 2017

Paper 1

3 hours

Additional Materials: Answer paper

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.

Section A
Answer **all** questions.

Section B
Answer **one** question.

At the end of the examination, fasten your answers for each question separately.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **8** printed pages.

 [Turn Over]

Section A
Answer all questions

Question 1

Global Food Market and Potato Problems

Table 1: Food and Agriculture Organization (FAO) Food Price Index (2002 - 2004 = 100)

Year	2011	2012	2013	2014	2015
Index	230	215	212	207	179

The FAO Food Price Index is a measure of the monthly change in international prices of a basket of food commodities. It consists of the average of five commodity group price indices, weighted with the average export shares of each of the groups for 2002-2004.

Source*: Food and Agriculture Organization of the United Nations,* 2015

Extract 1: Global Food market

Cheap oil contributed to abundant global supplies of food in 2014 and prospects of a bumper crop for wheat, maize, potatoes and rice in 2015—factors that are driving the sharp decline in international food prices. The agriculture and food sector continue to benefit from less expensive chemical fertilizer, fuel and transportation costs brought on by the previous year's oil price declines.

Falling oil prices have also affected the demand for biofuels, made from crops like maize and potatoes, while the developments in rice support policies for the needy are other factors that could impact food prices. However, unexpected domestic food price fluctuations remain a possibility so it is crucial that countries are prepared to address dangerous food price hikes when and if they unfold.

Source*: World Bank,* 1 July 2015

Extract 2: Potatoes facts around the world

The potato has risen to become the third most important food crop in the world after rice and wheat in terms of human consumption, with fewer alternative food crops available. More than a billion people worldwide eat potato, and global total crop production exceeds 300 million metric tons.

It is a major food crop that is grown in over 100 countries across the world. China, Russia, India, the United States and Ukraine are the largest producers of potatoes. Although many countries across the globe are boosting their potato production, China and India are emerging as the clear world leaders. China is aiming to have 6.66 million hectares on which to grow potatoes by 2020, as the crop is set to become the nation's fourth food staple after rice, wheat and corn, and the government strongly supports this move. The development of the potato industry and the government's push for consumption of potatoes as a staple food is an important step in China's agricultural development

For years, growers have grappled with the problem of getting too good at what they do. Enhanced technology and growing techniques, especially when it comes to controlled irrigation, have allowed potato farmers to be more productive with the same amount of land, year after year. The average potato farmer is able to produce 1.5% more per year thanks to these advances. The Brazilian Agricultural Research Corporation has been carrying on a breeding program to develop well adapted and market quality varieties, targeting to obtain high-yielding, improved tolerance to crop diseases and harsh environment conditions

Source*: Adapted from USA Today,* 10 Feb 2016

Extract 3: Happy Problems in the Potato Market
Potato growers in the key growing regions of India are set for a long wait for better return of their crop. Total potato production is at a record 44.89 million tonnes for 2014-15, which is about 8% higher than the 41.55 tonnes produced in 2013-14. The decline in food prices is welcome, because more poor people can potentially afford to buy food for their families.

However, over the past one month, prices have started firming up as farmers hold back their produce. Farmers, who could stock their produce in the cold storages, have already done it. But still there is a large quantity lying in the fields with the farmers. They will first bring that to market and cold storage stock will get released. Small quantity is also stored by the growers in temporary storages, which have to be disposed of within 2-3 months of harvesting.

There are a total of 240 cold storages in Agra, a city in India, that can store 45 million packets of potatoes, but since there are no buyers of potatoes currently and the farmers could not pay the transporters to take the potatoes to other states for selling due to cash crunch, the cold storage owners were dumping the potatoes out of their units as the farmers were unable to pay them, This, even as a production glut has forced farmers of this starchy tuber to dump their crop on roadsides.

Source*: The Hindu Business Line*, 16 June 2015

Extract 4: Environmental Impacts Associated with Major Food Crops
In countries like India, agricultural intensification (involving the adoption of modern irrigation, fertilizers, improved seeds, and pesticides) has contributed to dramatic gains in food yields since the 1960s. However, increasing evidence suggests that intensive farming systems, if not properly managed, can cause serious environmental harm by reducing soil fertility, polluting soil and water, depleting groundwater, using large amounts of fossil fuels for water pumping, and contributing to climate change. All agriculture inevitably changes the natural environment. However in many instances, harm to natural ecological systems is either unnecessary or outright undesirable.

India, as the largest groundwater user in the world, with an estimated usage of around 230 cubic kilometers per year, more than a quarter of the global total, is severely affected by such environmental issues that are inevitable for an economy that is reliant on agriculture. With more than 60 percent of irrigated agriculture and 85 percent of drinking water supplies dependent on it, groundwater is a vital resource of clean water for both rural and urban areas.

This era of seemingly endless reliance on groundwater for both drinking water and irrigation purposes is now approaching an unsustainable level of exploitation. Many governments have considered the merits of policy measures, including environmental taxation, pollution permits, subsidies for innovation into curtailing usage and subsidies to encourage firms to recycle water.

Source*: Adapted from World Bank,* 6 March 2016

Extract 5: Brazil imposes anti-dumping duty on imported frozen potatoes
Brazil may be tempted to enforce a temporary 'anti-dumping rule' for imported frozen french fries sometime this month. The tax would mainly hit Belgian and Dutch potato product manufacturers.

Brazil is an important export market for the Belgian and Dutch potato manufacturers. The Dutch exported some 83,000 tons of frozen food to Brazil, which equates to about 166,000 tons of potatoes. That means the Netherlands are the second largest exporter to Brazil, following Argentina. Belgium, with 71,000 tons (which represents 142,000 tons of potatoes) is third in the list. Overall, Belgium process nearly 4 million tons of potatoes into cooled and frozen French fries, puree, chips, cooked potatoes, flakes and granulates.

The strong import numbers did not please Brazilian potato manufacturers. They accused European exporters (Belgium and the Netherlands, but also France and Germany) that they were dumping their products onto the Brazilian market. To support their claim, they refer to the pricing between July 2014 and June 2015, which were 18% to 41% below the prices used by those same four European countries to export to the United Kingdom. Belgian prices apparently differ nearly 25%.

The European potato manufacturers deny the accusation and feel the complaint is merely an attempt to protect local production. Even though there is still an ongoing investigation, Brazil could decide to enforce a temporary anti-dumping tax which might mean import costs could grow 40%. That would basically price the European frozen french fries out of the market.

The European potato industry is currently examining how it can fight back: one of the options is to create an interest group with local parties like importers, retailers and processors which could then point to how import helps the local economy and populace. One possible explanation could be that an additional import tax could cause price hikes, which could then spur inflation.

Source*: The EU Retail Detail,* 6 April 2016

<u>Questions</u>

(a) **(i)** Describe the trend in world food prices from 2011 to 2015. **[2]**

(ii) Using a diagram and Extract 1, explain one demand and one supply factor that could support the trend in world food prices from 2011 to 2015. **[4]**

(b) From Extract 2, explain how the price elasticity of demand and price elasticity of supply of potatoes have changed over the years. **[4]**

(c) **(i)** Using Extract 4, explain the source of market failure. **[4]**

(ii) Comment on the options available to the Indian government as possible responses to the above market failure. **[6]**

(d) **(i)** Explain what is meant by dumping as seen in Extract 5. **[2]**

(ii) Discuss whether the Brazilian government should impose 'anti-dumping duty' on frozen potatoes. **[8]**

[30 marks]

Question 2

United Kingdom and European Union

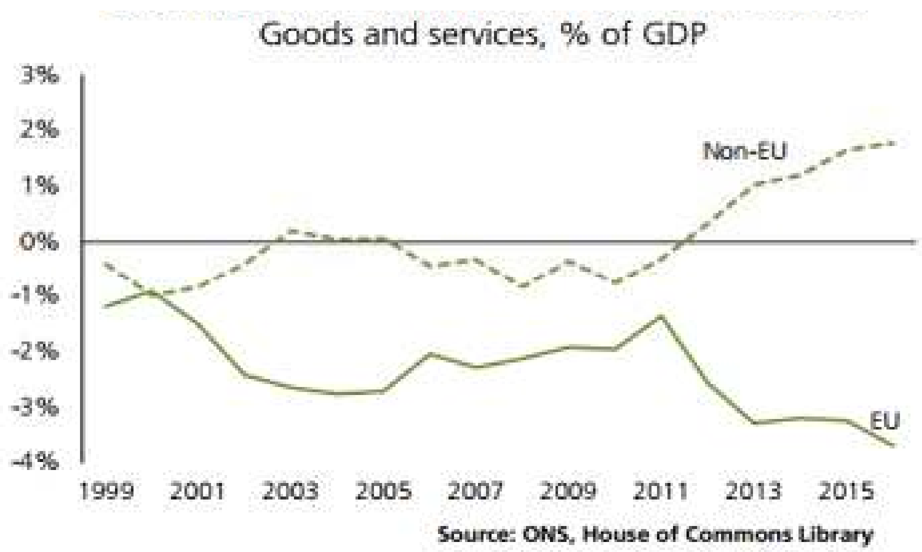
Extract 6: How worrying is Britain's large current account deficit?

Hear any UK politician talk of "the deficit", and he or she will now always be referring to the balance of budget. Britain has been facing a budget deficit from 2010. In the same period the current-account deficit, has also widened. Weak export performance is partly to blame for Britain's large current account deficit. Although disappointing net income from foreign investment is another cause of the deterioration in the current account, it is an extremely attractive investment destination for foreigners as they believe UK is a good bet given its credible governance amid trouble in emerging economies.

In one way, though, Britain looks less solid. Its appeal to investors might diminish markedly if it looked like leaving the European Union, in other words, if there were to be Brexit. Britain has been an attractive destination for FDI given its preferential trade access to the EU. European investors hold most of Britain's short-term liabilities; plugging the current-account gap might become harder without a big fall in sterling, if sentiment soured on Britain.

Source: *The Economist,* 15 October 2015

Figure 1: UK's Balance of Trade with EU and non-EU countries



Extract 7: Net immigration is up in UK

Net immigration is on the up with 298,000 which is the highest since the record level of 320,000 in 2005. Research reveals there is a brain drain of thousands of talented workers leaving the UK for lucrative jobs abroad, while six times as many migrants with low numeracy skills are arriving. These migrants tend to depress wages in low wage sectors and at the same time are entitled to a range of benefits such as housing, healthcare and financial assistance.

Source: *The Telegraph*, 5 March 2015

Table 2: 2015 UK's Export and Import Data

Top Export Partners	Top Export Products	Top Import Partners	Top Import Products
USA Germany China France	Precious Metals Mechanical Appliances Motor Vehicles Electronic Equipment Pharmaceutical Products	Germany China USA France	Mechanical Appliances Motor vehicles Electronic Equipment Mineral Fuels Pharmaceutical Products Precious Metals

Source: *HM Revenue & Customs Overseas Trade Statistics*

Extract 8: What would happen if Britain left the EU?

The 'Brexit'- Britain leaving the European Union (EU) is a major concern and David Cameron, the prime minister of UK, has promised a 2017 referendum on whether Britain should leave the EU. Results of early surveys show while those wishing to leave the EU just outnumber those likely to vote to remain in the EU, there are still many UK citizens who are undecided.

The arguments for leaving the EU include Britain regaining control over migrants flows especially slamming doors on Eastern European migrants abusing UK's welfare system, stopping of annual contribution of small fortune to EU budget and to minimise the impact of the Eurozone crisis on UK. Factors such as remarkable growth of emerging markets outside Europe like China and the relative success of the United States when compared with Europe also support the leave decision as it opens up new avenues of global economic co-operation and integration with UK able to strike better deals on its own. It would also prevent proposed EU regulation such as tax on financial services from harming UK's key sectors one of which is financial services. It would also open up Britain's food market to the world.

On the other hand, those wishing to remain in the EU argue that deep integration of UK and the EU in terms of economic, military and culture could mean that Brexit would lead to a loss of market access to EU, plummeting stock markets, weakening the pound and the UK economy. Even, the argument about control over immigration has its flaws as research shows that over longer term immigration boosted wages and employment.

Brexit would also be a source of concern to EU citizens who are all absolutely terrified by the prospect of the referendum due to uncertainty arising from the potential Brexit, diminished image of the EU and possible rise in trade barriers. More than 50% of Britain's trade flows are with the EU and UK is the second largest economy in Europe. The restriction of labour flows to the UK from the EU into the UK could have negative impact on Eastern European countries but might benefit more affluent Western European countries such as Germany which could see higher inflows of EU migrants.

Source: *The Guardian*, 19 April 2015

Questions

(a) (i) Compare the trend in the balance of trade between UK and EU between 2012 and 2015 with that of UK and non-EU over the same period. **[2]**

(ii) Using economic analysis, explain one possible reason for the trend observed in balance of trade between UK and EU between 2012 and 2015. **[2]**

(b) Explain how a change in UK's trade balance could affect UK's budget balance. **[4]**

(c) Use the concept of opportunity cost to explain **one** effect on each of firms and the government arising from the inflow of migrants in UK. **[4]**

(d) Using the information and your own knowledge, explain how Britain benefits from free trade with EU. **[4]**

(e) To what extent can theory of comparative advantage be used to explain UK's pattern of trade? **[6]**

(f) Discuss whether the potential problems faced by UK are likely to be more serious than problems faced by EU members' countries if Brexit were to take place. **[8]**

[Total: 30 marks]

Section B

Answer one question from this section.

Question 3

Plans to achieve a 'car-lite' society, which is to reduce the use of private cars in Singapore, will cost the government S$36 billion. The Government is expected to invest this amount over the next five years, as it seeks to improve rail reliability and make public transport the preferred way to get around.

(a) Explain how the use of private cars leads to market failure and consider whether public transport can be regarded as a public good. **[10]**

(b) Discuss whether improvement to public transport alone is the best way to achieve a car-lite society. **[15]**

Question 4

(a) Explain the two possible conflicts in macroeconomic goals that a government may face. **[10]**

(b) Assess the view that certain policies are better suited in attaining favourable balance of payments position than other policies. **[15]**

~ End of paper ~

ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2017 (JC2)
General Certificate of Education Advanced Level
Higher 1

ECONOMICS **8819/01**

28 August 2017
3 hours

Suggested Answers with Examiners' Comments

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.

Section A
Answer **all** questions.

Section B
Answer **one** question.

At the end of the examination, fasten your answers for each question separately.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **8** printed pages.

<u>Suggested Answers for CSQ 1</u>

<table>
<tr><td>(a)</td><td>(i)</td><td>Describe the trend in world food prices from 2011 to 2015.</td><td>[2]</td></tr>
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<u>Suggested Answer:</u>

World food prices generally fell from 2011 to 2015 [1], with the sharpest fall from 2014 to 2015 [1].

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<tr><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(ii)</td><td>Using a diagram and Extract 1, explain one demand and one supply factor that could support the trend in world food prices from 2011 to 2015.</td><td>[4]</td></tr>
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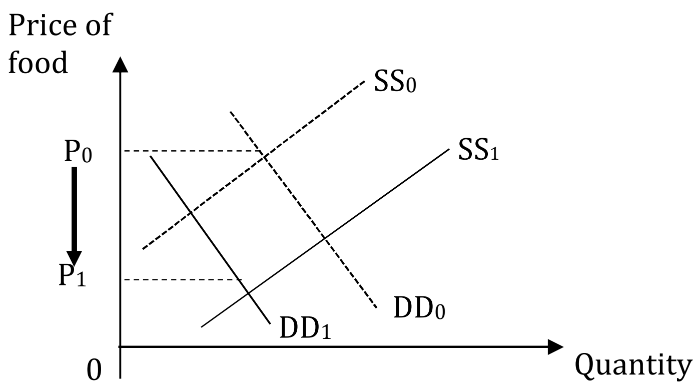
<u>Suggested Answer:</u>

One demand factor that could support the fall in food prices would be the fall in demand for biofuels. Biofuels require food crops as a factor of production. As mentioned in extract 1, "Falling oil prices have also affected the demand for biofuels, made from crops like maize and potatoes," hence, the derived demand for food falls. [1]

One supply factor that could support the fall in food prices would be the fall in cost of production for food. From extract 1, "Cheap oil contributed to abundant global supplies of food". Oil is an important **factor of production** for food, as it is used to run tractors, transportation, etc. Cheaper oil will cause COP of food to fall, resulting in increase in supply of food. [1]

Diagram [1] below shows a simultaneous fall in demand and increase in supply of food.



Therefore, a simultaneous fall in demand and increase in supply of food resulted in a fall in price of food. [1] (extent of shift not needed)

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(b)		**From Extract 2, explain how the price elasticity of demand and price elasticity of supply of potatoes have changed over the years.**	**[4]**
		<u>Suggested Answer:</u> Price elasticity of demand (PED) for potatoes has increased over the years [1]. This is seen from extract 2, "potato has risen to become the third most important food crop" and the Chinese government's "push for consumption of potatoes as a staple food". This shows that the **degree of necessity** for potatoes have increased, resulting in demand for potatoes becoming relatively more price inelastic over the years [1]. Price elasticity of supply (PES) for potatoes has also increased over the years [1]. From extract 2, "Enhanced technology and growing techniques, especially when it comes to controlled irrigation, have allowed potato farmers to be more productive with the same amount of land." This shows that producers of potatoes are better able to increase **spare capacity** and **factor mobility** has improved, resulting in PES of potatoes [1].	
(c)	**(i)**	**Using Extract 4, explain the source of market failure.**	**[4]**
		<u>Suggested Answer</u> Extract 4 explains the case of **negative externalities in the production of agricultural products** [1]. From extract 4, "harm to natural ecological systems is either unnecessary or outright undesirable," and "more than 60 percent of irrigated agriculture and 85 percent of drinking water supplies dependent on it, groundwater is a vital resource of clean water for both rural and urban areas." This shows that there is external costs incurred on **3rd parties**, who are not involved in the economic transaction, such as other producers who also depend on the ecological system, and people who live near the farms and consumes ground water. [1] With the presence of MEC, there will be divergence between MPC and MSC, where MSC>MPC. [1] This leads to **over-production** of agricultural products, causing **allocative inefficiency** and hence market failure [1]. ***Max 2m if no reference made to extract.***	
	(ii)	**Comment on the options available to the Indian government as possible responses to the above market failure.**	**[6]**
		<u>Suggested Answer</u> 1. Environmental taxation ▪ this will reduce consumption and cut down on wastage	

		▪ problems include time lag, enforcement and the amount of tax to implement 2. Pollution permits ▪ this will decrease the number of people tapping into the limited availability of groundwater ▪ problems include enforcement, who to get the permits to tap into the water 3. Subsidies for innovation into curtailing usage ▪ R&D needs a lot of funding and results are often uncertain. Government subsidies will increase the private sector's investment into R&D ▪ problems include limited availability of government funds, uncertainty of results 4. Subsidies to encourage firms to recycle water ▪ this will reduce the amount of groundwater used up ▪ problems include the acceptance of people to using recycled water and the enforcement of the policy ***Identify 2 options and explain how they work [3]*** ***Explain the limitations or disadvantage of the 2 options [2]*** ***Make a stand, conclude [1]*** ***Max 3m if no reference made to extract.***	

(d) (i) Explain what is meant by dumping as seen in Extract 5. **[2]**

Suggested Answer

Dumping refers to the sale of goods abroad at a price that is below the marginal cost of production or below the price at which the product is sold for in the domestic market.

As seen in extract 5, potatoes sold in Brazil are "18% to 41% below the prices used by those same four European countries to export to the United Kingdom. Belgian prices apparently differ nearly 25%."

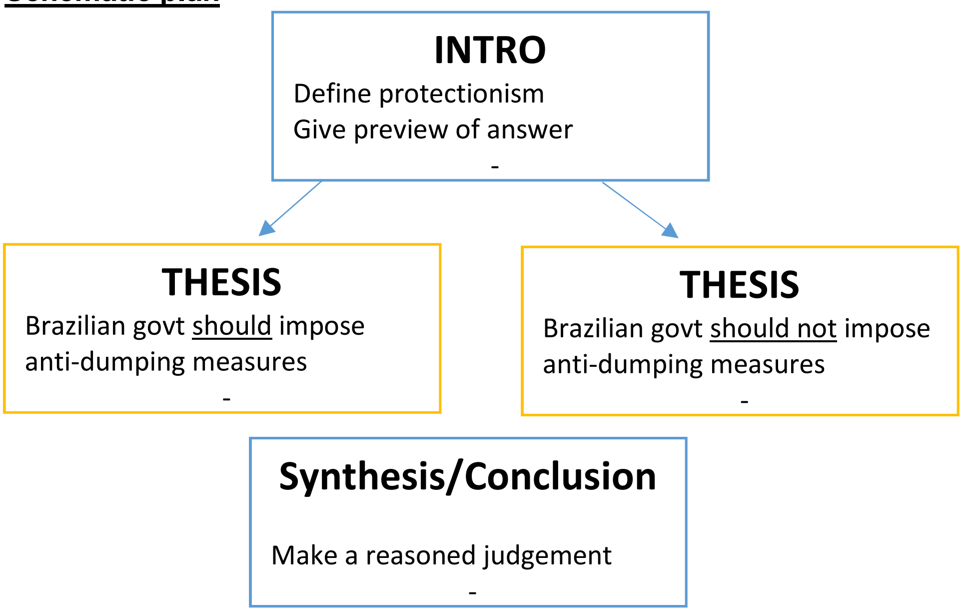
This could be seen as dumping by other nations into the Brazilian market.

(ii) Discuss whether the Brazilian government should impose 'anti-dumping duty' on frozen potatoes. **[8]**

Question Analysis

Command: 'Discuss whether' → 2-sided analysis needed
Content: 'anti-dumping duties' → reasons for and against protectionism
Context: Brazil and other related international markets

Schematic plan



Suggested Answer

Introduction

Anti-dumping duty is a form of protectionist measure. Protectionism is defined as the setting up of trade barriers with the intention of protecting/sheltering domestic firms from foreign competition.

<u>Body</u>
<u>Thesis: Brazilian government should impose anti-dumping duty on frozen potatoes to protect domestic employment, increase actual economic growth and improve BOP current account position.</u>

There is evidence in extract 5, as mentioned in d(i), that frozen potatoes are being 'dumped' into the Brazilian market. An "anti-dumping duty' will protect Brazilian potato producers from the unfair competition from abroad by increasing the price of imported frozen potatoes. This will help to prevent Brazilian potato producers from being competed out of their own domestic market due to the cheaper prices of imported potatoes from abroad. Domestic potato producers may continue operation and **domestic employment can be secured**.

Furthermore, an increase in price in imported potatoes will cause quantity demanded for imports to fall. Assuming PEDm>1, import expenditure for Brazil will fall, resulting in X-M component of AD to increase. An increase in AD will lead to an unplanned fall in stock inventories, firms step up on production, increase real national output/income via the multiplier effect. **Actual economic growth** will be experienced by Brazil.

A fall in import expenditure for Brazil will also **improve BOP current account** with less outflow of foreign currencies. Current account deficit will be reduced OR Current account surplus will be increased, depending on the initial position of Brazil's BOP current account.

<u>Anti-thesis: However, the Brazilian government should not impose anti-dumping duty on frozen potatoes due to the potential loss of the benefits from free trade, and the possible disadvantages of protectionism</u>

Imposing anti-dumping duty is considered a form of protectionist measure. If Brazil choose to do it, she may lose out on the potential benefit of free trade. As supported by the **theory of comparative advantage**, a country should specialise and produce/export goods and service that it has a lower opportunity cost in producing. The Europeans may indeed have a lower opportunity cost in producing potatoes compared to Brazil, which resulted in the lower prices charged by them in the Brazilian market. Hence, this may not be considered as 'dumping' by the European producers if they are truly able to produce at a much lower cost. Brazilian consumers will not be able to enjoy lowered potato prices, which results in greater consumer surplus, as a result of anti-dumping duties imposed by the Brazilian government. This **worsens global allocative efficiency** as prices are artificially raised.

Furthermore, firms that require frozen potatoes as a form of factor of production, such as fast food chains, may face increase in cost of production. They may then pass on the increase in COP to consumers in the form of higher prices, further reducing consumer surplus.

Also, as stated in extract 5, "European potato industry is currently examining how it can fight back". This represents a form of trade retaliation, which may cause other goods and services that Brazil imports from Europe to experience as increase in price. If these imported goods in services from Europe include FOPs, it may cause COP to increase, SRAS falls, resulting in **cost-push inflation**. Brazilian exporters may also face a fall in revenue if the trade retaliation by Europe hits them badly.

Synthesis/Conclusion

All in all, whether the Brazilian government should impose anti-dumping measures on frozen potatoes depends on whether there is sufficient evidence to prove that European nations are indeed dumping potatoes to the Brazilian market. It is often difficult to prove that a country is practising dumping in the real world, hence it may be a tough choice for the government. Nonetheless, the government should weigh the potential pros and cons before deciding whether to impose the anti-dumping duties. If the potential harm outweighs the benefits, then the government should not impose the anti-dumping duties which causes trade retaliation from the Economic powerhouse – the Eurozone, which comes along with many other problems for the Brazilian economy.

Or any other reasoned judgment.

Level	Knowledge, Application, Understanding and Analysis
L3 (5 – 6)	For a thorough and well-balanced answer that shows an understanding of the fundamental case for and against trade protectionism. Makes good reference to case material.
L2 (3 – 4)	For a balanced but undeveloped answer that has some analysis on the reasons for and against trade protectionism.
L1 (1 – 2)	For an answer that is largely descriptive and lacks a clear structure. Simple listing of reasons for and against protectionism. Or listing of other policies. No examples/reference to extract to substantiate points.
E2 (2)	Judgement is based on economic analysis and adequately substantiated.
E1 (1)	For an unexplained assessment, or one that is not supported by economic analysis.

Suggested Answers for CSQ 2

(a)	**(i)**	**Compare the trend in the balance of trade between UK and EU between 2012 and 2015 with that of UK and non-EU over the same period.**	**[2]**
		Suggested Answer There was an ***increasing trade surplus*** between UK and non-EU while an ***increasing trade deficit*** between UK and EU over the period of 2012 to 2015.	
	(ii)	**Using economic analysis, explain one possible reason for the trend observed in balance of trade between UK and EU between 2012 and 2015.**	**[2]**
		Suggested Answer **Any demand or supply factors is acceptable:** As observed in (a)(i), balance of trade between UK and EU has seen an increasing trade deficit. One possible reason could be UK's export revenue to EU has fallen, assuming import expenditure remains constant. A ***persistent fall*** in the demand for UK's exports to EU could be due to a change in tastes and preferences towards UK's goods, contributing to an increasing fall in UK's export revenue between 2012 and 2015, assuming ceteris paribus, this would lead to a rising trade deficit between UK and EU. ***Or candidates can explain via UK's demand for EU's imports has risen between 2012 and 2015.***	

(b)		**Explain how a change in UK's trade balance could affect UK's budget balance.**	**[4]**
		<u>Suggested Answer</u>: As stated in **Extract 6**, UK has been facing a budget deficit from 2010 and current account deficit has widened. A rising trade deficit meant there was a fall in net export (X – M) which lead to a fall in AD ceteris paribus, resulting in negative economic growth. **[1]** This has also affected UK's budget balance, which was having a budget deficit. This implied that UK's government expenditure was greater than tax revenue. **[1]** ***<u>Either ONE of the Answer Below</u>:*** **[1]** • UK's government tax revenue from personal and corporate income tax could decrease due to negative economic growth from a fall in net export and thus leading to a fall in wages and profits respectively. • UK's government may also be required to distribute greater unemployment benefits as more people could be unemployed due to a fall in export, hence increasing welfare spending. Thus, a change in UK's trade balance, in this case trade deficit, could also affect UK's budget balance negatively, resulting in large budget deficit. **[1]**	
(c)		**Use the concept of opportunity cost to explain one effect on each of firms and government arising from the inflow of migrants in UK.**	**[4]**
		<u>Suggested Answer</u> Opportunity cost means the next best alternative foregone when a choice / decision is made by the different economic agents. **<u>Effect on Firms:</u>** With a rising inflow of migrants in UK, firms may employ cheaper migrants to produce goods and services which would allow the firms to drive down their cost of production, thus leading to higher profits, assuming ceteris paribus. This can be seen from **Extract 7**, as many migrants tend to depress wages in low wages sectors. Thus, the opportunity cost of hiring migrant workers could be better quality goods and services being compromised as they could have been produced by hiring better skilled domestic workers. This could also lead to forgone profits that could have been generated from better quality products. **<u>Effect on Government:</u>** With a rising inflow of migrants in UK, there would be an increase in government spending to provide services such as healthcare and housing benefits to the migrants' workers. This can be seen from **Extract 7** as these migrants were entitled to a range of benefits such as housing, healthcare and financial assistance.	

		Thus, the opportunity cost of funds directed towards migrants to provide such benefits would be the forgone benefits such as higher productivity could have been achieved if the funds had been spent on training instead. ***Note: any relevant opportunity cost example with sound economic analysis is accepted. However, the choice being made and the next best alternative that firms and governments need to foregone has to be clearly explained.***	
(d)		**Using the information and your own knowledge, explain how Britain benefits from free trade with EU.**	**[4]**
		Suggested Answer: From **Extract 6**, Britain has been an attractive destination for FDI given its preferential trade access to the EU. ***Any TWO Benefits:*** ➔ Increase in FDI and (X – M) leads to a rise in investment expenditure and net export respectively → ↑ AD, ceteris paribus → ↑ real national income → leading to positive economic growth. ➔ At the same time, an increase in real national output would lead to a fall in inventories, firms would hire more factor of production such as labour → ↑ derived demand of labour → leading to a reduction in unemployment. ➔ An increase in FDI and trade, assuming net export ↑ → would lead to an improvement in both capital and financial account and current account, thus Britain could also see an improvement in their balance of payment account position.	

(e)		To what extent can theory of comparative advantage be used to explain UK's pattern of trade?	[6]
		Question Analysis:	

Command Word	To what extent
Content	Theory of CA/ pattern of trade
Context	UK

Schematic Plan:

Introduction: Define pattern of trade

Thesis: Theory of CA can be used to explain UK's pattern of trade

Anti-thesis: Other demand factors can be used to explain UK's pattern of trade instead

Evaluation: Justified stand on the extent of whether theory of CA can be used to explain UK's pattern of trade.

Suggested Answer:

Introduction:

- Pattern of trade refers to the volume and composition of trade between a country and the rest of the world.
- Determinants of pattern of trade are based on both demand and supply factors.
- Supply factors such as the differences in factor endowment, government policies, FTAs
- Demand factors such as tastes and preferences, rising affluence and changes in population sizes and demographics.

Body 1: Theory of Comparative Advantage (CA) can be used to explain UK's Pattern of Trade

Differences in Factor endowment – Theory of Comparative Advantage

- Theory of comparative advantage states that, under certain conditions, countries can benefit from specialisation of producing goods and services which they have comparative advantage in and trade for goods and services in which they do not have comparative advantage in.
- It's an important factor in determining the relative productivity of an economy in production of certain goods and services based on their factor endowments, which thus affect a country's CA.
- This means that country with relatively lower opportunity cost of producing certain goods and services compared to other countries should specialise in the production of those goods and services they are more efficient in.
- Countries should then import goods and services that they do not have comparative in as opportunity costs of producing these goods within that country are higher.

  - ➔ E.g. UK could have a lower opportunity cost in the production of more capital and skilled intensive products.
  - ➔ As stated in **Extract 7**, UK experienced 'brain drain' due to thousands of talented workers leaving the country.
  - ➔ With relatively abundant amounts of such capital / technology / skilled labours. UK's could export capital / knowledge-intensive goods such

as motor vehicles and pharmaceutical products as shown in **Table 1**.

- ➔ UK could also have a higher opportunity costs in the production of more labour-intensive products. This could be seen from the high migrants' influx which were from low numeracy skills. UK should thus import more labour intensive and lower value-added electronic equipment and mechanical products.
- ➔ Also in **Table 1**, UK has imported precious metals and mineral fuels which could imply that they lack such natural resources.

All the above showed that due to theory of CA, it has affected UK's pattern of trade → i.e. in term of the volume and composition of goods and services they export and import.

Body 2: Demand Factors could also be used to explain UK's Pattern of Trade

Differences in Affluence (particularly in emerging economies)

- ❖ Emerging economies such as China has experienced relatively stronger rates of economic growth. This can be seen from **Extract 8, para 2** which stated that there is remarkable growth of emerging markets.
  - ➔ This could lead to higher demand for goods and services produced overseas e.g. tourism-related services → resulted in greater export of such goods and services from UK to these emerging economies.
  - ➔ This can be seen from **Table 1**, which showed that China is one of UK's top export partners.

Differences in Tastes and Preferences

As seen in **Table 1**, although UK's export motor vehicles, mechanical appliances and pharmaceutical products, they also import them. This could be due to UK citizens' preference for foreign products in these categories, seeking greater choice and wider variety.

Other possible reasons could be due to globalisation, it had led to FDI flows and outsourcing such that lower value-added products / processes are made in lower cost developing countries and then exported back to UK. These exports could be further processed into higher value-added products and exported from UK to trade partners such as Germany and France.

For example, electronic equipment parts can be made in other countries but the final processes could be assembled in UK and then exported from UK to its trade partners.

Evaluative Conclusion:

From the data given, theory of comparative advantage can only be used to explain UK's pattern of trade to a small extent. As seen from **Table 1**, most of the UK's top export and imports products are largely similar. Thus, other factors such as tastes and preferences, coupled with increasing globalisation could have been a more plausible explanation that affect UK's pattern of trade more accurately.

Level	Knowledge, Application, Understanding and Analysis
L3 (5 – 6)	• Both theory of comparative advantage (CA) and other factors are well-explained, linking it to the pattern of trade in UK. • Case materials / examples are well-utilised. • A substantiated judgment given to justify whether theory of CA can be used to explain UK's pattern of trade to a larger or smaller extent – otherwise, max 5m.
L2 (3 – 4)	• Both theory of CA and other factors explained but no linking to UK's pattern of trade. • Both factors explained but not well-developed. • Case materials / examples given or stated but are not well-explained.
L1 (1 – 2)	• Either theory of CA or other factors identified and explained. • No link to UK context. • Smattering of points.

(f)		**Discuss whether the potential problems faced by UK are likely to be more serious than problems faced by EU members' countries if Brexit were to take place.**	**[8]**

Question Analysis:

Command word	Discuss
Content	Impact on the macroeconomic aims Brexit
Context	UK and EU member countries

Schematic Plan:

Introduction:

Explain what is Brexit and brief description of the potential problems faced by UK and EU members' countries

Thesis: Potential Problems faced by UK are likely to be more serious than problems faced by EU members' countries if Brexit were to take place

Explain the potential problems faced by UK in term of the negative impact on the macroeconomic aims

Anti-thesis: Potential Problems faced by EU members' countries are likely to be more serious than problems faced by UK if Brexit were to take place

Explain the potential problems faced by EU members' countries in term of the negative impact on the macroeconomic aims.

Evaluation:

Conclude stand on whether UK or EU members' countries are likely to face a more serious problem

Suggested Answer:

Introduction:

Brexit refers to Britain leaving the European Union (EU).

The potential problems facing UK and EU member countries are likely to have negative impact on their macroeconomic aims.

Body:

Potential Problems faced by UK

As stated in **Extract 8, para 3**, UK could lose preferential trade access to EU.

- ➔ If trade barriers are imposed on UK's exports to EU, it could lead to a fall in export revenue and assuming ceteris paribus, worsen net exports → ↓ AD → ↓ real national income → leading to slower or negative economic growth. This is especially detrimental to UK's economy given the strong trade ties between UK and EU.

- ➔ At the same time, a fall in export would worsen current account position → ceteris paribus → leading to worsening of balance of trade → eventually affect its balance of payments account.

- ➔ Loss of preferential trade access to EU may also reduce UK's attractiveness as an investment destination as stated in both **Extract 6** and **8** → Fall in foreign direct investment (FDI) would impact both actual and potential economic growth negatively since investment expenditure is a component of AD and a fall in FDI would also mean a fall in productive capacity, leading to a fall in long run aggregate supply respectively.

- ➔ Plummeting stock markets might lead to an outflow of portfolio investment → worsening its capital and financial account (KFA) position → thus BOP, ceteris paribus.

- ➔ Weakening pound might lead to imported inflation. This is because weakening pound would cause imported goods and services to be relatively more expensive in domestic currency. This would reduce UK's price stability.

- ➔ Restriction in labour flow might lead to higher cost of production (COP) in UK → short run aggregate supply curve would shift to the left → this would further increase UK's general price level → leading to inflation. At the same time, resulted in a fall in real national income → worsen UK's economic growth and increase unemployment.

Potential Problems faced by EU Members' Countries

As stated in **Extract 8, para 4**, UK is the second largest economy in the Europe.

- ➔ If UK leaves EU, EU members might suffer from a fall in export revenue due to the *'possible rise in trade barriers'* by the UK on EU's goods and services. Data from **Table 1** also shows that EU members are enjoying trade surplus with UK and this might be reversed if UK were to exit from the EU.

- ➔ Fall in net exports could similarly lead to negative economic growth or recession and higher unemployment in EU due to a fall in AD. The extent of the negative impact could be more strongly felt in EU members' countries with stronger trade links with the UK, such as Germany and France as shown in **Table 1**.

- ➔ Uncertainty and diminished image of EU as stated in **Extract 8** could lead to a fall in FDI due to bleak economic outlook of the investors. This might further worsen recession and BOP *[as explained above]*

- ➔ Restriction in labour into UK from the EU might worsen unemployment in EU especially in Eastern European economies shown in **Extract 8**.

Thesis: Potential Problems faced by UK are likely to be more serious than problems faced by EU members' countries if Brexit were to take place

As stated in **Extract 8, para 4**, more than 50% of Britain's trade flows with EU and in **Extract 8, para 2**, it also showed their deep integration in terms of economy, military and culture between UK and EU → thus, leaving EU might lead to potential shrinking of market for UK. As such, UK might not be able to exploit economies of scale significantly, leading to higher COP and could lead to a loss of export competitiveness. On the other hand, EU members' countries belong to a single market and are able to trade freely among themselves, thus they might choose to import similar goods and services from within the EU rather than import from the UK.

Given UK's reliance on FDI especially to cover their current account deficit, it might be a more serious problem for the UK as loss of access to EU might lead to a fall in FDI in UK → instead there might be an increase of FDI in some EU members' countries such as Germany to gain access to EU markets. Further, as stated in **Extract 6, para 2**, it stated that if there were to be Brexit, investors might diminish markedly as Britain would be a less attractive destination for FDI if the UK has loss their preferential trade access to the EU. Not only FDI in UK would be negatively affected, *'European investors also hold most of Britain's short-term liabilities'* → all these would have worsen UK's KFA position.

Anti-thesis: Potential Problems faced by EU members' countries are likely to be more serious than problems faced by UK if Brexit were to take place

Weakening pound might lead to a fall in EU net exports to UK assuming PED of exports and imports are greater than one while it may lead to rise in UK net exports to EU, thus benefiting UK.

EU proposed regulation such as tax on financial services as stated in **Extract 8, para 2** might make UK financial services more attractive and lead to a fall in export competitiveness of EU financial services as compared to UK financial services. By *'striking better deals'* with emerging markets such as China and US, UK goods and services could be more export competitive than EU goods and services in these markets, thus worsening EU's net exports, ceteris paribus.

Redirection of Eastern European migrants from UK into EU member countries such as Germany as stated in **Extract 8, para 4** might depress wages and lead to structural unemployment in these countries.

Evaluation:

In the short-term, both UK and EU members' countries are likely to face potential problems due to possible Brexit. However, the potential problems seem to be more serious for UK as it might see an immediate greater fall in FDI and net exports as compared to EU members' countries.

In the longer-term, problems faced by EU might be more serious as UK competes with EU for trade deals and might be able to negotiate better deals as compared to EU. EU regulations might harm key sectors such as financial services. Diminished EU image might eventually lead to a fall in FDI, worsening economic growth as well as BOP. Greater burden on EU budget due to a fall in contribution as well as increase in spending on benefits as EU migrants flow out of UK into EU might reduce its ability to manage Eurozone problems as well as policies to enhance competitiveness of EU.

Knowledge, Application, Understanding and Analysis	
L3 (5 – 6)	• Potential problems faced by **BOTH** UK and EU members' countries if Brexit were to take place are well-elaborated with economic framework and analysis.

		• Well-developed answers addressing the seriousness of the problems faced by **BOTH** UK and EU members' countries – without this explanation, max 5m. • Analysis supported with strong evidence from the case materials.
	L2 (3 – 4)	• Potential problems of UK and EU are stated and explained. • Case materials / examples stated with no explanation.
	L1 (1 – 2)	• Potential problems of UK and/or EU stated with no elaboration. • No case materials nor examples given to support analysis.
	E2 (2)	A substantiated judgment which considers whether UK or EU members' countries would face a greater problem if Brexit were to take place.
	E1 (1)	A judgment without substantiation.

Question 3

Plans to achieve a 'car-lite' society, which is to reduce the use of private cars in Singapore, will cost the government S$36 billion. The Government is expected to invest this amount over the next five years, as it seeks to improve rail reliability and make public transport the preferred way to get around.

(a) Explain how the use of private cars leads to market failure and consider whether public transport can be regarded as a public good. **[10]**

(b) Discuss whether improvement to public transport alone is the best way to achieve a car-lite society. **[15]**

(a)	Explain how the use of private cars leads to market failure and consider whether public transport can be regarded as a public good.	[10]

Question Analysis:

Command	Explain and consider
Content	Market failure, public good
Context	private cars, public transport

Schematic Plan

Introduction:
- Define market failure

Body 1: Explain how use of private cars lead to market failure
- State the source of market failure
- Use of cost-benefit analysis to show how use of private cars lead to inefficient allocation of resources

Body 2: Consider whether public transport can be regarded as public good
- Define public good
- Explain whether public transport is rival in consumption
- Explain whether public transport is excludable in consumption
- Conclude if public transport is a public good

Conclusion:
- Explain the need for government intervention in the use of private cars to bring about allocative efficiency

Suggested Answer:

Introduction:
Market failure occurs when the free market fails to allocate resources efficiently, resulting in an inappropriate amount of goods and services produced/consumed and thus a deadweight loss is incurred. Market failure may occur in a market for goods that generate externalities or a market for public goods.

Body 1:
In the use of private cars, car owners are consuming car journeys in traveling to various destinations. In their decision to consume car journeys, they would consider their Marginal Private Cost (MPC) and Marginal Private Benefit (MPB).

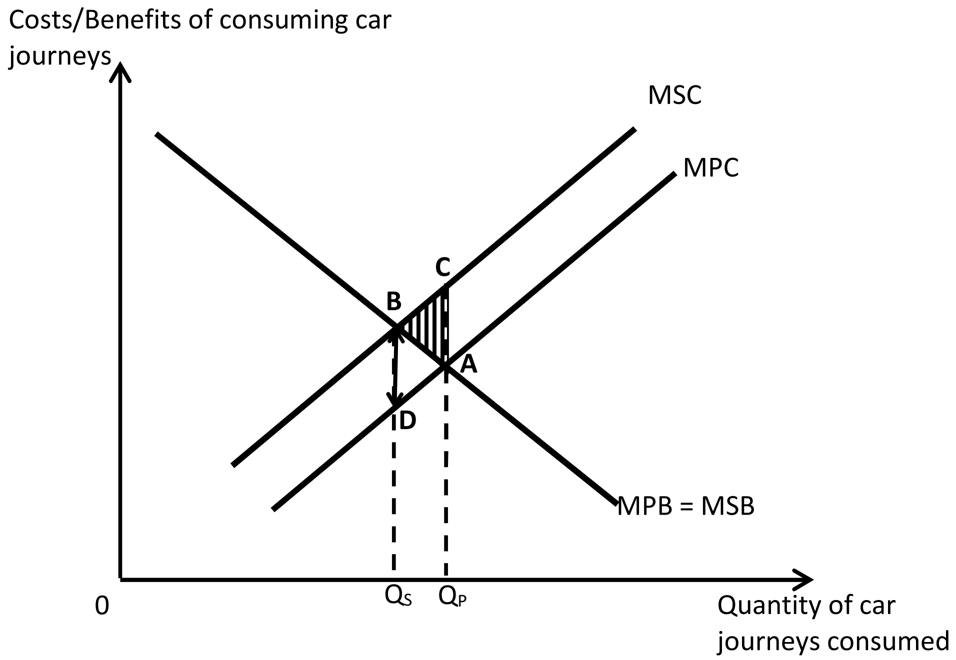
MPC which is the cost of using the car to themselves, includes price of fuel used and parking fee; MPB which is the benefit derived from using the car can be the convenience they have from using the car to travel.

The amount of car journeys consumed would be determined at a level where the private level of satisfaction is maximised, which is determined by the condition MPC=MPB.

However, in their decision to consume car journeys, an external cost is incurred by third parties who include other road users and pedestrians on the road.

This would include the healthcare cost incurred by pedestrians as a result of the car journeys due to the pollution emitted by the car or the loss of productivity by other road users due to the congestion generated.

These costs constitute the Marginal External Cost (MEC). Due to the presence of MEC, the Marginal Social Cost (MSC) would exceed MPC. Assuming no positive externality generated, MPB=Marginal Social Benefit (MSB). The socially optimal amount of car journeys is determined by the condition MSC=MSB. The situation can be depicted in the graph below



From the diagram above, it can be seen that the private level of car journeys consumed (Qp) is greater than the socially optimal level (Qs). This means that there is an over-consumption of car journeys. As a result, a deadweight loss of area ABC is incurred by society and there is an over-allocation of resources, thus market failure.

Body 2:
A public good has the characteristics of non-rivalry and non-excludability in consumption. To determine if public transport is a public good, it must be examined to see if it exhibits these 2 characteristics.

Non-rivalry in consumption means that the consumption of the good by one user does not decrease the amount of the good available to be enjoyed by other users. In other words, there is no additional cost incurred to provide the good to an additional user. In the case of public transport, when a person boards the train or bus, there is less space in the bus or train for other users. In order for the bus or train service to be provided for an additional user, more train space would need to be created and thus a cost is incurred to provide the service to an additional user. As such public transport is rival in consumption.

Non-excludability in consumption means that there is no effective way to prevent non-payers from consuming the good. In the case of public transport, non-payers are effectively prevented from using the public transport service. This is evident from the gantries at the MRT stations which prevent anyone who does not pay from using the train service. As such public transport is excludable in consumption.

Given that public transport is both rival and excludable in consumption, it is not a public good.

Conclusion:
Given the market failure in the use of private cars, there is a need for government to intervene to correct the market failure so as to bring about allocative efficiency in various markets.

Level	Knowledge, Application, Understanding and Analysis
L3 (7 – 10)	- Answer provides clear analysis of the market failure in the use of private cars, using cost-benefit analysis - Provides contextualised examples of MPB, MPC and MEC - Answer provides clear explanation of whether public transport is a public good by comparing it against the 2 characteristics of public goods - Provides specific examples in the context of public transport
L2 (5 – 6)	- Answer provides brief analysis of the market failure in the use of private cars, with some attempt at using cost-benefit analysis - Answer provides clear explanation of whether public transport is a public good by comparing it against the 1 of the characteristics of public goods OR a brief explanation by comparing against the 2 characteristics of public goods - Examples are missing or not set in the context of private cars and public transport
L1 (1 – 4)	- Analysis of the market failure in the use of private cars does not use cost-benefit analysis - Answer provides brief explanation of whether public transport is a public good by comparing it against the 1 of the characteristics of public goods OR lacks any comparison against the characteristics. - No examples provided

(b)	**Discuss whether improvement to public transport alone is the best way to achieve a car-lite society.**	**[15]**

Question Analysis:

Command	Discuss
Content	Policies to correct market failure
Context	Public Transport Car-lite society

Schematic Plan:

Introduction:
- Explain what a car-lite society would mean in economic terms
- State the relationship between private cars and public transport

Thesis: Improvement to public transport can achieve a car-lite society	**Anti-thesis: Improvement to public transport cannot achieve a car-lite society**
- Explain how improvement to public transport will achieve car-lite society - Explain the advantages of improvement to public transport	- Explain limitations of improvements to public transport - Explain alternative policy

Conclusion:
- Take a stand
- Elaborate on stand using economic analysis

Suggested Answer:

Introduction:
Achieving a car-lite society would be to reduce the number of car journeys consumed and thus reduce the total amount of external costs generated, which is caused by both pollution and congestion. One way that the government could achieve this is to improve public transport which is an alternative to the use of private cars.

Thesis:
Improvement to public transport, which includes improving rail reliability, could reduce the time taken to travel via public transport as well as improve the comfort and convenience in taking public transport.

In Singapore, the Singapore government has attempted to improve the public transport system by creating more MRT lines to reach more parts of Singapore as well as develop more bus interchanges at stops along the MRT lines so that the bus network will work together with the MRT lines to increase the convenience of traveling to various places.

The government has also bought more environmentally friendly buses so that they emit less harmful gases when traveling on the roads.

All these would make public transport a closer substitute for use of private cars.

Furthermore, given that the price of consuming public transport services is lower than the cost of producing car journeys, some car users may choose to substitute using public transport for using private cars.

This would lead to a fall in the demand for car journeys.

An advantage of focusing on the improvement of public transport as a means to achieving a car-lite society is that it provides road users a viable alternative to the use of private cars, given that there is a necessity to travel either for work, school or recreation.

The reduction in external costs to society as a result of the improvement to public transport depends on the mode of public transport that is improved.

If it is the rail system, then there will significantly reduce the pollution and congestion issue because the use of trains do not emit harmful gases nor contribute to road congestion.

If it is an improvement in the bus system, then the reduction in pollution and congestion is less because the use of buses still emits harmful gases and contributes to congestion.

Anti-thesis:

However, there are several limitations which make the improvement to public transport unsuitable to achieve a car-lite society. First would be the responsiveness of the target audience in order for the improvement of public transport. If the private car users do not view public transport and private cars as substitutes, then the magnitude of the fall in demand will be fairly small.

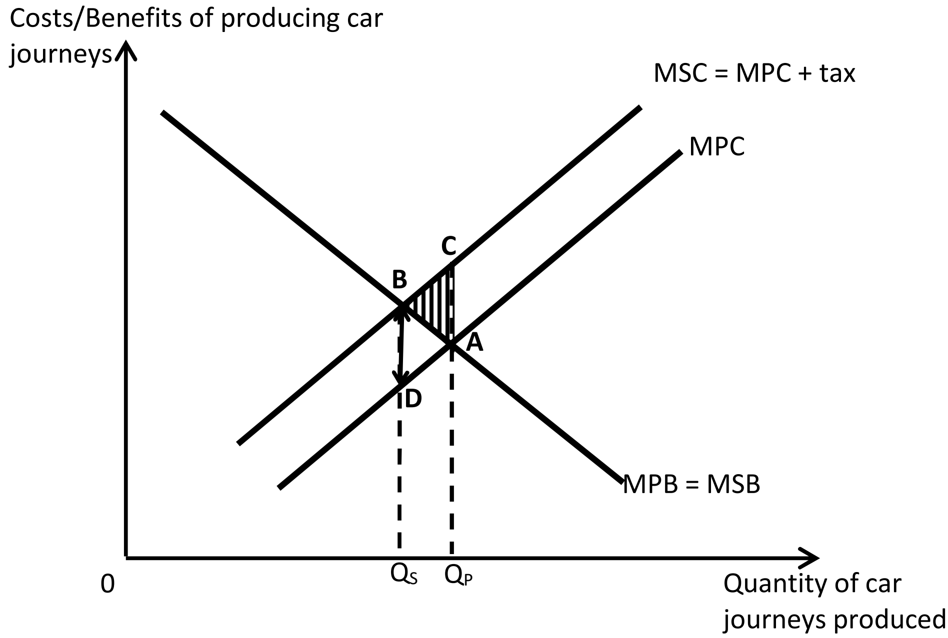
As such, implementing a policy which only consist of improving public transport, is insufficient in bringing about a car-lite society.

Instead, the government could consider implementing a tax that will make consuming car journeys more expensive and thus reduce the consumption of car journeys.

The per-unit tax should be the value of MEC at Qs.

With the tax levied, this would cause the car owners to internalise the MEC in their decision of deciding to consume a car journey. This would shift MPC upward by the value of MEC at Qs so that the MPC will coincide with the MSC. This would then cause the private level of consumption of car journeys to be equal to the socially optimal level.

In Singapore the Electronic Road Pricing (ERP) Scheme is implemented at various locations around Singapore with the aim of reducing the congestion on the road during certain hours of the day e.g. morning and evening peak hour. By implementing a charge to use the road during those times, the government hopes that those who drive will use other roads or consider taking public transport instead.



A difficulty that the government faces in implementing this policy is determining the amount of tax to levy as the MEC cannot be monetised. However, any form of tax would result in lower consumption of car journeys and thus a move towards a car-lite society.

Conclusion:
In conclusion, improving public transport alone is not the best way to achieve a car-lite society. Its effectiveness is dependent on road users' views of public transport.

Instead the government can consider using a mix of policies that would discourage the use of private cars through various ways. One such mix of policies would be to include a tax that makes cars more expensive to use and improvement in public transport. That way, road users will both be less inclined to consume car journeys and more inclined to consume public transport services instead. Furthermore, the tax revenue received from the tax can be used to finance the improvement of public transport.

Level	Knowledge, Application, Understanding and Analysis
L3 (9 – 11)	- Answer makes good use of tools of economic analysis to answer how a car-lite society can be achieved - Examples are well-used
L2 (6 – 8)	- Answer makes good use of tools of economic analysis to answer how a car-lite society can be achieved - Examples are mentioned but not elaborated upon
L1 (1 – 5)	- Answer does not make use of tools of economic analysis to answer how a car-lite society can be achieved - No examples are mentioned
E2 (3 – 4)	- Judgment with elaboration using economic analysis
E1 (1 – 2)	- Judgment without elaboration

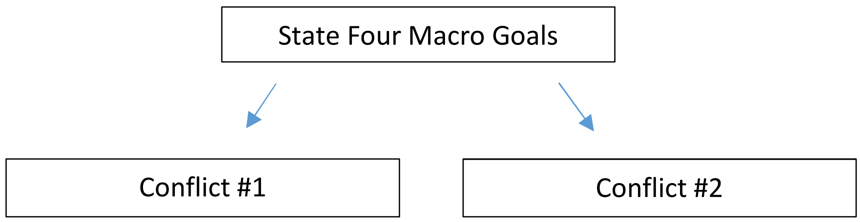
Question 4

(a) Explain the two possible conflicts in macroeconomic goals that a government may face. **[10]**

(b) Assess the view that certain policies are better suited in attaining favourable balance of payments position than other policies. **[15]**

(a)	Explain the two possible conflicts in macroeconomic goals that a government may face.	**[10]**

Schematic Plan



Suggested Answer

Introduction

- All governments aim to attain the four macroeconomic goals:
  - Sustained economic growth
  - Full employment
  - Low inflation rate
  - Favourable balance of payment

- Possible conflicts may arise when a government attempts to achieve all four goals.

Body

- Explain why all governments have these four macroeconomic goals:
  - Sustained economic growth
    - Positive and stable increase in real national income
    - Increase material SOL
  - Full employment
    - Minimise opportunity cost in terms of goods/services forgone
    - Minimise strain on government budget, especially for welfare states
  - Low inflation rate
    - Encourage consistent and continuous spending.
    - Minimise redistributive effect among population (borrowers vs lenders, etc)
  - Favourable balance of payment
    - Avoid drain on foreign reserves or, worse, excessive borrowing which incurs interest payments
    - Shore up confidence in investors, both foreign and local.

Conflict #1 – Full Employment and Low Inflation

- To achieve full employment
  → Govt increases AD
  → Firms hire more fop, including labour, to meet increase in AD
  → When economy produces near full employment level of output, GPL rises faster and faster (higher and higher inflation) as higher prices are needed to induce further rise in output due to higher cost of production.
  → Conflict arises.

Conflict #2 – Sustained Economic Growth and Favourable BOP Position

- To achieve sustained economic growth
  → Govt increases AD
  → National income rises via k process
  → As income rises, households increase import expenditure on more or better quality goods and services.
  → Assuming *ceteris paribus*, BOP deficit position may occur and persist over time.
  → Conflict arises.

Other possible conflicts:
- Sustained Economic Growth and Low Inflation

<u>Conclusion</u>

The above are two of the various conflicts in macroeconomic goals that a government may face.

Level	Knowledge, Application, Understanding and Analysis
L3 (7 – 10)	- Well-structured and coherent answer. - Comprehensive and well-developed answer that relies on economic analysis and explains **two distinct conflicts** covering at least **THREE** macroeconomic goals. Use of simple examples (real-life or hypothetical) is required to earn top marks.
L2 (5 – 6)	- For an answer that shows understanding of the question but nevertheless not well-explained (e.g. inadequate depth or errors in the use of economic analysis). - Answer only covers at most **TWO** macroeconomic goals – max 6m.
L1 (1 – 4)	- For an answer that is too general and mere listing of factors without elaboration. - Answer contains conceptual errors.

(b)	Assess the view that certain policies are better suited in attaining favourable balance of payments position than other policies.	[15]

Schematic Plan:

What is Favourable BOP Position?

⇩

Policies that can attain favourable BOP Position

⇩

Factors affecting the suitability of policies

Suggested Answer:

Introduction

- Various policies could be employed by a government to attain a favourable BOP position.

- However, not all policies are equally suitable to do so due to the various constraints and circumstances an economy may face.

- Hence, to ensure higher success of achieving favourable BOP position, a government may decide to employ a suite of policies.

Body

- Framework:
    - State what is favourable BOP position – avoidance of large and persistent BOP deficit.
    - Explain the main causes of BOP deficit in CA and KFA.

- Policies:
    - Identify any 3 policies that could help achieve favourable BOP position.
    - E.g. currency depreciation, import restrictions, attracting inward FDI, etc.

Constraint/Factor/Circumstance #1 – Likelihood of Retaliation

- Import quota is one way to reduce BOP deficit.
- It reduces import expenditure by curbing the previously unlimited goods and services being imported into the country.
- However, if trade relations with supplier country are less than cordial, implementation of quota is likely to face retaliation (e.g. EU vs China over solar panel).
- Though import expenditure would fall, so would export revenue due to resistance faced by domestic exporters while attempting to sell to trading partners.
- Policy may not be suitable, as seen especially during global recessions.

[Students can also explain currency war in the same vein.]

Constraint/Factor/Circumstance #2 – Time Lag
- Enhance non-price competitiveness to maintain favourable BOP position
- Provide incentive (subsidies/grants) to firms which engage in R&D
- Even in the face of rising import expenditure, the higher export revenue would help to achieve favourable BOP position
- However,
    - Time lag may delay enhancement to non-price competitiveness.
    - Export revenue may not rise sufficiently to offset rise in import expenditure.
    - May not attain favourable BOP position

Constraint/Factor/Circumstance #3 – Degree of Import Reliance
- Expenditure-switching policy – aims to switch from spending on imports to spending on locally produced goods and services ('buy local').
    - Import expenditure falls, assuming export revenue constant ➔ achieve favourable BOP position
- Not likely to succeed if economy is highly reliant on imported goods/services/raw materials (e.g. Singapore) due to its own lack of natural resources to satisfy the needs and wants of its population.

<u>Conclusion/ Evaluation</u>

Indeed, some policies are more suitable to achieve a favourable BOP position than others. Two large set of factors are: nature of the domestic economy as well as that of others. Hence, the government would need to first understand the constraints/threats it faces before choosing the appropriate mix of policies to best attain a favourable BOP position. Over time, changes in economic conditions/constraints/outlook may warrant a review of the policy tools and their efficacies. The government will then need to put together an updated mix of policies to continue to achieve favourable BOP position.

Level	Knowledge, Application, Understanding and Analysis
L3 (9 – 11)	▪ Balanced argument with well-thought through and comprehensive set of factors dealing with deficits in both CA and KFA. ▪ Conceptually sound and well-elaborated explanation using economic tools/concepts/terms. ▪ Examples given are appropriate.
L2 (6 – 8)	▪ A balanced approach explaining at least one factor to reduce CA deficit and another to reduce KFA deficit. ▪ Elaboration is incomplete and may contain some errors. ▪ No examples provided to illustrate the points made.
L1 (1 – 5)	▪ Primarily descriptive, not using economic concepts/terms in the answer. ▪ Minimal explanation/elaboration. ▪ Major errors although there is relevance to question.
E2 (3 – 4)	• Judgement is substantiated with economic analysis.
E1 (1 – 2)	• Judgement is not substantiated or substantiated without economic analysis.

SERANGOON JUNIOR COLLEGE
JC2 Preliminary Examination

ECONOMICS
Higher 1

8819/01

PAPER 1

11 September 2017

3 hours

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and civics group 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.

Sections A
Answer **all** questions.

Section B
Answer **one** question.

Start your answers to each case study question and essay question on a new sheet of writing paper.

Fasten your answers to all three questions separately.

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

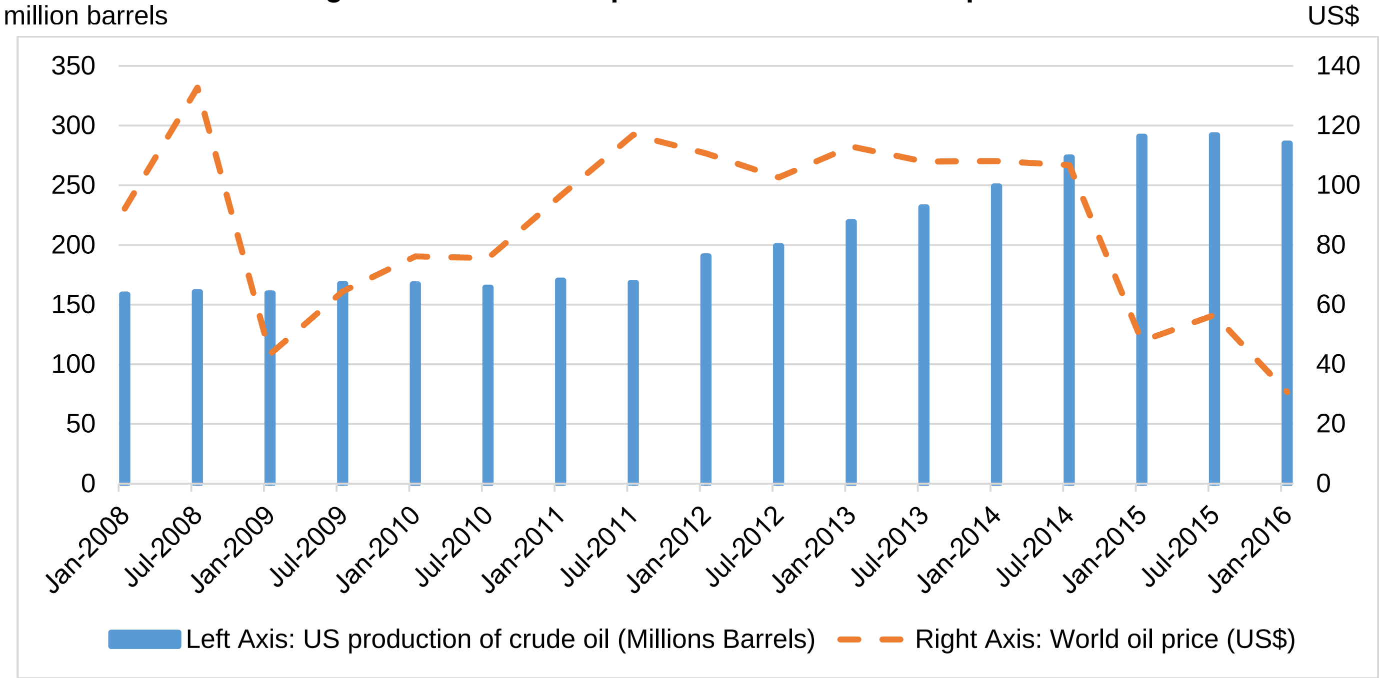
This document consists of **7** printed pages and **1** blank page.

Section A

Answer **all** questions in this section.

Question 1 **Global Oil Market**

Figure 1: US crude oil production and World oil price



Source: U.S. Energy Information Administration, accessed 1 Aug 2017

Extract 1: How has shale oil affected the global oil price?

Only a few years ago, many observers expected a steadily growing global shortage of crude oil. This shortage did not materialise in part because of the rapidly growing production of shale oil in the US. The production of shale oil exploits technological advances in drilling. This process is used to extract crude oil that would have been impossible to release by conventional drilling methods designed for extracting oil from permeable rock formations. Shale oil production relies on the availability of suitable drilling rigs and skilled labour, which is one of the reasons why the US shale oil boom so far has been difficult to replicate in other countries.

US shale oil production has grown from about 0.4 million barrels a day in 2007 to more than 4 million barrels a day in 2014. The International Energy Agency projected that the US would become the world's leading crude oil producer, overtaking Saudi Arabia by the mid-2020s and evolving into a net oil exporter by 2030.

It may seem that the change in the global price of oil after mid-2014 may be attributable to sharp increases in US shale oil production, providing direct evidence of the impact of the US shale oil revolution on oil prices after all. Although shale oil is not being exported, it replaces US crude oil imports, reducing the demand for oil in global markets. Similar price declines also occurred in other industrial commodity markets at the same time, suggesting that the cause of the oil price decline has not been specific to the oil sector, but that it mainly reflects a weakening global economy in Asia as well as Europe. This view is also consistent with the comparatively small magnitude of US shale oil production on a global scale.

Source: World Economic Forum, 14 Jan 2015

Extract 2: Falling oil prices: Who are the winners and losers?

Global oil prices have fallen sharply over the past seven months, leading to significant revenue shortfalls in many energy exporting nations, while consumers in many importing countries are likely to have to pay less to heat their homes or drive their cars. From 2010 until mid-2014, world oil prices had been fairly stable, at around $110 a barrel. But since June prices have more than halved.

United States: Fracking boom

"The growth of oil production in North America, particularly in the US, has been staggering," says Columbia University's Jason Bordoff. He added that US oil production levels were at their highest in almost 30 years. It has been this growth in US energy production, where gas and oil is extracted from shale formations using hydraulic fracking that has been one of the main drivers of lower oil prices.

Japan: Mixed blessings

Japan imports nearly all of the oil it uses. But lower prices are a mixed blessing because high energy prices had helped to push inflation higher, which has been a key part of Japanese Prime Minister Shinzo Abe’s growth strategy to combat deflation.

Russia: Propping up the rouble

Russia is one of the world's largest oil producers, and its dramatic interest rate hike to 17% in support of its troubled currency, the rouble, underscores how heavily its economy depends on energy revenues, with oil and gas accounting for 70% of export incomes.

Russia loses about $2bn in oil export revenues for every dollar fall in the oil price, and the World Bank has warned that Russia’s economy would shrink by at least 0.7% in 2015 if oil prices do not recover.

Falling oil prices has hit the country hard. The government has cut its growth forecast for 2015, predicting that the economy will sink into recession. The government also had to cut its spending. "We had to abandon a number of programmes and make certain sacrifices," said Prime Minister Dmitry Medvedev.

Source: BBC News, 19 Jan 2015

Extract 3: Fix shale oil production pollution before it gets worse

Scientists, regulators and leaders of Texas' energy industry must identify and understand the environmental risks of shale oil and gas drilling before air pollution or water contamination leads to tighter restrictions that could ultimately derail the rebounding industry, the leader of a broad new study said recently.

The study concluded that the shale oil boom, while enriching companies, residents and state coffers, has also caused earthquakes, degraded natural resources and overwhelmed small communities. The study noted that as many as 96,000 acres were covered by new well pads in 2014 alone, and clearing those pads caused soil erosion and the loss of wildlife habitat. Noticeable earthquakes, which came to Texas just twice a year before 2008, now hit the state 12 to 15 times a year, and some were caused by oil and gas companies injecting millions of gallons of wastewater deep underground.

Energy industry leaders, however, emphasised other findings in the study. The economic impact of oil and gas in Texas has been profound, accounting for an annual gross product of $473 billion as well as nearly 3.8 million jobs.

Source: Houston Chronicle, 19 Jun 2017

Extract 4: Should the Government Regulate Fracking?

Fracking involves injecting fluids into the ground to access hard-to-reach reserves of oil and natural gas, including shale gas. Many advocates argue that the government should step in and regulate the practice more forcefully because fracking can have big environmental impacts that cannot be managed effectively. At scale, they say, those hazards inevitably become a national problem. The result could be widespread bans on the practice and a premature end to the shale-gas revolution, they say. Currently, the government is strengthening its shale-gas regulations to tighten well-construction and waste-disposal standards.

However, opponents say the risks of fracking are overstated, and the impacts of fracking, both positive and negative, are mostly local, and different people balance them differently. So regulation should be left to the people who feel them most directly.

Source: The Wall Street Journal, 14 Apr 2013

Questions

(a) Describe the trend of world oil price from January 2008 to January 2016. [2]

(b) With the aid of a diagram, explain how technological advancements in shale extraction in the US could affect the economy's production possibility curve. [3]

(c) How far does the data in Figure 1 show that the change in US oil production was the key reason for the change in oil price between January 2013 and January 2016? [4]

(d) Comment on the impact of falling oil prices on the Japanese economy. [4]

(e) With the aid of a demand and supply diagram, explain how declining oil prices caused the value of the Russian rouble to fall. [3]

(f) **(i)** With reference to Extract 3, explain how the production of shale oil leads to an inefficient allocation of resources. [6]

(ii) Discuss the extent to which direct regulation of the fracking industry by the US government would lead to an efficient allocation of resources. [8]

[Total: 30]

Question 2 **Economic Growth and Standard of Living**

Table 1: Selected indicators for Singapore, Australia and China, 2016

	Singapore	Australia	China
Real GDP growth (%)	2.0	3.8	6.7
Inflation rate (%)	-0.5	2.0	2.0
GDP per capita in current market prices (US$)	52,961	49,927	8,123
Fixed broadband subscriptions (per 100 persons)	26.40	28.54	19.77

Source: United Nations Development Programme, accessed 17 Aug 2017

Extract 5: Slowing growth in China raises red flag for global economy

China’s economic growth slowed in the latest quarter to a six-year low of 6.9%, adding to concerns that the world economy is entering a period of low growth that will extend into next year. The fall in China’s growth rate, which compared to annual expansion of 7% in the previous quarter, follows a dramatic drop in trade that has reverberated across the world.

China’s manufacturing sector has slumped as exports slumped. The decline in its heavy industry and construction has depressed demand for oil, iron ore and other commodities, dragging on growth in Australia, Brazil and other supplier countries. In recent weeks, the US Federal Reserve shelved plans for an interest rate rise, while the European Central Bank has been forced to consider launching a second stimulus package this year.

"China's slowing economy is raising concern about potential spill-over effects beyond its shores, particularly on the rest of Asia through the trade, financial and commodity channels," economists at BNP Paribas wrote.

Singapore, which has seen exports to China as a share of GDP almost triple since 2000, would fare worst with as many as 1.6 percentage points cut from GDP growth. South Korea's hit would be smallest at 0.4 percentage point.

The Chinese government has reacted to the slowing economy with a raft of measures since last November, when it began to cut interest rates. After two years of tightening credit conditions, regulators loosened access to credit in the summer and devalued the currency.

Goldman Sachs analysts said they do not think China's currency change will provide a strong boost to the country's growth. Those who believe the currency change will be large enough to affect the economy said it will be a boon for exporters and heavy industry, but bad news for companies that depend on imported goods. Shares of Chinese airlines plummeted, as analysts predicted that the higher cost of oil in US dollars would weigh on their earnings.

Source: adapted from various sources, Oct 2015

Extract 6: China cannot overcome its growth challenge without the right talent

Over the past 35 years, China's strong and sustained output growth, averaging more than 9.5 per cent annually has driven the miraculous transformation of a rural, command economy into a global economic superpower. In fact, according to the World Bank, China is about to overtake the United States as the world's largest economy. But, in terms of the quality and sustainability of its growth model, China still has a long way to go.

Strong human capital is critical to enable China to escape this fate. But China's labour force currently lacks the skills needed to support hi-tech, high-value industries. Changing this will require comprehensive education reform that expands and improves opportunities for children, while strengthening skills training for adults.

China has benefited from rapid employment growth, with more than seven million people entering the workforce each year since 1990. This, together with the massive reallocation of workers from rural to urban areas, has supported the labour-intensive manufacturing industries that have fuelled China's economic rise. But China's demographic advantage is diminishing, owing to low fertility rates and population ageing. According to the United Nations, by 2030, China's working-age population (15-59 years old) will have fallen by 67 million from its 2010 level.

Clearly, China needs to reform its higher education institutions, including technical and vocational training programmes and this will require increased public investment in education. As it stands, China's public investment in education, as a share of gross domestic product, is below international standards across all levels. China's education challenge also extends to quality as inadequate education is a major driver of rising unemployment among China's senior secondary and tertiary graduates.

Ongoing demographic and sectoral shifts mean that China will encounter a supply deficit of 24 million highly skilled graduates from universities or higher-level vocational schools by 2020. To fill this gap, China must upgrade its fragmented and ineffective technical and vocational training programmes.

Source: South China Morning Post, 21 May 2014

Questions

(a) With reference to Table 1

(i) Which country experienced the highest growth rate in nominal GDP? [1]

(ii) Explain how the information provided can be used to infer about the difference in the standard of living among the three countries. [4]

(iii) Suggest and explain one **other** piece of information, not in Table 1, that might be helpful in assessing the living standards of different countries. [2]

(b) Explain the statement: “Devaluation of the yuan will be a boon for exporters, but bad news for companies that depend on imported goods.” [4]

(c) What information is required to support the view that Singapore will be the hardest hit among the Asian economies from the slowdown in China’s growth? [2]

(d) With reference to Extract 6

(i) Using AD/AS diagram, explain the possible impact of an ageing population on the Chinese economy. [6]

(ii) Identify and explain one cause of unemployment among tertiary graduates in China. [3]

(e) Using the data provided and/or your own knowledge, discuss whether government investment in human capital alone is sufficient for a country to achieve sustained economic growth. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3 **(a)** Explain using relevant examples, the concepts of price elasticity of demand and price elasticity of supply. [10]

(b) Assess the relevance of price elasticity of demand in aiding governments to make policy decisions. [15]

4 **(a)** Explain why a government aims to achieve low inflation. [10]

(b) Discuss whether fiscal policy is the most effective way to achieve price stability in a country. [15]

[End of paper]

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Question 1 **Global Oil Market**

Questions

(a) Describe the trend of world oil price from January 2008 to January 2016. [2]

It fell from Jan 08 to Jan 16. (1m)
Refinement: Sharp fall in Jan 2009, Jan 2015 or rose between Jan 2009 to July 2014. (1m)

(b) With the aid of a diagram, explain how technological advancements in shale extraction in the US could affect the economy's production possibility curve. [3]

PPC: 1m Axis (Axis + shift out)

Explanation of productive capacity: 1m
(if only state productive capacity increase, award only 1/2m)

Technology progress increase the productive capacity of the economy. (1/2m)
More of shale oil can be produced with the same amount of resources. (1m)

However, the maximum output of other goods remain the same, as the technology advancement only affect shale oil production.(1m)

(c) How far does the data in Figure 1 show that the change in US oil production was the key reason for the change in oil price between January 2013 and January 2016? [4]

Trend (1m)
Oil Price fell in the time period as US oil production rose. (1m)

Explanation (2m)
Rise in production of US oil, fall in demand for imported oil, thus, the demand for oil market fall. (1m)
Fall in US demand for oil, surplus, prices also fell. (1m)

*** If student explain supply rise, prices fell, award 1 out of 2 marks for the explanation of the trend.**

But it may not be the key reason because the extent of rise in US oil production is rather small as compared to the extent of the fall in world oil prices as seen in figure 1, especially in Jan 2015. Thus, it could be due to other factors such as slowing world economic growth as mentioned in extract 1.

Any reasonable possible assessment (1m)

(d) Comment on the impact of falling oil prices on the Japanese economy. [4]

Falling oil prices → PED<1 → import expenditure fall → (X-M) rise → AD rise → EG
COP fall → AS rise → rise in EG, GPL falls.

However, lower inflation is bad for the economy as it increases the risks of deflationary which may cause the economic growth to slow down in the future. (1m)

(Identify and explain AD and AS factors) 2m
Explain how the AD/AS change affect EG/GPL (1m) → No need simultaneous shift
Consequences of deflation (1m)

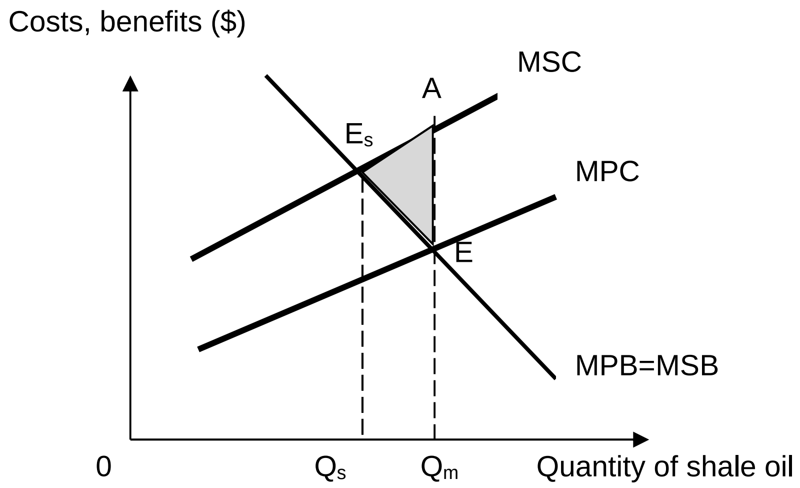
(e) With the aid of a demand and supply diagram, explain how declining oil prices caused the value of the Russian rouble to fall. [3]

Declining oil prices→ Price of exported oil fall → PED<1 → fall in export revenue → fall in demand for rouble → depreciation.

Explain fall in export revenue (1m)
Link to fall in demand (1m)
Diagram 1m

(f) **(i)** With reference to Extract 3, explain how the production of shale oil leads to an inefficient allocation of resources. [6]

The private cost of producing shale oil includes the wages to the workers, the cost of building the plants, cost of machines. The private benefit equals to revenue receives from the sale of shale oil. Assuming there are no positive externalities, the marginal social benefit of producing shale oil is equal to the marginal private benefit.



There is negative externalities in the production of shale oil, external costs are imposed onto third parties who are not directly involved in the production and consumption of the goods such as the farmers and those residents, and these people are not compensated for the costs incurred.

Due to shale oil production, residents may be affected by water contamination and may be affected by health problems, these medical costs are not compensated by the producers.
OR
Farmers around the region are also affected by the soil erosions, which affects the fertility of the land, and they may suffered from lower crops harvest and lower revenue received. These people are not compensated by the shale oil producers.

When there are negative externalities, the full opportunity cost of production to society is greater than the private cost. Thus, there is a divergence between the marginal social cost (MSC) and the marginal private cost (MPC) curves. The vertical distance between MSC and MPC curves is the marginal external cost. For example, in the figure above, the marginal external cost for the last unit of output $0Q_m$ is $AE.

The market equilibrium output level is determined by individuals who take into account only their private benefit and costs, ignoring all third party effects. Hence, the industry achieves market equilibrium where MPB = MPC or when market demand equals to market supply at output $0Q_m$.

In contrast, the socially optimum level of output is attained at $0Q_s$ where MSB=MSC at point E_s. This output level is attained after taking into account both the private and external costs and private plus external benefits. At this output level, the benefit society gains from the last unit of this good (agricultural goods) is exactly equal to the opportunity cost of producing it.

The equilibrium output as determined by the market ($0Q_m$) is more than the socially optimum level of output ($0Q_s$). Hence, there is over-production or over-consumption of shale oil by Q_sQ_m amount.

For each additional unit from $0Q_s$ to $0Q_m$, the marginal costs to society are greater than the marginal benefit (MSC>MSB). Thus, each of these additional units produced and consumed results in a net welfare loss to society. By summing the excess of the marginal social cost over the marginal social benefit for all these additional units of Q_sQ_m, we arrive at a monetary measure of total deadweight loss to society which is equal to the area EE_sA.

Thus, we can see that when the market underestimates the true cost of shale oil production, it allocates more resources than desirable to production of shale oil and this results in over-production which leads to market failure.

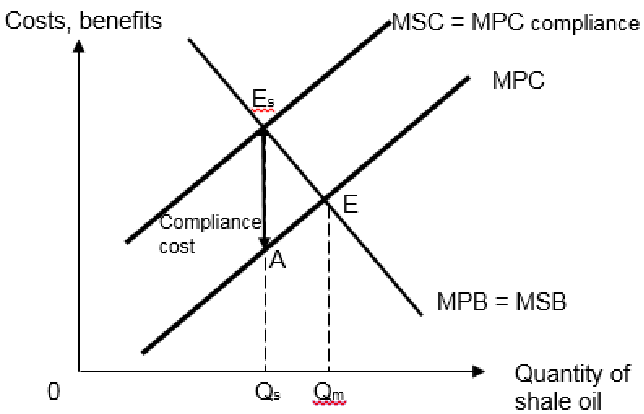
Mark Scheme

Levels	Descriptors
L2	Good explanation of negative externalities with clear understanding of third party effects. Explanation of how the market overproduced Explanation of DWL with diagram.
L1	Understanding of negative externalities and DWL is not evident.

(ii) Discuss the extent to which direct regulation of the fracking industry by the US government would lead to an efficient allocation of resources. [8]

Direct regulation by the US will help to reduce the production of shale oil, and it may help to achieve efficient resource allocation. However, the extent to which it is successful depends on the method of direct regulation and the ability of the US government to enforce the regulation.

US government can regulate by enforcing higher safety standards in the form of well constructions and waste disposal standards. This will raise the cost of production of producing shale oil as firms now have to incur higher cost to comply with the regulation in waste disposal. This will shift the firm's marginal private cost curve vertically upwards by the compliance costs for each additional unit of output. Firms reduces supply due to lower profitability. This results in a shortage of shale oil in the price and leads to higher prices of shale oil. This reduces the quantity consumed to Qs.



The strength of this policy is that the standards can be simple and transparent, and thus easy for firms to follow with the compliance.

Thus, the extent to which direct regulation can succeed depends on the extent of regulation and ability to comply. It is likely that direct regulation may not be very effective due to the complex nature of fracking activities. Government may not have the expertise to assess and implement regulation to force firms to internalise all the third party costs. Moreover, US being a big country with many shale oil production companies, it will take a lot of time and labour to enforce the regulation and ensure compliance. Thus, firms may have the incentive to cheat. In this case, the socially optimal output will not be reached. Lastly, the problem with direct regulation is that they tend to be a rather blunt weapon. Firms will not be incentivised to find the least cost method to reduce the third party effects. In this case, even if there is perfect information and 100% compliance, society will still not allocate resources efficient due to productive inefficiency.

All in all, direct regulation will not be able to solve the problem by a large extent due to the complex nature of shale oil production.

Levels	**Descriptors**
L2(4-6)	Explanation of direct regulation with use of DD/SS or MPB/MPC framework. Explain at least 1 reason why direct regulation may not reach Qs. Reason should have some relevance to the context of shale oil.
L1 (1-3)	Descriptive answer of policy. Did not address the end point of efficient resource allocation.
E1 (1-2)	Judgement is explained with good application to the context.

CSQ2: Economic Growth and Standard of Living

(a) With reference to Table 1
(i) Which country experienced the highest growth rate in nominal GDP? [1]

Answer: China

(ii) Explain how the information provided can be used to infer about the difference in the standard of living among the three countries. [4]

Answer:

The standard of living refers to the material and non-material well-being of the people in the country. **GDP per capita in current market prices** is the highest for Singapore and lowest for China. From this, we could infer that the standard of living of the average person in Singapore is the highest followed by Australia and China. A higher GDP per capita means that on average, each person in the country is able to purchase and consume more goods and services and hence enjoys a higher material standard of living.

Another piece of information that could be used is the **fixed broadband subscriptions** per 100 persons. The number of subscriptions is highest for Australia and lowest for China. Fixed broadband services allows the people to have better connectivity with the rest of the world through the internet, greater access to knowledge and ideas. This helps to improve the non-material aspect of living standard as people can make better decisions when they are more well-informed, relationships improve with greater connectedness and increased efficiency thereby more time for leisure activities.

Mark scheme

For each indicator, award as follows:

1 mark – identify indicator

1 mark – explain how that indicator reflects SOL differences between the three countries.

(iii) Suggest and explain one other piece of information, not in Table 1, that might be helpful in assessing the living standards of different countries. [2]

A useful indicator is life expectancy at birth. This indicator tells us the average lifespan of the people in the country. A higher life expectancy could reflect a higher living standard enjoyed by the people in the country in terms of better nutritional intake of food, more advanced healthcare services, and also better quality air and environment.

Mark Scheme

1 mark – identify indicator. Can accept indicator of material or non-material SOL e.g. literacy rate, infant mortality rate, PPP/cost of living, Gini coefficient.

1 mark – explain how that indicator is used to compare SOL between countries.

(b) Explain the statement: "Devaluation of the yuan will be a boon for exporters, but bad news for companies that depend on imported goods." [4]

Answer
Devaluation of the yuan will reduce the foreign currency price of China's exports to the rest of the world. Assuming that the demand for China's exports is price elastic, the fall in price will lead to a more than proportionate rise in quantity demanded. Hence China's exporters will enjoy a higher total incomes / export earnings and so devaluation of the yuan will be a boon for exports.

On the other hand, devaluation of the yuan will increase the domestic currency price of imports. For Chinese companies that import raw materials and other inputs, the devaluation of the yuan will thus mean a higher cost of production. If these inputs are essential raw materials, then demand tends to be price inelastic. As such the higher price of imported inputs will lead to a less than proportionate fall in quantity demanded and hence a rise in total import expenditure. The more dependent the firms are on imported inputs, the larger will be the rise in their costs of production. The higher costs will reduce the profits of these firms, ceteris paribus. Thus, devaluation of the yuan is bad news for these companies.

Mark scheme

2 mk each for exporters and companies that depend on imports.

(c) What information is required to support the view that Singapore will be the hardest hit among the Asian economies from the slowdown in China's growth. [2]

Answer

A slowdown in China's growth will affect Singapore through exports and investments. The information required is the share of Singapore's total exports that goes to China. Singapore will be hardest hit if its **share of total exports that goes to China** is the **largest** among Asian economies.

China's economic slowdown will lead to a smaller growth (or fall) in its demand for imports of goods and services. Hence, Singapore and other Asian economies will experience a smaller rise (or fall) in export demand, thus reducing the level of AD and consequently real GDP in Singapore and other Asian economies will rise at a slower rate (or real GDP falls). China is one of the most important final demand markets for Singapore. As such, China's economic slowdown could have hit Singapore hardest because its total exports will be more severely affected than that of other countries.

Mark scheme

1 mark – identify information

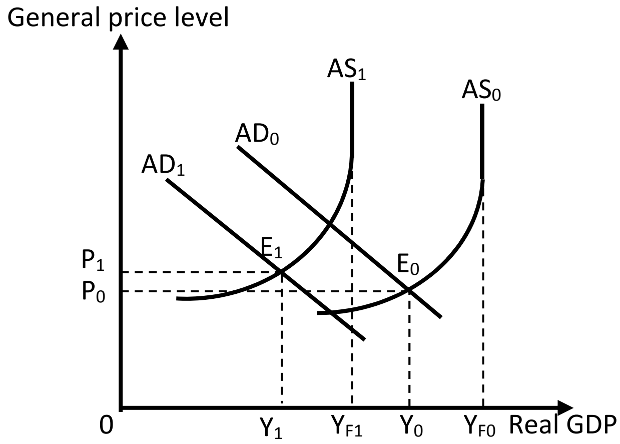
1 mark – explain

(d) With reference to Extract 6

(i) Using AD/AS diagram, explain the possible impact of an ageing population on the Chinese economy. [6]

An ageing population could lead to a fall in long run aggregate supply (AS). "*According to the United Nations, by 2030, China's working-age population (15-59 years old) will have fallen by 67 million from its 2010 level.*" An ageing population will reduce the size of the labour force as the number of people who leave the labour force due to retirement and old age is not replaced by the number of new entrants into the labour force. Not only that, the quality of the labour force could also be affected to the extent that the older workers in the labour force are less adaptable and slow to embrace new technologies and hence could be less efficient. Both the reduction in size and quality of the labour force lower China's productive capacity. Thus AS falls from AS_0 to AS_1.

An ageing population could also lead to a fall in AD. This could be due to fall in consumption expenditures as there is a fall in purchasing power / earned incomes as the elderly leave the labour force.



In the diagram above, the economy is initially in equilibrium with real GDP at Y_0 and the general price level at P_0. Assuming that the fall in AS is greater than the fall in AD, there will be a shortage of goods and services which will exert an upward pressure on the general price level. The new equilibrium occurs at point E1. Real GDP falls to Y_1. Price level increases to P_1.

However, if the fall in AS is smaller than the fall in AD, then this will create a surplus of goods and services which consequently will lead to lower prices. Real GDP will still fall. Hence, an ageing population would lead to a fall in real GDP but the effect on the general price level is indeterminate.

There will also be a fall in the full employment level of real GDP from YF_0 to YF_1 as the country's productive capacity falls.

<u>Mark scheme</u>

Diagram – 1 mark with shifts of AS and/or AD.

Explain how AD and AS are affected by an ageing population - 1 mk for each idea up to a total of 2 mk.

PAP (1)

Conclusion on equilibrium level of real GDP (½), GPL (½) and potential output (½), indeterminate effect on price (½)

(ii) Identify and explain one cause of unemployment among tertiary graduates in China. [3]

Structural unemployment exists among tertiary graduates in China as the country undergoes sectoral shifts in the economy, moving away from low value-added industries. "Inadequate (quality) education" was the reason given for the rising unemployment for this group of people. This could result in graduates having little relevant technical and vocational knowledge and skills such that they could not find jobs in new, growing "high-tech, high-value industries" in China. As a result of the mismatch of skills, these graduates are unemployed.

Identify: 1m

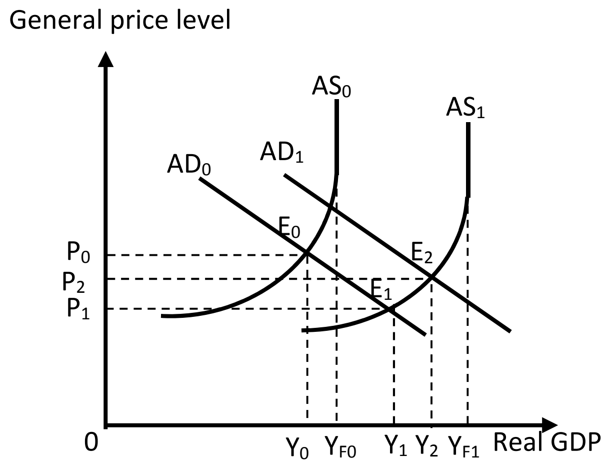
Explain: 1m

Application to Context: 1m

(e) Using the data provided and/or your own knowledge, discuss whether government investment in human capital alone is sufficient for a country to achieve sustained economic growth. [8]

Sustained economic growth is one of the key goals of the government. It will help to raise the standard of living of the people in the country as their real incomes rise and they are able to buy and consume more goods and services. Sustained economic growth is possible with increases in AD and AS.

Government investment in human capital involves expenditures in education and training so as to improve the quality/productivity of the labour force. When the workers are better equipped with relevant knowledge and skills, they are able to contribute more effectively in their work. Hence, total output increases as productivity rises. This leads to a rightward shift of the AS curve from AS_0 to AS_1. The price level falls from P_0 to P_1. As price falls, consumption expenditure as well as net export earnings rise as the country's exports become relatively cheaper and imports relatively more expensive than domestically produced goods and services. Real GDP rises from Y_0 to Y_1. Hence, the country enjoys a non-inflationary sustained economic growth. At the same, the country's potential output increases too from Y_{F0} to Y_{F1}.



Investment in human capital is affecting only one of the determinants of sustained economic growth – the quality of the labour force. There are other complementary factors as well such as the investment in capital goods such as plant and equipment, investment in R&D as well as the level of technology. Workers also need efficient tools and improved technology to be more productive. Hence there is also a need for the country to invest in these other factors of production to raise AS. Furthermore, people may be reluctant to go for training because they are not aware of the full benefits of doing so. As such, the level of training may not be optimal. Because of these, government needs to look at ways to increase AS through improving the quality of the other factors of production.

Whilst an increase in AS can bring about potential growth, it is not sufficient for sustained economic growth. When AD is weak, firms would not be incentivised to increase production even if they have the excess capacity to do so because it is not profitable. Thus, real GDP may be in equilibrium that coincides with high unemployment. Thus for sustained economic growth, AD must rise too.

The rise in government expenditure on education will increase AD at the same time. But it may not bring a great boost to the level of AD especially when government spending is constrained by its limited funds. The country needs to increase other components of AD such as consumer expenditure, investment expenditure and export earnings through appropriate fiscal and monetary policies. For example, an expansionary fiscal policy that lowers tax rates on personal income tax increases households' disposable incomes and thus increases consumption spending. Hence, AD rises and AD curve shifts from AD_0 to AD_1. The rise in AD then increases the real GDP from Y_1 to Y_2. Although prices rose, it is only by a small extent because of the rise in AS.

Thus, increase in government investments in human capital alone is not sufficient to bring sustained economic growth because no matter how skilled the labour force is, they may not be able to perform well if they do not have the right tools, infrastructure and technology to support their work. Hence, there is a need to improve the quality of other factors of production. In addition, a country's economic growth is also dependent on the level of AD without which firms have little incentive to increase production. Hence, to achieve sustained growth, AS must rise to match the rise in AD.

Mark scheme

	Understanding, Analysis, Application
L2 (4 – 6)	Clear explanation using AD/AS analysis of how government investment in human capital can lead to economic growth. Clear explanation of the importance of other determinants of economic growth including AD, to achieve sustained growth. Relevant and well-explained diagram(s).
L1 (1 – 3)	Some explanation of how investment in human capital can lead to economic growth. Answer is one-sided. Did not consider other determinants of sustained economic growth.
Evaluation	Considers the limitations of investment in human capital to achieve sustained growth, and thus not sufficient.

3 (a) Explain using relevant examples, the concepts of price elasticity of demand and price elasticity of supply. [10]

(b) Assess the relevance of price elasticity of demand in aiding governments to make policy decisions. [15]

Part a

Introduction

- Define PED: degree of responsiveness of quantity demanded (Qdd) of a good due to a change in the price of good itself, ceteris paribus.
- Define PES: degree of responsiveness of quantity supplied (Qss) of a good due to a change in the price of the good itself, ceteris paribus.
- Direction: The concepts of PED and PES can be explained in terms of definition, sign and degree and examples.

P1: The sign of PED is always negative because of the inverse relationship between price and Qdd.

- The sign of PED is always negative because it reflects the Law of Demand which states that there is an inverse relationship between price of a good and its Qdd. For e.g., when the price of cars rises, consumers' purchasing power will be reduced → they are less willing and less able to buy cars → Qdd for cars fall, ceteris paribus.

P2: The absolute value of PED determines the degree of PED of a good.

- When the absolute value of PED is greater than one, it means that demand for a particular good is price elastic → for example, demand for holiday package from Tour Agency A (narrowly defined) is likely to be price elastic because there are many tour agencies offering similar tour packages. Any increase in price of a holiday package from agency A will lead to a more than proportionate fall in Qdd of its holiday package, ceteris paribus. This is because consumers can easily find another substitute e.g. Tour Agency B which does not increase its price for similar package.
- In addition, demand of a holiday package will be price elastic if it takes up a relatively large proportion of consumers' income. This is because a 1% rise of a high price of $10,000 means the absolute dollar amount of rise in price ($100) will be significant and it will mean that consumers are less able to consume out of their current incomes.
- On the other hand, when the absolute value of PED is less than one, it means that demand for a particular good is price inelastic → for example, demand for salt/pepper is price inelastic because being salt/pepper does not have other similar food enhancer within the same price range→ any rise in price of salt/pepper will lead to less than proportionate fall in Qdd of salt/pepper, ceteris paribus.
- Moreover, salt/pepper takes up a small proportion of consumers' income. A 1% rise of a low price of $1 means the absolute dollar amount of rise in price ($0.01) will be insignificant.

P3: The sign of PES is always positive because of the relationship between price and quantity supplied.

- The sign of PES is always positive because it reflects the Law of Supply which states that there is a direct relationship between price of a good and its quantity supplied. For example, when the price of wheat rises, the producers would be more willing and more able to produce wheat due to higher expected returns → Qss of wheat rises, ceteris paribus.

P4: The absolute value of PES determines the degree of PES of a good.

- When the absolute value of PES is greater than one, it means that supply of a particular good is price elastic → for e.g., supply of plastic water bottle is very likely to be price elastic since they are relatively cheap and easy to store due to the small size and hardy material. In addition, it takes a relatively shorter time to manufacture a water bottle as it can be mass produced by machines. So any rise in price of water bottle will lead to a more than proportionate rise in Qss of water bottle, ceteris paribus. This is because sellers can easily

draw from their inventory/stock and if the inventory runs low, production can be ramped up in a relatively short time. - When the absolute value of PES is less than one, it means that supply of a particular good is price inelastic → for e.g., supply of fresh seafood is relatively price inelastic because of its perishable nature where even with refrigeration, the taste and texture may deteriorate. Moreover, there is a long gestation period of 2-3 months on average for young fish fry to grow to the right size→ any rise in price of fresh seafood will lead to less than proportionate rise in Qss of the good, ceteris paribus.
<u>Conclusion</u> - PED and PES concepts are useful to a government in determining the extent of change in equilibrium price and quantity should there be a change in supply (PED) or demand (PES) respectively.

Level	Knowledge, Application, Understanding and Analysis
L3 (7-10)	• Detailed explanation of both PED and PES with sign, values, degree, determinants. • Well elaborated and relevant examples.
L2 (5-6)	• Sufficient explanation of PED and PES but may omit either price elastic or price inelastic egs. • Detailed explanation of PED but cursory reference to PES. • Detailed explanation of PED and PES without relevant examples.
L1 (1-4)	• Smattering of ideas and/or descriptive answers. • Glaring conceptual errors – e.g. confusing non-price determinants of DD as PED determinants and confusing non-price determinants of SS as PES determinants.

(b) Assess the relevance of price elasticity of demand in aiding governments to make policy decisions. [15]

Introduction:

- The concept of PED is useful to the government to a certain extent as it can help:
  1) Determine amount of tax revenue to be collected.
  2) Assess the implementation of taxation to reduce undesirable consumption of a demerit good OR subsidies to increase consumption of merit good and
  3) Assess the impact of currency depreciation policy in reducing a trade deficit.

P1: Knowledge of PED is useful <u>to determine the amount of tax revenue that can be collected</u> when a tax is imposed on various goods

- The government will impose an indirect tax on various goods and services. When a specific tax of (t) is imposed, costs of production will rise and supply curve shifts vertically upwards by the amount of tax (t) from S to S(tax).
- If demand of the good is price inelastic PED<1 (e.g.habit forming goods such as cigarettes and alcohol), Qdd falls less than proportionately than when PED >1, so the tax revenue which is determined by the amount of tax (t) multiplied by new lower quantity. The amount of tax revenue collected P_iE_iFG will be larger.

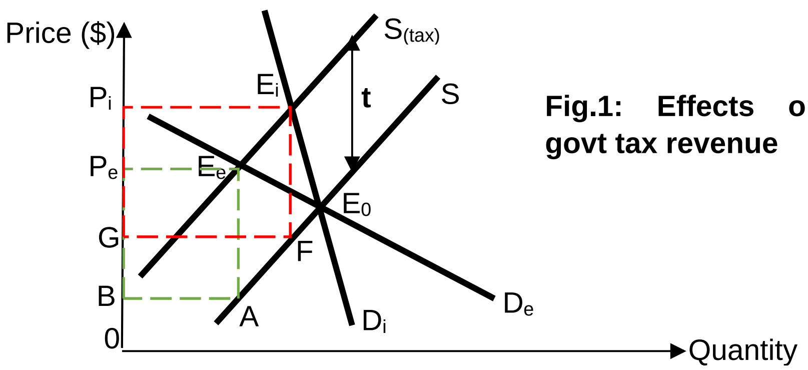


Fig.1: Effects on govt tax revenue

- If demand for the good is price elastic (D_e), Qdd falls more than proportionately with the price increase. Hence the total tax revenue collected (same tax amount (t) but multiply by new quantity) is the smaller area P_eE_eAB.
- Therefore, the government will be able to collect more tax revenue when it is imposed on goods whose demand is price inelastic and collect less tax revenue for goods whose demand is price elastic. Hence, PED is useful to estimate the total tax to be collected.

P2: Knowledge of price elasticity of demand enables the government to analyse the effectiveness of a tax policy in reducing undesirable levels of consumption of a demerit good.

- A demerit good is a good that the government considers to be socially undesirable and intrinsically bad for consumers. For example, the smoker is unaware of the full harmful effects of smoking and smoking also result negative externalities whereby a non-smoker also incurs medical costs of inhaling 2nd hand smoke. Thus, the use of tax to reduce consumption of socially undesirable goods is needed.
- Such tax will be successful the greater the PED. Demand of cigarettes is price inelastic (D_i) due to its habit forming nature, there has to be a substantial rise in the amount of tax in order to reduce consumption of it significantly to the socially optimal level of output (assume this is Qe).

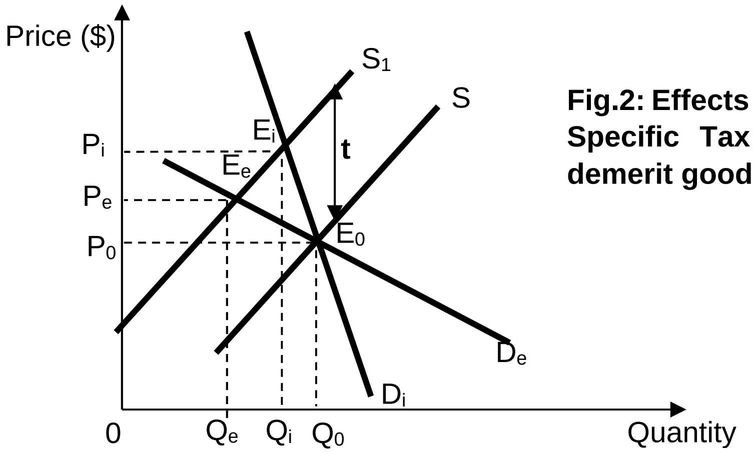


Fig.2: Effects of a Specific Tax on demerit good

- But if demand for a good is price elastic (D_e), then a tax will be relatively easier to reduce consumption to the socially desirable level Q_e.
- Hence, knowledge of PED is relevant to determine the effectiveness of a tax policy.

P3: Knowledge of PED can also determine the effectiveness of a currency depreciation policy when a country is faced with a trade deficit

- To reduce a trade deficit, the government can depreciate its currency to boost export competitiveness and it can do so by selling its domestic currency in the foreign exchange market. When domestic currency depreciates, the price of the country's exports in foreign currency will fall. Assuming the demand for its exports is price elastic (because of many substitutes produced by other countries), this will lead to a more than proportionate increase in quantity demanded for exports, ceteris paribus, and hence a rise in its export earnings. Currency depreciation will also increase price of imports in domestic currency. If the demand for imports is price elastic (because of domestically produced substitutes), a rise in price will result in a more than proportionate fall in quantity demanded for imports, ceteris paribus, leading to a fall in import expenditure. With a rise in the country's export earnings and a fall in its import expenditure, there will be a rise in net exports (X-M). The trade balance will improve. As long as the Marshall-Lerner condition where the sum of price elasticity of demand for exports and price elasticity of demand for imports is more than one, currency depreciation will lead to a rise in net exports expenditure.
- Thus, the concept of price elasticity of demand is relevant as the value of price elasticity of demand for the country's exports and imports will determine the outcome of this policy.

P4: However, in reality, there are limitations to the usefulness of the PED concepts to a government.

- This is because the concepts operate under "ceteris paribus" assumption. In the real world, more than one factor affecting demand can change simultaneously, for example, price, income and tastes and preferences can all change at the same time. For example, the government might impose a tax on a good whose demand is price inelastic in order to earn larger tax revenue. However, other factors such as a fall in income might result in a fall in demand resulting in a smaller amount of tax revenue earned.

- The value of price elasticity of demand of a good may also not be accurate for the following reasons:
  - Sample size and characteristics are too small to be representative.
  - Time period selected is far from the current period, hence data is outdated.

• Data collected is inaccurate for various reasons such as households do not reveal their preferences accurately due to personal reasons. Under such circumstances, the use of PED by a government is limited due to the inaccuracy of the data
Conclusion - Summary and personal opinion: • The concept of price elasticity of demand may be relevant to a government in formulating policies to achieve its goals. However, there are also limitations to the use of these concepts and government should be aware of the limitations in order to make accurate judgement of the likely outcomes of the policy. • In view of such limitations, the government must make an effort to constantly update the elasticity concept data through yearly consumer household expenditure surveys and also be aware of factors that might affect the demand or supply of the good or service in question.

Levels	Descriptors
L3 (9-11)	• Rigorous and clear explanation of how the PED concepts can be used to assess the effectiveness of micro and macro government policies. • Clear and relevant examples given in answer.
L2 (6-8)	• Good explanation of at least one use of PED concepts to the government. • Some understanding of how the PED concept can be used to help assess the effectiveness of various government policies (Micro or Macro).
L1 (1-5)	• Smattering of points, showing little or superficial application of PED e.g. claiming tax revenue is higher when PED<1 but no diagram is used. • Glaring conceptual errors e.g.confusing producer TR with tax revenue .
E2 (3-4)	• For an evaluative discussion, or one that is supported by rigorous economic analysis. Eg: ability to explain the limitations of using the PED concept with clear examples. • Able to provide a personal view.
E1 (1-2)	• For an unexplained judgment, or one that is not supported by analysis. E.g. merely stating PED is not relevant due to its key assumption.

4 (a) Explain why a government aims to achieve low inflation. [10]

(b) Discuss whether fiscal policy is the most effective way to achieve price stability in a country. [15]

Part (a)

Introduction:

- Inflation refers to the sustained increase in the general price level.
- A government aims to achieve low inflation as excessive price increase or decrease is harmful to the economy. Holding the rate at 1%-2% is considered as sufficiently low and desirable.

P1: Low inflation can result in economic growth and higher employment. (OR Severe inflation/deflation can cause negative economic growth and unemployment and so it is necessary to prevent prices from severe fluctuation) (Internal/domestic effects)

- In the case of mild/low inflation, it is usual for wage costs to lag behind the increase in prices of goods and services. Profit-maximising producers will be optimistic and motivated to increase production, leading to higher investment. Thus AD rises leading to a rise in real national output and thus actual economic growth. With higher level of production of goods and services, higher employment results as labour is a derived demand.
- In the long run, the rise in quantity of capital goods lead to rise in productive capacity and thus rise in AS. There will be a further rise in real national output and full employment output will rise signifying potential economic growth.
- Whereas, high inflation creates increased uncertainty and risk of future returns on investment and discourages investment.
- On the other hand, deflation (negative inflation i.e. falling prices) usually sets in when AD falls and the country slips into a recession. As inventories build up, firms reduce prices. But when prices are falling, consumers may postpone their spending in expectations of further fall in prices. Firms too lacks confidence that demand will pick up in the near future and so will cut back on investments and hiring.

P2: Low inflation reduce redistributive effects of inflation and deflation (Internal/domestic effects)

- Unanticipated inflation results in arbitrary redistribution of income as some people will be made better off but others are made worse off. Fixed income earners like pensioners and employees whose salaries are fixed by contract, lose. On the other hand, variable income earners (e.g. producers) gain during unanticipated inflation. The purchasing power of the fixed-income earners decreases because they have to pay more for products but their money income is unchanged. Conversely, producers gain because they are making higher profits as price may rise faster than cost. Lenders will lose and borrowers gain during unanticipated inflation. Borrowers gain because the real values of their debts are reduced by the price increase as the loan that is repaid in nominal terms is has lesser purchasing power. In contrast, lenders end up getting back a sum worth much less than agreed in real terms. Such arbitrary redistribution of income could lead to social unrest.

P3: Low inflation is beneficial to the balance of payments (external effects)

- When a country's inflation rate is relatively low and stable compared to its trading partners, her exports will be relatively cheaper and therefore more competitive. This will lead to an increase in demand hence, a rise in export earnings. On the other hand, its imports will be relatively more expensive than home-produced goods and thus demand for imports decreases and import expenditure will fall. Hence net exports increase which improves the current account.
- Stable prices will have a favourable impact on the capital balance. There is less risks and uncertainty (explained in P1) which will attract greater inflow of foreign direct investments. The capital inflow improves the capital balance. Hence, stable prices can result in an improvement of the overall balance of payments of a country.

Conclusion
- There are various benefits of low inflation while deflation and high inflation have detrimental effects on the economy. That explains why more governments are resorting to achieve low inflation.

Level	Knowledge, Application, Understanding and Analysis
L3 (7-10)	- 2 very well explained domestic (economic growth, employment, SOL using AD/AS analysis) AND external (BOP using appropriate DD/SS/PED analysis) effects. - Candidates must be able to link to why price stability is important. - Clear understanding of why low inflation is the aim vs high inflation and deflation.
L2 (5-6)	- Answer provides undeveloped explanation of the negative effects of high inflation or positive effects of low inflation. - Answer has only 2 domestic or external effects or undeveloped explanation of 3 effects
L1 (1-4)	- Descriptive answer of the effects/consequences of low inflation or high inflation or deflation. - Glaring conceptual errors.

Part (b)

Introduction:

- Price stability refers to low inflation where prices are rising at a low single-digit and not distorting relative prices severely. Several policies can be used but effectiveness of such policies will depend on cause(s) of inflation and characteristics/conditions of the economy.

P1: Contractionary fiscal policy is effective if the <u>root cause of inflation is excessive rise in domestic demand</u> when the country has little spare capacity (aka demand-pull inflation). An instance is the massive rise in consumption (C) and investment (I) leading to inflow of foreign workers raising C and I and bring the country near full employment.

- When the government cuts its expenditure (G) on goods and services, this will have the immediate impact of reducing the level of AD since G is a component of AD.
- The government can also increase direct taxes. For example, when personal income taxes are increased, the disposable income of households falls, leading to a **fall in C**. Higher corporate tax will reduce the firms' post-tax profits. Hence, firms will **reduce I**. The fall in C and I will lead to a fall in AD from AD_0 to AD_1.
- At P_0, AS exceeds AD resulting in a surplus and downward pressure on prices. As a result, firms would produce less. At the same time, the decrease in prices would raise the level of AD. The surpluses would be eliminated when the general price level has fallen to P_1.

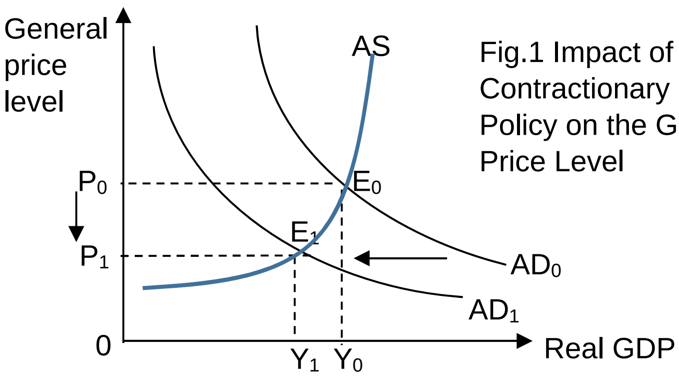


Fig.1 Impact of Contractionary Fiscal Policy on the General Price Level

EV1:

- However, for countries where the **<u>G expenditure as a percentage of GDP</u>** is **<u>small</u>**, it may be difficult for such countries to reduce G sufficiently to contain inflation. For e.g., the Singapore government's expenditure has averaged about 10-11% of GDP from 2010-2015 compared with those OECD countries, which range from 30% to 50% of GDP.
- In addition, the effects of <u>tax</u> increase on investment and consumption are **<u>uncertain</u>** as the extent to which people react to tax changes differ. For e.g. even with tax increase, C may fall less than proportionate if consumers are more concerned about future price rise. Thus, a smaller-than-needed tax increase will be ineffective.

P2 To control <u>inflation arises from external causes</u>, the government of a small and open economy can **<u>appreciate</u>** its currency. (Students can also bring in contractionary monetary policy)

- Currency appreciation means increasing the external value of the country's currency which is done by the government **buying its domestic currency** in the foreign exchange market.
- Currency appreciation has the direct effect of lowering the domestic currency prices of **imported final goods and services**. Moreover, the lower domestic currency prices of **imported inputs and raw materials** will lower the firms' cost of production. The short run AS will rise causing a fall in general price level assuming the firms pass the lower costs to the consumers. Thus, there will be a fall in import price-push inflation.
- Currency appreciation can reduce demand-pull inflation by lowering AD. When the domestic currency appreciates, the country's exports will be more expensive in foreign currency. At the same time, imports would be cheaper in domestic currency. As long as the **Marshall-Lerner condition** is met, i.e. the **sum of price elasticity of demand for exports and price elasticity of demand for imports is greater than one**, currency appreciation will lead to a fall in net export expenditure. Hence, AD also decreases leading to a fall in general price level.

EV2:
- The use of exchange rate policy is the more effective than fiscal policy and a more direct way of maintaining price stability in a country such as Singapore in which the main cause of inflation is imported inflation. Singapore is a small and open economy that is heavily dependent on imports due to the lack of resources. Out of every $1 spent, 51 cents leak out as imports. This implies that domestic prices are very much influenced by foreign prices. Hence, the inflation problem is usually due to external sources. Changes in the exchange rate would have a significant impact on domestic prices, either directly (through its impact on import prices) or indirectly (through its impact on export prices).
- But in the short run, the demand for the country's exports and imports can be highly price inelastic due to lack of substitutes and contractual agreements between firms. If the Marshall-Lerner condition is not met, then currency appreciation would not reduce net export expenditure, AD and the general price level. However, in the long run (commonly a year's time), the demand for the country's exports and imports should be price elastic (thus Marshall-Lerner condition is met) as firms and consumers can find substitutes from other countries and contractual agreements would have expired. Therefore, the currency appreciation would lead to a fall in net exports thus leading to lower inflation.

P3: Supply-side policies is a more effective way to curb demand-pull inflation due to infrastructure constraint and cost-push inflation caused by rise in wages exceeding than the rise in labour productivity.
- This policy involves increasing the country's productive capacity by increasing the productivity of workers through skills training and upgrading, the greater use of capital goods and the use of technology and innovation to reduce costs of production and to overcome resource constrains.
- Measures in Singapore such as SkillsFuture are subsidies given to workers to take up courses to develop themselves as well as to learn new skills so that the rise in labour productivity exceed the rise in wages. Subsidies are also given to firms to encourage them to engage in R&D so that they are less reliant on foreign labour and to use more capital and technology to produce goods. The government also keeps up with spending to increase the capital stock in the form of more infrastructure.
- The AS curve will shift to the right from AS_0 to AS_1. As a result, the general price level falls from P_0 to P_1.

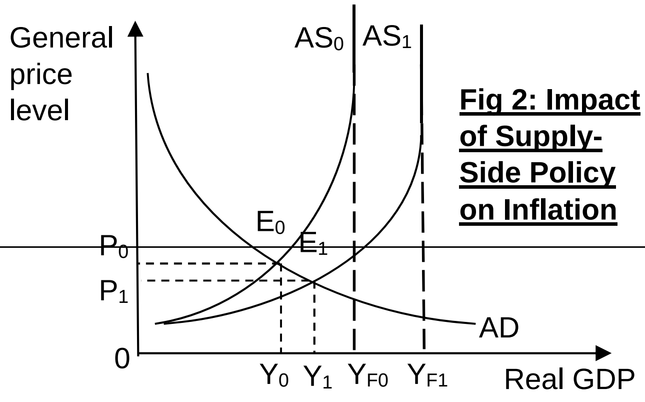


Fig 2: Impact of Supply-Side Policy on Inflation

EV3:

- However, supply-side policies suffer from a longer time to be effective in bringing down inflation than fiscal policy and monetary policy. It takes time to persuade employers and workers of the need for skills upgrading. Firms will be more concerned about loss of potential output especially when they are receiving more sales orders during demand pull inflation and so they are reluctant to send workers for training. Likewise, workers may be reluctant to attend training if they have to forgo their earnings.
- Also, it takes time for workers to acquire new skills to increase labour productivity – the more complex the skills, the longer the training time. Likewise, construction of infrastructure takes time and the amount time needed is substantially lengthened if the country is already densely populated with high built-up areas such that more time is needed to prepare the area for new infrastructure.

Synthesis/conclusion

- Generally, fiscal policy is not the most effective policy in bringing down inflation though the government may still use it by postponing non-essential government spending. So, the policy is of limited effectiveness.
- Next, supply-side policy is the preferred long term policy because fiscal policy of raising taxes is unlikely to raise labour productivity and thus supply-side policy of raising labour productivity is a more effective measure. Similarly, fiscal policy of cutting government expenditure on infrastructure may worsen inflation as infrastructure deteriorates over time resulting in bad supply bottlenecks and so the improvement of infrastructure is still key.
- Thirdly, the country's characteristics determine which type(s) of inflation it is more susceptible to and the severity and therefore which policies are more effective to reduce inflation. E.g. a small and open economy tends to face imported inflation will use exchange rate policy.
- Fourthly, the country can also experience several types of inflation (inflationary spiral) and thus it will use a mix of policies including the more targeted macro-prudential measures e.g. to stamp out property speculation (excessive Investments).
- Finally, use of policies is not just based on effectiveness of the policy.
    - Governments often also consider how the chosen policies may conflict with other macroeconomic goals of balance of payment (when the currency is too strong) and lowering economic growth when using fiscal and/or monetary policy and such conflicts may actually worsen inflation when investors lose confidence.

Level	Knowledge, Application, Understanding and Analysis
L3 (9-11)	- Well-explained analysis of how fiscal policy and 2 other policies (either interest rate OR exchange rate PLUS supply-side) help to achieve price stability. - Thorough analysis of fiscal policy and one other policy in achieving price stability.
L2 (6-8)	- Well explained fiscal policy and some mention of another policy in achieving price stability. - Thorough analysis of fiscal policy in achieving price stability. - 3 policies provided but links to price stability may not be explicitly evident.
L1 (1-5)	- Smattering of ideas. - Glaring conceptual mistakes - Only fiscal policy but no link to price stability.
E2 (3-4)	• Judgement based on analysis on effectiveness of policies including comparing which is the most effective policy and synthesis • Contextual examples to support "best".

E1 (1-2)	• Mainly unexplained judgement – e.g.merely stating of context or theoretical evaluation without application (e.g.citing time lag and inaccuracy of data for all policies)

TEMASEK JUNIOR COLLEGE
Preliminary Examinations 2017
General Certificate of Education Advanced Level
Higher 1

ECONOMICS

8819/01

Paper 1

Tuesday 29 August 2017

3 hours

Additional Materials: Answer Paper, Cover Page

READ THESE INSTRUCTIONS FIRST

Do not turn this page 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 HB pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A
Answer **all** questions.

Section B
Answer **one** question.

Begin each question on a separate sheet of answer paper.
Fasten your work for Section B and the cover page together.
Write the question that you attempted for Section B on the cover page.
Hand in your answer to each question **separately**.
The number of marks is given in brackets [ ] at the end of each question or part question.

This document consists of **8** printed pages.

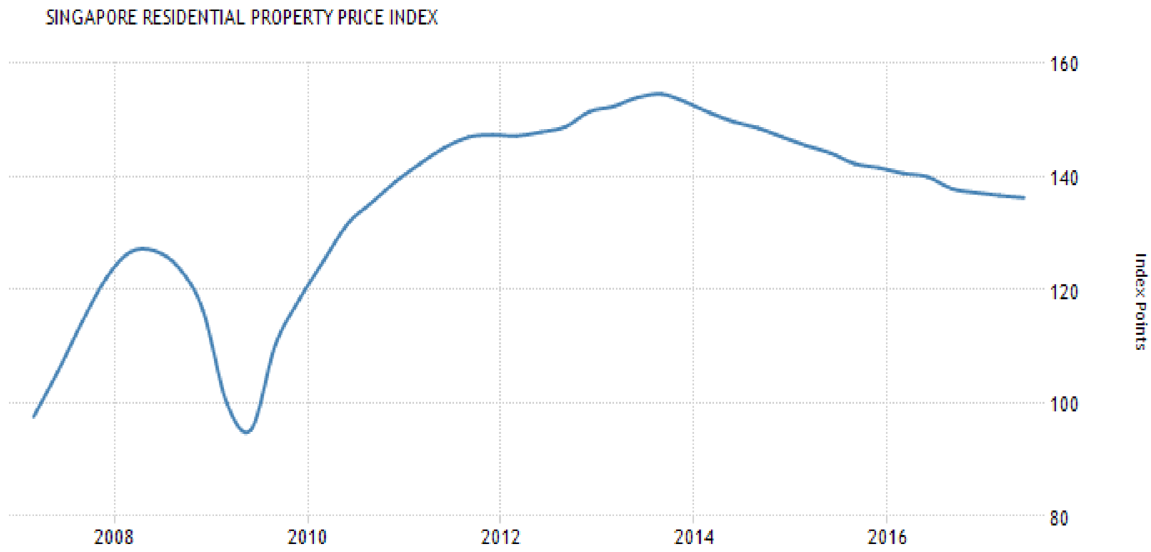
Section A

Answer **all** questions in this section.

Question 1

Real Estate Bubbles and Cooling Measures

Figure 1: Singapore Residential Property Price Index



Source: *Urban Redevelopment Authority, Singapore*

Extract 1: Public housing: A pillar of nation-building

A hallmark of the public housing programme has been Singapore's policy of home ownership. Started in 1964, the Home Ownership for the People Scheme gives home-owning citizens a tangible asset and stake in the country, and promotes rootedness and a sense of belonging among Singaporeans, thus contributing to the overall economic, social and political stability of Singapore.

Today, 82% of the population is housed in Housing and Development Board (HDB) estates, and the estates (comprising flats and a comprehensive range of facilities) have become a common point of emotional reference for the vast majority of Singaporeans. This "HDB Experience" has played an important role in bonding Singaporeans, in the same way that National Service and the education system have created common experiences among Singaporeans of all races and from all walks of life.

Source: Civil Service College, retrieved Aug 2017

Extract 2: New HDB flats have remained affordable: HDB

To keep flats affordable for Singaporeans, the HDB has disbursed S$1.6 billion in Additional CPF Housing Grants (AHG) to close to 83,000 households since 2006. It has also given out S$297.61 million in Special CPF Housing Grants (SHG) since 2011 to almost 20,000 households, as of November 2015.

HDB gave this update in a media statement on Sunday (Jan 3). Eligible first-time buyers currently enjoy up to S$80,000 in housing grants, comprising the AHG of up to S$40,000 and the SHG, also up to S$40,000.

More than 80 per cent of Singapore's resident population are housed in more than 900,000 public flats across the island and 95 per cent of them own the flats they live in.

Source: *Channelnewsasia.com*, 2016

Extract 3: Why a Chinese Real Estate Bubble Could Bring Down the Global Economy

Analysts are sounding the alarm about growing Chinese debt loads and a potential real estate bubble that threatens to dramatically slow growth in Asia, and which could be a drag on the entire global economy if it bursts.

In September, Ma Jun, the chief economist of the People's Bank of China's research bureau, argued that the Chinese government must take action to stamp out real estate speculation. "Measures should be taken to put a brake on the excessive bubble expansion in the property sector, and we should curb excessive financing into the real estate sector," Ma said, according to a translation of a Chinese news report by Bloomberg News.

Other Chinese analysts have been even more vehement. "The dangers of overly inflated housing prices are huge," writes Hu Shuli, chief editor of Caixin Media in Beijing. "Indicators such as the ratio of mortgage payments to a buyer's income indicate that on a relative basis, China's current housing prices are now more expensive than those during Japan's property bubble, and are close to US prices just before the global financial crisis exploded."

Chinese policymakers have instituted measures aimed at cooling the overheating housing market, with some cities imposing "local purchase restrictions, raising mortgage down payment ratios, and tightening developers' financing," according to Zhiwei Zhang, chief economist with Deutsche Bank Research. He also points out, however, that these measures may have simply led investors to funnel money into property into cities where real estate has been appreciating less quickly.

Source: *Fortune*, 2016

Extract 4: Cooling Measures for the Residential Property Market

The Government has implemented several rounds of measures to cool demand and expand supply, so as to moderate the increase in housing prices. While these measures have dampened speculative buying, the demand for residential property remains firm and prices have continued to rise.

The continued buoyancy of the property market reflects the very low interest rate environment and continued income growth in Singapore. These factors supported a record level of housing transactions last year, particularly from investment demand. Housing prices have also shown signs of reaccelerating in recent months, in both the private residential and HDB resale flat markets. Price increases, if not checked, will run further ahead of economic fundamentals and raise the risk of a major, destabilising correction later on.

The Government has therefore decided to implement a further set of measures to cool the private and public housing markets. These measures are calibrated to be tighter on property ownership for investment, as well as on foreign buyers. To discourage over-borrowing, financing conditions for housing have also been tightened. In addition, structural measures have been implemented to strengthen the policy intent of public housing and executive condominiums.

Deputy Prime Minister and Minister for Finance Mr Tharman Shanmugaratnam said: "The reality we face is that interest rates are extraordinarily low, globally and in Singapore, and continue to add fuel to our property market. We have to take this further round of measures now, to check recent market trends and avoid a more serious correction in prices further down the road."

Minister for National Development Mr Khaw Boon Wan said: "A large supply of public and private housing – up to 200,000 units in total – will be completed in the coming years. Coupled with the new measures, we will be better placed to ensure that housing remains affordable to Singaporeans."

Source: *Monetary Authority of Singapore*, 2013

Extract 5: Here's why it is time to thaw property cooling measures

Property prices are now at one of the most affordable levels on record. Singapore has averted a technical recession, posting 1.8 per cent growth in gross domestic product (GDP) for the 4Q16, and an overall growth of 1.8 per cent for the year, according to recent estimates from the Ministry of Trade and Industry.

But with a subdued economic outlook both globally and in Singapore, as well as expectations of rising interest rates, house prices are under considerable pressure. Real estate consultant JLL said the residential property market is likely to remain stagnant with cooling measures still in place alongside slow economic growth.

Private home prices in Singapore softened further in the last quarter of 2016, for 13 consecutive quarters and reaching their lowest level in six years, as flash estimates from the Urban Redevelopment Authority (URA) showed at the beginning of January.

Source: *Singapore Business Review*, 2017

Questions

(a) **(i)** From Figure 1, describe the trend in Singapore's residential property prices from 2010 to 2016. [2]

(ii) Suggest two possible reasons for the trend identified in (i). [2]

(b) **(i)** Explain why public housing is not a public good. [4]

(ii) Explain why the government provides subsidies for public housing in Singapore. [4]

(c) Explain the possible impact of a bursting of the real estate bubble in China on Singapore's balance of payments. [4]

(d) Analyse how the factors mentioned in Extract 4 affect the market for housing in Singapore. [6]

(e) As an economic advisor to the Singapore government, discuss whether you will recommend the removal of cooling measures in Singapore. [8]

[Total: 30]

Question 2

Global instability and Weakness

Table 1: Economic indicators of Greece

Year	Economic Growth (annual variation in % of GDP)	Unemployment Rate (%)	Public Debt (% of GDP)
2011	-9.1	17.9	172
2012	-7.3	24.6	160
2013	-3.2	27.5	177
2014	0.4	26.5	180
2015	-0.2	25	177

Source: *FocusEconomics*

Extract 6: Greece bailout agreement: key points

Greece has been told it must legislate by 15 July to introduce “quasi-automatic spending cuts” if it deviates from primary surplus targets. In other words, if it cannot cut enough to balance the books, it should cut some more. In the past, the troika of lenders (made up of the European Commission, European Central Bank, and the International Monetary Fund) has demanded that Greece commit to a budget surplus of 1% in 2015, rising to 3.5% by 2018. To achieve this, Greece has been told that it needs to pass measures to “improve long-term sustainability of the pension system” by 15 July. The country’s pensions system, and its perceived generosity relative to other eurozone states, has been a key sticking point in the past five months of negotiations with creditors. The troika believes that Athens can save 0.25% to 0.5% of GDP in 2015 and 1% of GDP in 2016 by reforming pensions.

The latest agreement demands measures for “the streamlining of the value-added tax (VAT) system and the broadening of the tax base to increase revenue”. One of the key objections from Greece’s creditors to its VAT system is a 30% discount for the Greek islands. Athens proposed a compromise on 10 July under which the exemptions for the big tourist islands – where the revenue opportunities are greatest – would end first, with the more remote islands following later.

Prime Minister Alexis Tsipras pledged to implement radical tax reforms to ensure the Greek oligarchy finally makes a fair contribution. The agreement thrashed out overnight would allow Greece to stand on its feet again, he said. Implementation of the reforms would be tough, he said, but “we fought hard abroad, we must now fight at home against vested interests”. He added: “The measures are recessionary, but we hope that putting Grexit to bed means inward investment can begin to flow, negating them.” The new deal also calls for “more ambitious product market reforms” that will include liberalising the economy with measures ranging from bringing in Sunday trading hours, to opening up closed professions. Greece’s labour markets must also be liberalised, the other eurozone leaders say. Notably, they are demanding Athens “undertake rigorous reviews and modernisation” of collective bargaining and industrial action.

Source: *The Guardian*, 13 July 2016

Extract 7: China economic growth slowest in 25 years

China's economy grew by 6.9% in 2015, compared with 7.3% a year earlier, marking its slowest growth in a quarter of a century. China's growth, seen as a driver of the global economy, is a major concern for investors around the world. The news comes as the International Monetary Fund said it expected China's economy to grow by 6.3% this year and 6% in 2017. Beijing had set an official growth target of "about 7%".

Chinese Premier Li Keqiang has said weaker growth would be acceptable as long as enough new jobs were created. But some observers say its growth is actually much weaker than official data suggests, though Beijing denies numbers are being inflated. After experiencing rapid growth for more than a decade, China's economy has experienced a painful slowdown in the last two years. It's come as the central government wants to move towards an economy led by consumption and services, rather than one driven by exports and investment, in view of weak external climate and excess capacity. But managing that transition has been challenging. Some argue that China's focus on creating an economy driven by consumption is misplaced. They say as the country attempts to rebalance its economy, it should focus on productivity to sustain high growth. "While higher consumption can support growth in the short run, there is little in economic theory that emphasises the expenditure side of GDP as a driver of growth," HSBC's John Zhu said in a note. He added that China's current stage of development would require more investment, not less, and that the country would rebalance naturally towards consumption and services in time.

It's said so often that it has become a financial markets cliché - when China sneezes, the rest of the world catches a cold. China's headline annual economic growth numbers are important to the rest of the world - but so too are other monthly economic data as they can provide a more in-depth look at the economy and where it's heading. Monthly industrial production and retail sales numbers for China were also released on Tuesday, with both December numbers coming in just slightly worse than expected. Industrial production - or factory output - expanded 5.9% in December, down from 6% in November. Retail sales grew 11.1%, down from 11.3% in November. "[The] health of the labour market, retail sales and industrial production data are all key indicators for growth," said Catherine Yeung from Fidelity International in a note. "When you look at China with this lens, we're not seeing a meltdown, just a slowdown," she added.

Source: *BBC News*, 19 January 2016

Extract 8: MTI narrows 2015 GDP growth forecast to 2.0 to 2.5 per cent

The global economy performed weaker than expected in the first half of 2015. For the rest of the year, global growth is expected to pick up gradually, although the pace of growth is likely to be uneven across economies. In particular, the advanced economies are expected to see a gradual pick-up in growth, while the growth outlook of regional economies has generally softened. The US economy recovered in the second quarter following the harsh weather conditions experienced at the start of the year. For the rest of 2015, the US economy is projected to grow at a modest pace, supported by private domestic demand. The Eurozone economy is expected to improve in the second half of the year, with growth supported by the quantitative easing measures implemented since March. However, growth in the bloc will likely remain modest due to sluggish labour market conditions. In Asia, China’s growth is projected to ease, weighed down by the on-going property market correction and excess capacity in the heavy industries. Nonetheless, the stimulus measures implemented by the Chinese government are expected to contain downward pressures on the economy. Meanwhile, growth in key ASEAN economies is likely to be weighed down by weaker demand from China as well as softening domestic demand.

At the same time, several key downside risks in the external economic environment remain. In China, there is the risk of a sharper-than-expected correction in the real estate market, which could have significant negative spill-over effects on construction and real estate investment activities. The recent sharp correction in China's stock market has also heightened the risks to China's growth. In particular, consumer sentiments and spending in China could be adversely affected if the correction in the stock market worsens. In the Eurozone, while Greece has averted the immediate risk of an exit from the bloc, there is continuing political uncertainty and the crisis could flare up again if the Greek government fails to adhere to the bailout terms. Finally, with low commodity prices, the appreciation of the US dollar and anticipated normalisation of US interest rates, regional countries could face capital outflows and added pressures on their currencies and asset markets.

In tandem with the expected gradual pick-up in the global economy, externally-oriented sectors such as finance and insurance and wholesale trade are likely to support growth in the Singapore economy in the second half of the year. However, sector-specific factors could continue to weigh on the growth of some externally-oriented sectors. For instance, sustained low oil prices could continue to dampen growth in the marine and offshore segment. On the other hand, domestically-oriented sectors such as the business services and information and communications sectors are expected to see modest growth. With the labour market expected to remain tight, growth in some labour-intensive sectors such as food services may be weighed down by labour constraints.

Source: *Ministry of Trade and Industry Singapore*, 11 August 2015

Extract 9: Singapore economy grew 2% in 2015, slowest since 2009

Singapore's economic prospects have softened since the start of this year amid a sharp fall in oil prices and global financial market volatility, the Ministry of Trade and Industry (MTI) said on Wednesday (24 Feb). MTI put out these forecasts alongside the release of data showing the Singapore economy grew a modest 2 per cent in 2015, the weakest rate of growth since 2009, when the global financial crisis shrank economic output by 0.6 per cent. Private economists say growth in 2016 will probably slow to 1.8 - 2.0 per cent.

Source: *The Straits Times*, 24 February 2016

Questions

(a) With reference to Table 1, explain why the Greek government should be concerned about its economy. [4]

(b) **(i)** Explain the main causes of Greece's ballooning public debt. [2]

(ii) With reference to Extract 6, comment on how the measures demanded under the Greek bailout agreement might impact the Greek economy. [4]

(c) Explain the possible considerations behind China's attempt to rebalance its economy. [6]

(d) Using an AD/AS diagram, explain how a tight labour market may affect general price levels in Singapore. [4]

(e) **(i)** Explain how central banks such as the Monetary Authority of Singapore (MAS) could influence the external value of a country's currency. [2]

(ii) In view of the data presented, discuss the extent to which MAS might have to intervene in the market for Singapore dollars in order to achieve the government's macroeconomic objectives. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3 Malaysia will begin imposing its tourism tax on hotels from Aug 1 this year, starting from RM2.50 (S$0.80) per room each night, according to details published on the Royal Malaysian Customs Department's website. Concurrently, recovery from the Global Financial Crisis has seen a rise in business activities and increasing income levels.

(a) Explain how scarce resources are allocated in the free market. [10]

(b) Discuss how the above factors may affect the total consumer expenditure on different types of hotels in Malaysia. [15]

4 The creation of the ASEAN Economic Community (AEC) has potentially significant consequences for the Singapore economy. ASEAN leaders established the AEC, one of whose aims is to promote freer movement of trade and capital in the region. Mr. Guy Harvey-Samuel, chief executive of HSBC Singapore, said that if the AEC is well implemented, Singapore's gross domestic product (GDP) would be 9.5 per cent higher by 2030.

(a) Explain how you might use GDP to assess a country's living standards. [10]

(b) Discuss whether the AEC would benefit Singapore's economy. [15]

TJC Prelims 2017 CSQ Answers (H1)

(a) **(i)** From Figure 1, describe the trend in Singapore's residential property prices from 2010 to 2016. **[2]**

Singapore's residential property prices generally increased from 2010 to 2016. [1] Prices increased steadily from 2010 to reach a peak in late 2013 and have been on a gradual decline since. [1]

(ii) Suggest two possible reasons for the trend identified in (i) **[2]**

<u>Explain reason for general trend - general increase in prices [1]:</u>

"Very low interest rate environment" (Extract 3) indicates a low cost of borrowing, encouraging borrowing to buy big ticket items such as houses, thus boosting demand for property. OR "Continued income growth in Singapore" (Extract 3) leads to higher purchasing power and therefore higher demand for property.

Higher demand for property thus explains the general price increase from 2010 to 2016.

<u>Explain reason for refinement - gradual decline since late 2013 [1]:</u>

The gradual decline in prices since late 2013 can be attributed to government's measures to "cool demand and expand supply, so as to moderate the increase in housing prices" (Extract 3). Dampened demand and increased supply thus led to prices slowing down after 2013.

Note: 1 mark for explaining general increase and 1 mark for explaining gradual decline since 2013.

(b) (i) Explain why public housing is not a public good. **[4]**

A public good is a good which is both non-excludable and non-rivalrous, resulting in total market failure and non-provision of the good.

Non-excludable means it is impossible to prevent a person who has not paid from consuming the good. [1] Public housing not a public good as it is excludable. An HDB flat-owner has to first purchase the flat before being given the key to his apartment. HDB can also evict those who fail to make payments for their apartments.[1]

Non-rivalrous means consumption of the good by one individual does not diminish the quantity and quality enjoyed by others. [1] Public housing is not a public good as it is rivalrous. When one HDB flat has been sold to a family, there is one less HDB flat available for other families. It is impossible to house the entire community in an HDB flat without creating intolerable overcrowding. [1]

Hence, public housing is not a public good.

(ii) Explain why the government provides subsidies for public housing in Singapore. **[4]**

The consumption of public housing generates positive externalities as home-ownership "promotes rootedness and a sense of belonging among Singaporeans, thus contributing to the overall economic, social and political stability of Singapore", benefitting other Singaporeans. [1]

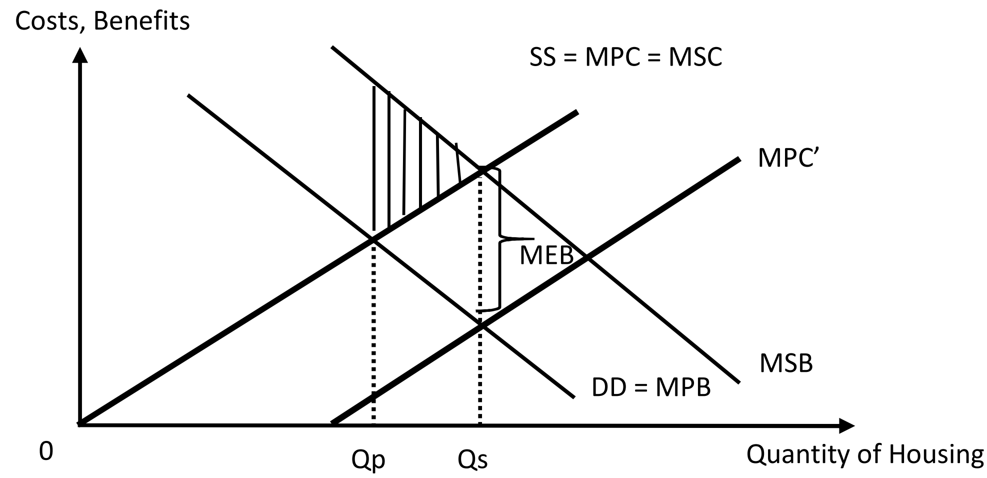


Figure 1: Positive Externalities in the Market For Housing

[1m for diagram]

Figure 1 shows the market for public housing. Marginal Social Benefit (MSB), which is the benefit derived by society, exceeds Marginal Private Benefit (MPB) by Marginal External Benefit (MEB), which represents the positive spillover effects on other people, ie political and social stability for everyone. Consumers only take into account their own MPB, ie the enjoyment of owning a house, and fails to take into account the benefit to others. Assuming no external costs, the private outcome Qp occurs where MPB=MPC and is lower than the socially optimal outcome of Qs which occurs where MSB=MSC, leading to underconsumption. This results in a deadweight loss of the shaded triangle area, and an allocatively inefficient outcome. [1]

Therefore, there is market failure and this may justify government intervention in the form of subsidies. Giving producers a per unit subsidy that is equal to the MEB lowers their production cost and shifts the MPC down to MPC'. The new private equilibrium output of Qp' where MPC' = MPB now coincides with the social equilibrium output of Qs where MSC = MSB. Allocative efficiency is achieved as output is raised to the socially optimal level. [1]

Note: Alternative reasons would be to improve equity in the distribution of public housing or to address underconsumption of merit goods - on top of the problem positive externalities, there is also an element of imperfect information as individuals are not fully aware of the benefits that public housing-ownership might bring to themselves, such as being financially secure as an asset-owner.

(c) Explain the possible impact of a bursting of the real estate bubble in China on Singapore's balance of payments. **[4]**

A bursting of the real estate bubble in China would mean a sharp drop in the property prices, leading to a fall in the level of wealth. This causes individuals and firms to feel poorer and hence cut back on their consumption and investment respectively. [1]

As consumers in China cut back on their spending on both domestically and imported goods and services, their demand for Singapore's exports is likely to fall, because China is a significant export market for Singapore. Therefore, Singapore's export revenue is likely to fall, causing the trade balance and hence current account to deteriorate. [1]

"Excessive bubble expansion in the property sector" are associated with higher debt levels, and "analysts are sounding the alarm about growing Chinese debt loads". A subsequent sharp correction of property prices may trigger a banking crisis as banks become increasingly saddled with bad loans that were used to finance the purchases of these assets. Banks may find difficulty in lending to other business, which hampers production and investment. There may also be bank failures, lowering business and consumer confidence. [1]

Therefore, China's investments abroad, including to Singapore, is likely to be greatly reduced due to troubles at home. With long-term capital inflows sharply reduced, Singapore's capital account could deteriorate too. [1]

With both current account and capital account deteriorating, a bursting of China's property bubble is likely to cause Singapore's Balance of Payments to worsen.

Note: Answers which argue that capital account could improve if "hot money" flows into Singapore due to its safe-haven reputation are acceptable.

(d) Using an economic framework, analyse how the factors mentioned in Extract 4 affect the market for housing in Singapore. **[6]**

The market for housing in Singapore is affected by various demand and supply factors. The demand factors include "very low interest rate environment and continued income growth in Singapore**"** as well as macro-prudential cooling measures by the government aimed at preventing the formation of a property bubble. On the supply side, "a large supply of public and private housing – up to 200,000 units in total – will be completed in the coming years". The overall impact on equilibrium price and quantity depends on the extent of the shift in demand compared to the shift in supply, as well as the price-elasticity of demand (PED) and price-elasticity of supply (PES) for housing.

Examining demand factors

The demand factors mentioned in the extracts work in opposing ways. Low interest rates indicates low cost of borrowing for home-buyers. Households are more willing to borrow to consume big-ticket items such as housing and hence, demand for housing increases. [1]

This is coupled with continued income growth, which boosts households' purchasing power and hence demand for housing. [1]

However, the macro-prudential cooling measures on "property ownership for investments as well as on foreign buyers" reduces speculative demand for property, raising expectations of a price fall, causing demand to fall. [1]

Whether overall demand increases or falls depends on which factor has a stronger impact. It is likely that cooling measures will be a more important factor as they affect market sentiment significantly, and could lower economic growth and thus income growth, overall causing demand for housing to fall. [1]

Examining supply factors

Housing supply will rise due to the "completion of 200,000 units" in the years ahead. [1]

Overall impact

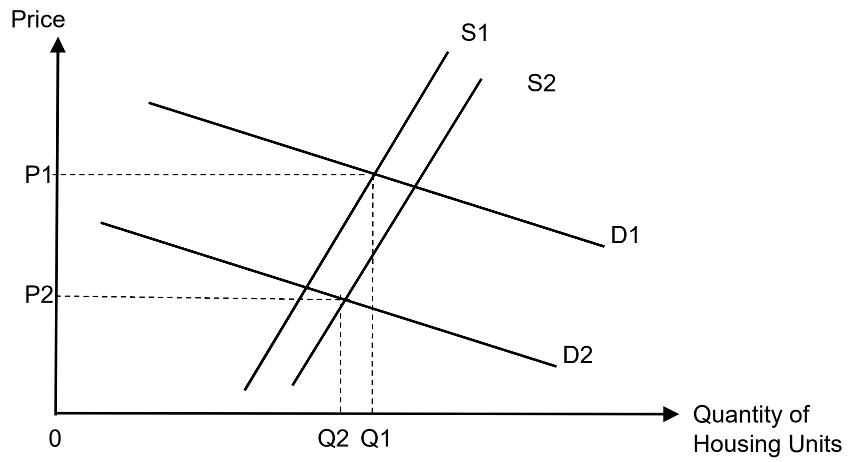


Figure 2: Concurrent shifts in demand & supply of housing market

[1m for diagram]

The combined impact of the fall in demand and increase in supply is represented in Figure 3. Demand is likely to fall more, from D1 to D2, than supply increase, from S1 to S2, and the fall in housing prices is more significant, from P1 to P2 than the fall in quantity, from Q1 to Q2. This is because cooling measures have a strong impact on consumer and investor sentiment, resulting in expected price falls in the housing market, and buyers holding back their purchases. While there is a large supply coming on-stream, this is likely to be spread out over a few years, and will not be significant in the immediate term. Moreover, current owners are likely to hold out and wait for a price recovery before selling, thus limiting the increase in supply. [up to 3]

Note: This question has a broad scope and there are many possible analyses that students can write to earn marks. Students are expected to determine the scope of the answer based on the number of marks allocated.

Marks are also awarded for elasticity analysis.

When demand changes, the relevant elasticity concept is Price Elasticity of Supply (PES), which measures the responsiveness of quantity supplied for a given change in own-price, ceteris paribus. Supply for housing is likely to be price-inelastic (PES<1) as it takes a few years for developers to bid for land and build housing units in response to a price change. When demand falls, price falls, leading to a less than proportionate increase in quantity supplied of housing as PES<1. [1]

A relevant elasticity concept when supply changes is price elasticity of demand (PED), which measures the responsiveness of quantitity demanded for a given change in own-price, ceteris paribus. Demand for housing is likely to be price-elastic (PED>1) as expenditure on housing forms a high proportion of a typical buyer's income. When supply increases, price falls, leading to a more than proportionate increase in quantity supplied of housing as PED>1. [1]

(e) As an economic advisor to the Singapore government, discuss whether you will recommend the removal of cooling measures in Singapore. **[8]**

Macro-prudential property cooling measures were first imposed to prevent a property bubble from forming as well as to ensure affordability of housing in Singapore. According to Extract 3, in 2013, further measures were adopted as according to Minister for Finance then, "interest rates are extraordinarily low" and "continue to add fuel to our property market". These measures were said to be needed in order to "avoid a more serious correction in prices futher down the road."

Thesis Point 1: Property prices have fallen, thus achieving original intent of cooling measures.

There is merit to the argument that cooling measures should be removed. Firstly, these measures have borne fruit and achieved their original intent. According to Extract 4, "property prices are now at one of the most affordable levels on record." URA data also shows that private home prices have fallen for "13 consecutive quarters" to reach "their lowest level in six years."

Thesis Point 2: Interest rates are rising, thus dampening speculative demand

Moreover, real estate consultant JLL argues that "house prices are under considerable pressure" given "subdued economic outlook both globally and in Singapore" as well as "expectations of rising interest rates." Property prices are highly-sensitive to interest rates movements. Singapore is a price-taker and its interest rates track US interest rates closely. US interest rates have bottomed as its economy recovers from the sub-prime crisis. Higher interest rates raise the cost of borrowing for buyers, and this lowers their purchasing power, reducing demand for property. As such, there is less need for cooling measures to rein in demand and they can be removed without fear of speculative demand being fuelled by hot money returning to the market.

Thesis Point 3: Removal of cooling measures could help boost economic growth

Extract 5 noted that in 2017, Singapore's GDP growth stood at 1.8%, narrowly averting a recession. Hence, the removal of cooling measures could boost consumption and investment in the property development market. As such, the aggregate demand could increase. Since Singapore is still on the phrase of economic recovery, there could still be excess resources, allowing the real output to increase further, thereby boosting economic growth.

Anti-Thesis Point 1: Global interest rates are still at historic lows

Although US interest rates have bottomed out, they are still at historically low levels. As mentioned by Minister Tharman, "The reality we face is that interest rates are extraordinarily low, globally and in Singapore, and continue to add fuel to our property market." Low interest rates means continued affordability for buyers of property and removal of cooling measures could encourage speculative buying again. There is thus a need to be cautious about making such a move.

Anti-Thesis Point 2: China factor

Chinese policymakers have instituted measures aimed at cooling the overheating housing market, and analysts expect "these measures may lead investors to funnel money into property in cities where real estate has been appreciating less quickly." These cities include Singapore, and if cooling measures are removed prematurely, demand from China investors could cause the property market to reach exuberant levels again.

Conclusion

The government is rightfully cautious when deciding whether to remove the cooling measures. Removal of cooling measures sends a strong signal to the market and could fuel speculative buying again. This is especially so in Singapore where there is latent demand for property given the Asian culture of preference for property ownership. On the other hand, these measures are forms of market distortions, which cause allocative inefficiency. The government thus faces a fine balancing act between maximising societal welfare, ensuring equitable outcomes and preventing macroeconomic instability. The most important factor that the government might consider is likely to be the supply-demand conditions, as a huge surplus could lead to sharp falls in prices, which could cause an economic downturn. Given the present market conditions and global economic environment, I would recommend a wait-and-see approach and not recommend a removal of the cooling measures.

<u>Levels of Response Marking Scheme (LORMS)</u>

Levels	**Descriptor**	**Marks**
L2	A well-developed balanced answer with economic analysis that thoroughly explains whether property cooling measures in Singapore should be removed, with reference to case material.	4-6
L1	Lacks balance: One-sided answer that rigourously explains EITHER why Singapore's property cooling measures should be removed OR why they shouldn't be removed. **OR** Lacks rigour: Two-sided answer that is not thoroughly explained OR merely lifting evidence from the passage but no clear link to the issues. **OR** Lacks reference to case material and the application to the issues.	1-3
E	Evaluative judgement and comments based on economic or contextual analysis.	1-2

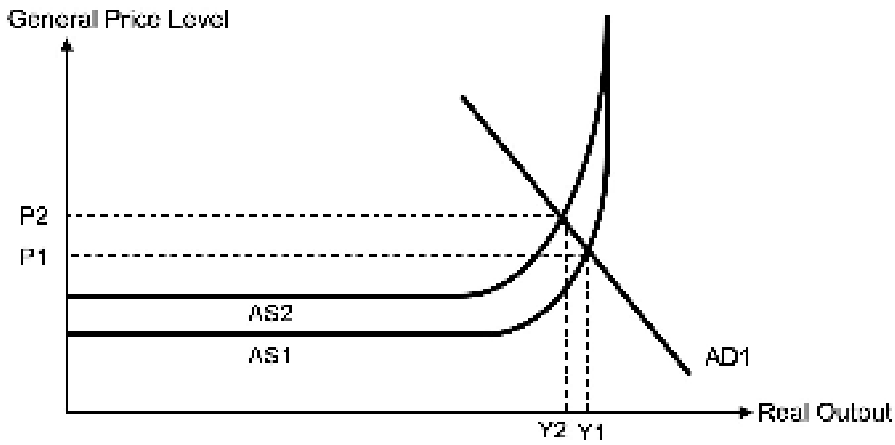
TJC Prelims 2017 CSQ2 Answers (H1)

(a)	With reference to Table 2, explain why the Greek government should be concerned about its economy.	**[4]**
	As seen in Table 2, data indicates Greece suffering from negative economic growth (-0.2%), high unemployment rates (25%) and high public debt (177% of GDP) in 2015. With reference to a government's macroeconomic objectives and the trend from 2011 till 2015, these are causes of concern for the Greek government. <u>Negative economic growth: [2m]</u> Greece has been experiencing negative rates of growth since 2011, with the exception of 2014. [1] This implies that national income has been falling, affecting purchasing power of consumers. This results in a reduction in willingness and ability of consumers to demand goods and services, adversely affecting material standards of living. OR It would also impact producers who may reduce the level of production as inventories start to accumulate. As such, producers may lay off workers as the demand for labour is derived from the demand for their products. This can be reflected in the high levels of unemployment in Greece. <u>High unemployment rates: [2m]</u> Unemployment rates have fluctuated above 20% since 2012. [1] As citizens are unable to find or hold onto a job, this reduces both their material and non-material standard of living. As the unemployed no longer earn income, there is a sharp fall in their purchasing power, hence, their ability and thus level of consumption. This reduces their material standard of living. OR As unemployment rates are high, the expectation of finding a new job tends to be low, resulting in high levels of stress and negative emotions in those who are actively seeking employment – non-material standard of living are adversely affected. OR High unemployment rates may further tax government budget as large amount of resources are spent on unemployment benefits. This further worsens the high public debt in Greece. <u>High public debt: [2m]</u> Greece has been suffering from high public debt of around 170% of their GDP. [1] This is a key constraint on government policy as the Greek government will be restricted in their employment of expansionary fiscal policy to boost the economy and push it out of a recessionary slump or to reduce demand-deficient unemployment. OR	

	It will also restrict government expenditure on providing necessary welfare benefits to low-income households and those unemployed. This reduces the government's ability to improve its citizens' standards of living, which should have been a key objective of any government. *Any 2 points for a full 4 marks.*	
(b)	**(i)** Explain the main causes of Greece's ballooning public debt.	**[2]**
	A country's ballooning public debt may be due to rising government expenditure and/or falling tax revenue. In the case of Greece, there is a government budget deficit that is financed by borrowing. As implied in Extract 5, the possible causes of Greece's ballooning public debt may be due to rising government expenditure due to its pensions system which has "perceived generosity relative to other Eurozone states". [1] Apart from this, there are clear issues brought up by the troika of lenders (European Commission, European Central Bank and the International Monetary Fund) in terms of Greece's tax system where Greece provided a "30% discount for the Greek islands" and a possible unfair contribution to taxes by the Greek oligarchy. This implies falling tax revenue collected by the Greek government. [1]	
	(ii) With reference to Extract 6, comment on how the measures demanded under the Greek bailout agreement might impact the Greek economy.	**[4]**
	Based on Extract 6, Greece has been called upon by the troika to introduce "quasi-automatic spending cuts" in order to achieve their commitment of a "budget surplus of 1% in 2015, rising to 3.5% by 2018". As such, Greece has been told that it needs to improve the sustainability of pension system, implement tax reforms as well as to liberalise the economy. In a nutshell, these requires the Greek government to cut down on spending and to increase it tax revenue. **[1]** This has a clear contractionary effect on the Greek economy as a reduction in pension payments, will result in a fall in aggregate demand (AD). This will also reduce the purchasing power of pensioners, reducing their consumption levels (C). Tax reforms include a removal of tax exemptions for big tourist islands, broadening of the tax base and the revision of taxes to better target the wealthy Greeks. These will bring about an increase in tax revenue, but will depress export revenue (X) since tourism levels will be affected given higher tax rates. Households and firms will also be affected, both experiencing higher tax rates, reducing disposable income as well as post-tax profits. Households will decrease their level of consumption (C) while firms, seeing that investments are less profitable, will reduce their level of investment (I). Given a fall in C, I and X, there will be a combined fall in AD. This fall in national income will further reduce income-induced consumption, resulting in a multiplied reduction in AD (reverse multiplier process).	

	[1m for an explanation of any of the contractionary measure – negative impact.] As such, while the measures demanded under the Greek bailout may be aimed as achieving a budget surplus, the immediate impact is a contractionary one on the economy, further worsening the current economic growth of -0.2% as seen in Table 2, resulting in a significant cause of concern as demand-deficient unemployment may be exacerbated, further lowing standards of living in Greece. **[1]** This is acknowledge by Prime Minister Alexis Tsipras as he agreed that the measures are “recessionary”. However, he is hopeful as these measures are the better of two evils, the other being Grexit. [*A Grexit situation may result in a collapse of confidence in the government and the Greek economy, further worsening the current situation. It will also mean a loss in bailout, resulting in the defaulting of Greece on its debts, which may lead to massive recessionary pressures in the Eurozone (contagion effect), adversely affecting Greece.*] In committing to these measures and liberalising the labour market, it may aid in improving the confidence level of households and firms in the Greek economy, allowing for “inward investment… to flow”. Such inflow of capital will aid in revitalising the Greek economy given an increase in I which will increase AD. Stronger confidence in the economy and obtaining the bailout will also improve expectations of the economy, allowing for greater possible foreign direct investments and domestic investment by firms. **[1m for positive impacts of measures]** In the short run, measures demanded are recessionary, but they are in place to reduce the fundamental issue faced by Greece – high public debt.	
(c)	Explain the possible considerations behind China’s attempt to rebalance its economy.	**[6]**
	Question interpretation: • *What is meant by China’s attempt to “rebalance its economy”?* • *How will this impact China’s economy?* • *Given these impacts, what were possible considerations by the government – taking into account concerns by other economic agents (households & firms)* As seen in Extract 6, China’s attempt to rebalance its economy is a “move towards an economy led by consumption and services, rather than one driven by exports and investment, in view of weak external climate and excess capacity”. In doing so, it is a deliberate shift away from its traditional drivers of growth, resulting in weaker growth, something that Chinese Premier Li Keqiang has accepted, “as long as enough new jobs were created”. In China’s rapid rise as an emerging market, a key thrust has always	Addressing what rebalancing meant. Background information on

	been its strong export demand. With abundance of labour and natural resources, China has comparative advantage in the trading of labour-intensive products and this drove its manufacturing sector to greater heights, especially coupled with a weak currency. The government's willingness to support its export industries can't be overlooked as China developed strong trade surpluses against most of its trading partners, most notably the United States of America. As export quantity (X) increases, this increases the aggregate demand for goods and services, boosting economic growth in China. Apart from strong export figures, China's government was also active in attracting foreign direct investments into the country, as well as to improve government investments (G) internally, developing rural parts of the country to further increase economic capacity. Once again, this increases the investment (I) and government expenditure (G) components of aggregate demand, boosting economic growth in China. G, I and X combined to result in China "experiencing rapid growth for more than a decade".	China. *(can be summarised)*
	However, with global instability as seen in major economic powers such as the Eurozone and USA, the Chinese government seems keen on reducing the country's exposure to such volatility. USA was badly affected by the 2008-2009 Great Recession, which effectively crippled the world's largest economy, adversely affecting global demand for exports. The Eurozone has to deal with Greece's debt crisis (Extract 5) while ensuring that other weakening countries within the Eurozone continue to sustain. As these major economies look inwards to solve their own issues, it negatively affects China's export figures, hence, a **key consideration by the Chinese government would be to reduce China's vulnerability to such external shocks, where China's growth is not dependent on the rise and fall of its trading partners.**	1st key consideration – reduce vulnerability to external shocks.
	Years of posting positive growth through increase government and private investments in rural areas has also results in major towns being constructed but these are left barren and unutilised. This is the case of China's "ghost cities", which reflects the excess capacity that was mentioned in Extract 6. It also represents government revenue that can be put to better use in improving infrastructure in key cities or between ports rather than to expand development in rural areas prematurely. **As such, another key consideration by the Chinese government in their attempt to rebalance its economy is the excess capacity which reflects poor government and private sectorbudgeting.**	2nd key consideration – excess capacity.
	However, as China looks to create an economy "driven by consumption", it has proven challenging, with expected growth of "6.3% and 6%" respectively in 2016 and 2017. This has been deemed as a "painful slowdown", coming from the rapid double-digit growth previously driven by exports and investments. While consumption is a component of aggregate demand and maybe able to "support growth in the short run", there are those who believe that "there is little in economic theory that emphasises the expenditure side of GDP as a driver of growth". With the fall in key economic figures – industrial production and retail sales, this further reflects a possible mistake by the Chinese government. Such negative economic sentiments from	Private sector expectations that might contradicts government's objectives.

	the private sector may result in a loss of confidence in the economy, further retarding economic growth as firms reduce production and investment in the short run as production and investment projects are expected to be less profitable. Likewise for consumers, who may reduce consumption, seeing how China may be heading towards an economic slowdown. **Such expectations can adversely affect the government's plan of rebalancing and is a clear consideration that needs to be accounted for**. As national income increases at a slower rate, so will the increase in income-induced consumption, throwing a spanner in the works for China as it aims to depend on consumption as a key driver of growth. A fall in production figures may also reflect slower employment rates, further reducing consumption levels in China. *Answers need to minimally include government's and private sector's interpretation of the rebalancing, and thus, a balanced consideration. Either a 2 + 1 (2m each) or a 1 + 1 (3m each) → needs to be rigorous.	
(d)	Using an AD/AS diagram, explain how a tight labour market may affect general price levels in Singapore.	**[4]**
	A tight labour market implies that the economy is close to full employment and recruitment becomes difficult. This is evident in Extract 7 where "growth in some labour-intensive sectors such as food services may be weighed down by labour constraints". [1] In order to increase production, firms will have to compete with each other for labour, thus bidding up wages. This results in an increase in cost of production for firms, reducing aggregate supply in Singapore. [1] A fall in aggregate supply is reflected as an upward shift of the AS curve from AS_1 to AS_2, as seen in Figure 1. Assuming ceteris paribus, the fall in AS will then result in an increase in general price levels from P_1 to P_2. [1]  Figure 1: Impact of a tight labour market in Singapore **1m for an accurately drawn diagram.** *Candidate can also explain it as a rightwards shift of AD along the upward sloping portion of AS.*	

(e)	**(i)** Explain how central banks such as the Monetary Authority of Singapore (MAS) could influence the external value of a country's currency. Central banks influence the external value of the country's currency by influencing the demand and/or supply of the currency in the foreign exchange market. When a central bank such MAS would like to appreciate the Singapore dollar, they may choose to increase the demand of the Singapore dollar by buying up Singapore currency in the foreign exchange market using their foreign exchange reserves. [1] Given an increase in the demand of the currency, value of the currency in the foreign exchange market will increase, leading to an appreciation in the currency. [1] **Candidates can also explain through influencing supply of the currency.**	**[2]**
	(ii) In view of the data presented, discuss to what extent MAS might have to intervene in order to achieve the government's macroeconomic objectives. *Question interpretation:* • *Given the data presented in the case, what are the issues that may result in Singapore not achieving its macroeconomic objectives?* • *How can the Singapore dollar be influenced in order to mitigate these issues?* • *To what extent will MAS's intervention be effective in mitigating these issues?* • *What are alternative policies that can be implemented in order to achieve the government's macroeconomic objectives?* A significant macroeconomic objective that seems to be adversely affected in Singapore would be its economic growth. As mentioned in both Extract 7 and 8, "Singapore's economic prospects have softened" and "grew a modest 2 per cent in 2015, the weakest rate of growth since 2009". Extract 7 explicitly lays out the various reasons for Singapore's modest growth, citing reasons across various countries and sectors. In order to achieve stronger growth figures, MAS could provide certain adjustments to Singapore's currency, possibly boosting export figures whilst reducing cost-push inflation in Singapore. As a small and open economy that is export-oriented and import-reliant, Singapore is extremely vulnerable to external instabilities. As mentioned in Extract 7, global economy has been weaker than expected in the first half of 2015 and uneven growth is further expected across countries in the second half – "advanced economies are expected to see a gradual pick-up in growth, while the growth outlook of regional economies has generally softened." These global powers have internal issues to handle, with the anticipation of US	**[8]**

recover, Eurozone's management of the Greek crisis as well China's rebalancing. As the US, Eurozone and China's economies are projected to have a modest pace of growth, Singapore's export sector may face weakening demand. Key ASEAN economies are also adversely affected by these major economies, posting weaker growth, thus, further affecting Singapore's exports. The combined weaker increase in demand for Singapore's exports has an adverse impact on our aggregate demand and thus, economic growth. Apart from these, other factors also impact Singapore's economic growth, such as sustained low oil prices as well as a tight labour market.

As Singapore faces both external and internal pressures, MAS's timely adjustment of the Singapore dollar could aid with improving Singapore's economic growth. It is vital to acknowledge that MAS's objectives tend to revolve around maintaining inflationary pressures in Singapore. However, given the current unstable global economic climate, and weaker global growth, inflation seems to be a secondary concern relative to the weakening growth rates as a weak global climate is unlikely to impose inflationary pressures in Singapore. In order to combat the weakened demand for our exports, MAS could engineer a depreciation of the Singapore dollar, allowing our exports to gain price competitiveness as it will be relatively cheaper in foreign currencies. As such, this will help alleviate the softening in the demand for our exports, boosting aggregate demand (AD), thus, improving economic growth. This depreciation will also mean that imports are relatively more expensive in domestic currency, resulting in consumers switching to cheaper local alternatives, increasing consumption (C), further increasing AD and economic growth.

However, Extract 7 also makes it clear that external demand is picking up, and "externally-oriented sectors… are likely to support growth in Singapore economy in the second half of the year". We are told that the "US economy recovered in the second quarter" and is "projected to grow at a modest pace". The Eurozone economy is also "expected to improve in the second half of the year" while "stimulus measures implemented by the Chinese government are expected to contain downward pressures on the economy". All these point towards a recovering external sector for Singapore, thus, a less significant impact on Singapore's economic growth in the future. Therefore, any rash depreciation of the Singapore dollar may exacerbate inflationary pressures upon the improvement of export demand in the relevant sectors like "finance and insurance", as well as "wholesale trade".

Apart from possibly worsening demand-pull inflation in Singapore, the depreciation may also result in cost-push inflation as cost of imported inputs are more expensive in domestic currency. *Singapore reliant on imported inputs.* Given that Singapore is already experiencing a tight labour market – "labour market expected to remain tight", the depreciation would further worsen cost-push inflation, directly contradicting with MAS's objective of reducing inflationary pressures in Singapore.

Extract 7 and 8 both present a case of falling oil prices as a key reason for a dip in economic growth in Singapore. As oil prices fall, it "dampen growth in marine and offshore segment" as the demand for marine and offshore services is derived from the demand for oil. Given the low prices, firms that run oil-rigs will start to cut production as it is no longer profitable to drill for oil since drilling for oil results in greater cost of production than revenue. As it continues to dampen growth in the sector, it may result in loss of jobs as firms cut employment and begin to retrench workers in order to reduce cost of production. As such, this results in a possible fall in national income, further dampening economic growth. In light of this situation, the depreciation of the Singapore dollar will actually further reduce the amount of profits earned by these firms since profits earned in Singapore dollar will translate to lower profits in foreign currency. Thus, MAS's action may adversely affect the marine and offshore industry.

Due to the multi-faceted issues that Singapore faces, there is a limit to the effectiveness of MAS's intervention via changes in the value of the Singapore dollar. On hindsight, instead of a depreciation, maintaining the value of the Singapore dollar, rather than a gradual and modest appreciation, may be sufficient to ease pressures for Singapore exports. Apart from that, there is a need for the Singapore government to consider alternative policies to further strengthen the domestic economy, reducing its vulnerability to external shocks (i.e. global financial market volatility – Extract 8). These policies need to be more targeted in order to influence the relevant sectors that are worse off, rather than a broad depreciation of the Singapore dollar which is clearly blunt and lacking in precision to specifically impact the correct sectors and to tackle the root cause. Pre-emptive policies may also be required, seeing how the recovery of global prospects is fragile. Sentiments in China, the Eurozone, US and ASEAN countries have yet to fully recover and may worsen given certain triggers such as a "sharper-than-expected correction in the real estate market" for China and possible failure of the Greek government to "adhere to the bailout terms".

In conclusion, as Singapore braces itself for its "weakest rate of growth since 2009", the situation is still not all bad as growth is still in the positive region. Given Singapore's unique nature of being a small and open economy, it is inevitable that it will be affected by global forces and the performance of major economic powers. That said, well-targeted policies to stimulate the domestic economy and to build resilience may fare better, rather than an aggressive MAS exchange rates policy. In this sense, the Singapore government has continued to provide GST vouchers to offset the pain of the slowing growth, increased skills retraining and upgrading efforts to increase productivity of labour, increasing their relevance and bargaining power, as well as to bring forward the construction of infrastructure in an attempt to increase government expenditure, boosting AD.

Levels of Response Marking Scheme (LORMS)

Levels	Descriptor	Marks

L2	A well-developed balanced answer with economic analysis that thoroughly explains the possible objective of the government, and thus the extent of intervention by MAS, with clear conceptual understanding, coupled with reference to case material.	4-6
L1	Lacks balance: One-sided answer that rigourously explains how MAS can intervene in order to achieve the objective of the government. **OR** Lacks rigour: Two-sided answer that is not thoroughly explained OR merely lifting evidence from the passage but no clear link to the issues. **OR** Lacks reference to case material and the application to the issues.	1-3
E	Evaluative judgement and comments based on economic or contextual analysis.	1-2

Suggested Answer for H1 Prelim EQ3

Malaysia will begin imposing its tourism tax on hotels from Aug 1 this year, starting from RM2.50 (S$0.80) per room each night, according to details published on the Royal Malaysian Customs Department's website. Concurrently, recovery from the Global Financial Crisis has seen a rise in business activities and increasing income levels.

(a) Explain how scarce resources are allocated in the free market. [10]

(b) Discuss how the above factors may affect the total consumer expenditure on different types of hotels in Malaysia. [15]

Question Dissection

Explain a process: Identify the start & end point

Resource allocation → End point

a) *Explain how* **scarce** resources are allocated in the **free market**. [10]

Define scarcity and establish the link between scarcity & resource allocation.

Define free market. Price mechanism → start point

Schematic Plan

Introduction

- Explain scarcity and how it necessitates choices regarding resource allocation.
- Explain the 3 categories of choices each society have to make.

↓

Body

- Illustrate how resources are allocated among competing needs via the price mechanism, using DD-SS models.
- Explain how the price mechanism determines the distribution of goods or services produced.

↓

Conclusion (summary)

Suggested Answer for H1 Prelim EQ3

Suggested Answer	*Comments*
The central problem of economics is scarcity, which refers to the situation where limited resources are insufficient to meet society's unlimited wants and needs. Due to scarcity, it is inevitable that choices have to be made and every choice involves sacrifice. In economics, the value of the next best alternative that had to be forgone to satisfy a particular want is termed opportunity cost. All societies face the same fundamental economic problem of scarcity and require a method of allocating scarce resources. There are three main categories of choice, arising from the problem of scarcity, to be made in any society: 'what and how much', 'how' and 'for whom' to produce. How these decisions are made depends on the economic system of the society. The free market refers to an economic system where all economic decisions are taken by individual households and firms, and with no government intervention.	*Define scarcity and explain how scarcity necessitates choices regarding resource allocation*
In a free market, resources are allocated via the price mechanism. Any change in demand or supply in one market affects the product and factor prices within that market and also other related markets. Producers and consumers respond to these price changes by channeling resources from declining markets to expanding ones. Thus, scarce resources are automatically allocated among competing uses.	*A summary followed by a detailed illustration of how the price mechanism allocates scarce resources among competing needs*
Suppose, in Figure 1(a), the demand in the market for hotel accommodation increases from D_1 to D_2, resulting in a shortage of $Q_1 - Q_5$ at the original price level P_1. The shortage creates an upward pressure on price, which signals to producers a need for resources to be employed into the hotel market. The higher price raises the profitability of providing hotel accommodation, thus providing the incentive for firms to produce more, thus increasing quantity supplied.	*Trigger – an □ in DD for hotel* *Explain the price mechanism adjustment process – shortage → upward pressure on price → □ Qs.*

Figure 1(a): Market for hotel accommodation

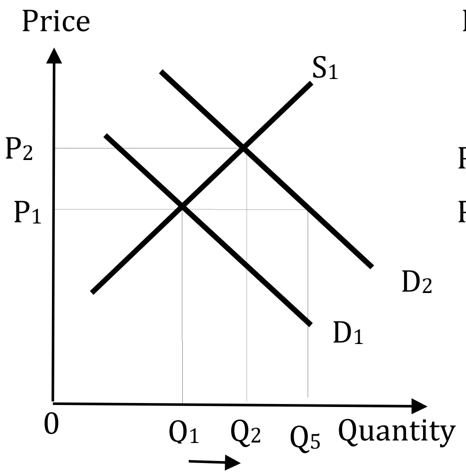
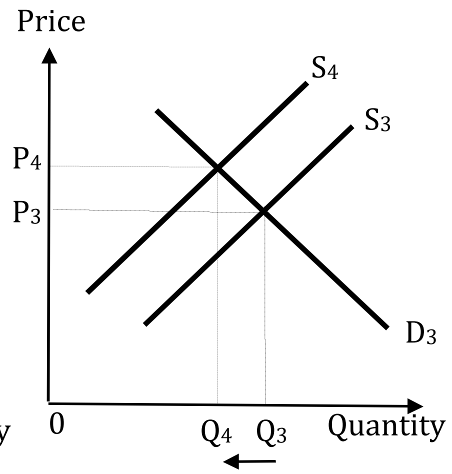


Figure 1(b): Declining market



To raise output, firms in the hotel market employ more resources, which increases the demand and prices of relevant factors of production. Rising factor prices however, results in higher production costs for firms in other markets. For instance, the higher demand for buildings is likely to increase the rental costs for office buildings, causing firms in other markets to experience a higher cost of production and therefore a fall in supply. In Figure 1 (b), the decrease in supply in the declining market is illustrated by a leftward shift of the supply curve from S_3 to S_4. The equilibrium price in the declining markets rises from P_3 to P_4 while the equilibrium quantity falls from Q_3 to Q_4.	*Explain how resources may be diverted away from declining markets* *Show that resources are diverted towards hotel market*
At the same time, the upward pressure on prices in the hotel market will cause consumers who are unwilling to pay more to drop out of the market, thus decreasing quantity demanded. Price will continue to increase until P_2 where the shortage is eliminated.	*Continuation of the price mechanism adjustment process – upward pressure on price → □ Qd*
Overall, the increase in demand for hotel accommodation causes equilibrium price to rise from P_1 to P_2 and the equilibrium quantity to rise from Q_1 to Q_2. The fall in the equilibrium quantity from Q_3 to Q_4 in the declining market and the rise in the equilibrium quantity from Q_1 to Q_2 in the hotel market shows how the price mechanism can adjust to <u>allocate</u> resources away from the declining market towards the production of hotel accommodation which is in higher demand. The rise in price allows hotel accommodation, which is in shortage, to be <u>rationed</u> to consumers who are able and willing to pay at the higher price P_2. In conclusion, in a free market, resources are allocated among competing needs via the price mechanism.	*Explain how the price mechanism determine the distribution of service produced*

<u>Mark Scheme</u>

	Knowledge, Application / Understanding and Analysis	
L3	Answers that explain scarcity and the rationale for resource allocation. Answers analyse thoroughly how the price mechanism influences the allocation of scarce resources to produce desired goods and services which are distributed to consumers who are able and willing to pay. Answers in this level are characterised by well-structured paragraphs AND a logical flow of arguments.	7 – 10
L2	Answers may have good knowledge of price mechanism, i.e. may illustrate the working of the price mechanism or the DD/SS framework using an example WITHOUT making reference to resource allocation. OR Answers may explain how the price mechanism influences the allocation of scarce resources to produce desired goods and services BUT lack rigour.	4 – 6
L1	Answers may have some knowledge of the price mechanism but with significant conceptual errors or are very descriptive.	1 – 3

Suggested Answer for H1 Prelim EQ3

Question Dissection

To investigate and present the different aspects

Tourism tax & economic recovery

TCE = PXQ
Analyse impact on P & Q, hence TCE

b) *Discuss how* the **above factors** may affect the total consumer expenditure on **different types** of hotels in Malaysia. [15]

context

How might hotels differ? Identify the factors that may cause the impact on TCE to differ

Schematic Plan

Introduction

- Define total consumer expenditure (TCE).
- State approach or provide an overview of the answer.

Body (1) – Impact of tourism tax

- Explain how tourism tax may affect SS of hotels → PED analysis is relevant in determining outcome on TCE
- Illustrate & explain with examples
  - PED<1: m.t.p ↑ in P compared to ↓ in Q → TCE ↑
  - PED>1: m.t.p ↓ in Q compared to ↑ in P → TCE ↓

Body (2) – Impact of economic recovery

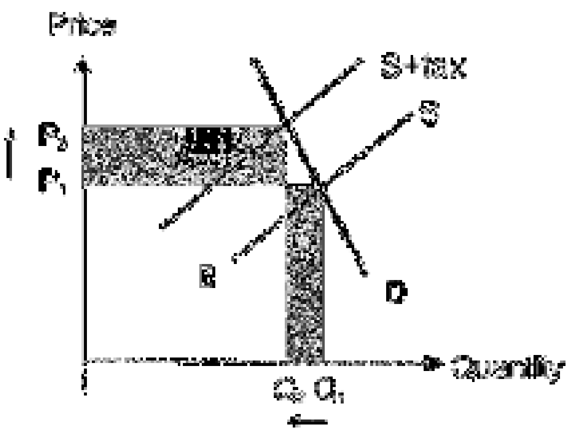
- Explain how recovery from GFC may affect DD for hotels
  - DD for most hotels likely to ↑ → P & Q ↑ → TCE ↑
  - DD for budget hotels may ↓ → P & Q ↓ → TCE ↓

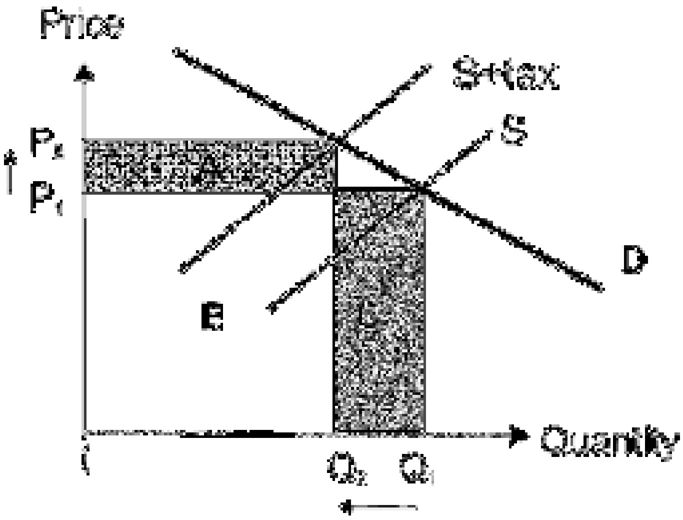
Body (3) – Analyse & illustrate the combined effects on TCE of a type of hotel

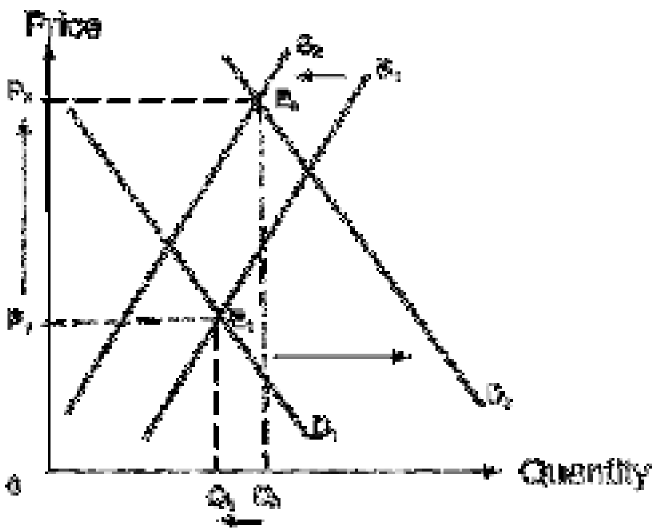
Evaluative Conclusion

- Analyse the combined effects on TCE for different types of hotel.
- Any relevant evaluative comment, e.g. how the impact may differ in the long run.

Suggested Answer for H1 Prelim EQ3

Suggested Answer	Comments
Total consumer expenditure is equal to price multiplied by quantity. The imposition of tourism tax and the recovery from the Global Financial Crisis will have differing impact on the expenditure on different types of hotels in Malaysia, depending on their price elasticity of demand (PED).	*Define total consumer expenditure (TCE).* *Provide an overview of the answer.*
The tourism tax on hotels is an indirect tax that raises producers' marginal cost because they will need to incur the additional costs of paying the tax. This thus causes the supply of hotel to fall, which may result in an increase in equilibrium price and a fall in equilibrium quantity. As total consumer expenditure is equal to price multiplied by quantity, the concept of price elasticity of demand is relevant in analysing the impact on total consumer expenditure.	*Explain the impact of tourism tax on supply of hotels.* *When supply changes, PED analysis is relevant in determining impact on TCE.*
Price elasticity of demand measures the responsiveness of quantity demanded of a good to a change in its price, ceteris paribus. Demand for a hotel may be price inelastic if it possesses unique feature(s) that make it less substitutable, e.g. theme park hotels like the Legoland Hotel, which is situated next to Legoland, has fully LEGO-themed bedrooms, and provide exclusive theme park packages that allow guests early entry to the theme park. Demand for a hotel may also be price inelastic if it is located in inaccessible areas where there are limited alternatives for accommodation, e.g. the hotels in Genting Highlands. Consumers may therefore be less sensitive to price changes as there are no or few close substitutes, and hence, an increase in its price is likely to result in a less than proportionate fall in quantity demanded. With reference to Figure 2, due to the imposition of tourism tax, a fall in supply from S to S+tax is likely to cause equilibrium price to increase more than proportionately from P_1 to P_2 relative to the fall in quantity from Q_1 to Q_2. Hence, the increase in consumer expenditure from paying higher prices (represented by area A) is likely to be greater than the fall in consumer expenditure from buying lesser quantity (represented by area C). Overall, total consumer expenditure for hotels with inelastic demand is likely to increase. **Figure 2: Market for Legoland Hotel** 	*Define PED.* *Apply determinants of PED to account for a hotel with inelastic demand.* *Analyse the impact of the tourism tax on the TCE on a hotel with inelastic demand, using a DD-SS model.*

On the other hand, if a hotel has many close substitutes, or has a low degree of necessity, e.g. a luxurious 5-star hotel, consumers may be more sensitive to price changes. Hence, demand for the hotel may be price elastic and an increase in its price is likely to result in a more than proportionate fall in quantity demanded. With reference to Figure 3, given a fall in supply from S_1 to S_2 due to the imposition of tourism tax, prices are likely to increase less than proportionately from P_1 to P_2 relative to the large fall in quantity from Q_1 to Q_2. Hence, the increase in consumer expenditure from paying at higher prices (represented by area A) is likely to be smaller than the fall in consumer expenditure from buying lesser units (represented by area C). Overall, total consumer expenditure for hotels with elastic demand is likely to decrease. **Figure 3: Market for a 5-star luxury hotel** 	*Apply determinants of PED to account for a hotel with elastic demand.* *Analyse the impact of the tourism tax on the TCE on a hotel with elastic demand, using a DD-SS model.*
With the rise of Airbnb, demand for hotels are becoming more price elastic due to the greater availability of substitutes. Therefore, the imposition of taxes is likely to cause the total consumer expenditure for most consumers to fall.	*Apply analysis to the real world context & evaluate the likely PED & outcome on TCE*
At the same time, recovery from the Global Financial Crisis has seen a rise in business activities and increasing income levels. With a rise in business activities, there may be more business trips or conferences to Malaysia, which may result in an increase in demand for hotels. With increasing income levels, more consumers may be able to afford overseas holidays, increasing the demand for hotels too. As demand increases, price and quantity are likely to increase, resulting in an increase in total consumer expenditure.	*Analyse the impact of recovery from the GFC on the demand & application to TCE for most hotels.*
However, for the lower-end or budget hotels, the increasing income levels may cause the tourists to switch to stay in non-budget hotels, increasing the demand for non-budget hotels and lowering the demand for budget hotels. In this case, equilibrium price and quantity of budget hotels are likely to fall, resulting in a fall in consumer expenditure.	*Application of understanding regarding changes in demand factors to provide an alternative view.*

Combining the effects of tourism tax and economy recovery, for a non-budget hotel with a price inelastic demand, total consumer expenditure is likely to increase, while for a budget hotel with a price elastic demand, total consumer expenditure is likely to fall. In the case of a non-budget hotel with a price elastic demand, or a budget hotel with a price inelastic demand, the impact on total consumer expenditure is indeterminate.	***Synthesis/Evaluation*** *– Analyse the combined effects of the 2 events on different types of hotels.*
Figure 4 below illustrates the impact of the 2 factors on the market for a non-budget hotel with a price elastic demand. Suppose the economic recovery increases demand significantly from D_1 to D_2 and the tourism tax causes a relatively smaller fall in supply from S_1 to S_2, the equilibrium price is likely to increase significantly from P_1 to P_2 while the equilibrium quantity falls slightly from Q_1 to Q_2. Overall consumer expenditure increases from $0P_1E_1Q_1$ to $0P_2E_2Q_2$. **Figure 4: Market for non-budget hotel with price elastic demand** 	*Synthesis – Illustrate the impact on TCE for one of the uncertain outcomes.*
In the long run, if the government uses the tax consumer expenditure collected to improve tourism infrastructure, more tourists may be attracted to visit Malaysia, resulting in an increase demand for hotels, and hence an increase in total consumer expenditure.	*An evaluative comment on the long run impact of the tax.*

Suggested Answer for H1 Prelim EQ3

	Knowledge, Application / Understanding and Analysis	
L3	Answers that use the relevant elasticity concept to analyse thoroughly the impact of the 2 factors on the total consumer expenditure on different types of hotels. Answers in this range are characterised by strong and well-structured paragraphs with relevant and complete diagrams.	9 – 11
L2	Insufficient rigour: Answers that inadequately analyse the impact of the 2 factors on the total consumer expenditure on different types of hotels. There is little application of the relevant elasticity concept and/or contain some minor errors in the analysis. Insufficient scope: Answers that analyse thoroughly the impact of 1 factor on the total consumer expenditure on different types of hotels OR Answers that analyse thoroughly the impact of the 2 factors on the total consumer expenditure on hotels in general.	5 – 8
L1	A very superficial description of how the 2 factors may impact the total consumer expenditure on different types of hotels.	1 – 4
	Evaluation/Synthesis	
E2	For an answer that synthesizes economic arguments to arrive at a well-reasoned conclusion. Insightful, and convincing evaluative comments are supported by economic or contextual analysis, demonstrating good awareness of real world context.	3-4
E1	For an answer that gives an unsupported evaluative statement(s).	1-2

Suggested Answer for H1 Prelim EQ4

The creation of the ASEAN Economic Community (AEC) has potentially significant consequences for the Singapore economy. ASEAN leaders established the AEC, one of whose aims is to promote freer movement of trade and capital in the region. Mr. Guy Harvey-Samuel, chief executive of HSBC Singapore, said that if the AEC is well implemented, Singapore's gross domestic product (GDP) would be 9.5 per cent higher by 2030.

a) Explain how you might use GDP to assess a country's living standards. [10]
b) Discuss whether the AEC would benefit Singapore's economy. [15]

Question Dissection

Explain a process: Identify the start & end point

Start point: Manipulate GDP statistics

a) *Explain how* you might **use GDP** to assess a country's living standards. [10]

End point: evaluate living standards
→ material & non-material

Schematic Plan

Introduction

- Define living standards and GDP.
- Establish the link between the 2 concepts.
- Provide an overview of the answer.

↓

Body

- Explain how GDP, when accounted for inflation and population growth, can be used to assess a country's living standards.
    - Explain the need to account for inflation → use 'real GDP'
    - Explain the need to account for population growth → use 'real GDP per capita'
    - Explain how real GDP per capita can be used to assess both material & non-material living standards

↓

Conclusion (summary)

Suggested Answer for H1 Prelim EQ4

Suggested Answer	*Comments*
Standard of living can be divided into two categories, material and non-material. Material standard of living refers to the bundle of goods and services available to the average citizen per year. Non-material living standard can be defined as the quality of life and measurements usually include stress levels, healthcare and education standards, and the state of environment. Although gross domestic product (GDP) is not a perfect indicator of standard of living, it is a measure that is commonly used.	*Define standard of living – material & non-material.* *Establish link between standard of living & GDP.*
GDP is defined as the value of all output produced by factors located within the geographical boundary of the country, regardless of the ownership of factors of production, over a given time period. GDP is widely used as a measure of national income. After accounting for inflation and population growth, real GDP per capita can be used to assess a country's living standards.	*Define GDP.* *Provide an overview of the answer.*
As GDP measures the total spending on goods and services in all markets in the economy, if total spending rises from one year to the next, the economy must producing a larger output of goods and services, and/or goods and services are being sold at higher prices. To measure the total quantity of goods and services available to citizens more accurately, price changes have to be accounted for. Real GDP is GDP measured in constant prices, i.e., in terms of the prices ruling in some base year. This would eliminate changes in prices and reflect how much real output has changed from one year to another.	*Explain the need to account for inflation to derive real GDP.*
Furthermore, to measure the quantity and quality of goods and services available to the average citizen per year, population growth has to be accounted for. Real GDP per capita is measured by dividing real GDP over the size of the resident population. A rise in real GDP per capita indicates a rise in real income per capita, and hence a likely rise in the <u>material standard of living</u> because with a higher income, individuals can afford greater amount and better quality goods and services.	*Explain the need to account for population growth.* *Explain how real GDP per capita can account for material standard of living.*
In addition, higher income per capita may lead to higher tax revenue for the government, enabling it to spend more not only on basic necessities like health or education, but also sanitation, potable water supply, pollution reduction and arts/culture. Empirical evidence shows that countries with higher real GDP per capita, also score higher in indicators of quality of life such as life expectancy and infant mortality rates. Thus, higher real GDP per capita may also lead to higher <u>non-material standard of living</u>.	*Explain how real GDP per capita can account for non-material standard of living.*
In conclusion, if we take into account both inflation and the size of the population, though imperfect, GDP can be used to assess a country's living standards in both the material and non-material aspects.	*Summary of answer*

Suggested Answer for H1 Prelim EQ4

Mark Scheme

	Knowledge, Application / Understanding and Analysis	
L3	Answers explain thoroughly why there is a need to account for inflation and population growth. Answers explain thoroughly how real GDP per capita might reflect a country's material and non-material living standards. Answers in this level are characterised by well-structured paragraphs AND a logical flow of arguments. Answers that fail to explain how real GDP per capita might reflect non-material living standards will be capped at 8 marks.	7 – 10
L2	Answers explain thoroughly how GDP might reflect a country's material (and non-material) living standards BUT fail to explain why there is a need to account for inflation and/or population growth. OR Answers explain how GDP, when accounted for inflation and population growth, might reflect a country's material (and non-material) living standards BUT lack rigour.	4 – 6
L1	Answers may have some knowledge of the concept of standard of living and/or GDP, with significant conceptual errors or are very descriptive.	1 – 3

Suggested Answer for H1 Prelim EQ4

Question Dissection

To investigate and present both sides of an argument

Impact: benefits vs. costs

b) *Discuss whether* the **AEC** would benefit **Singapore's economy**. [15]

Freer movement of trade and capital in the ASEAN region (greater economic integration)

Context - recognise that Singapore is small and already open to globalisation

Schematic Plan

Introduction

- Give brief background.
- State approach or provide an overview of the answer.

Body (1) – Benefits of the AEC to SG

- Benefits of increased trade flows to SG
- Benefits of increased capital flows to SG

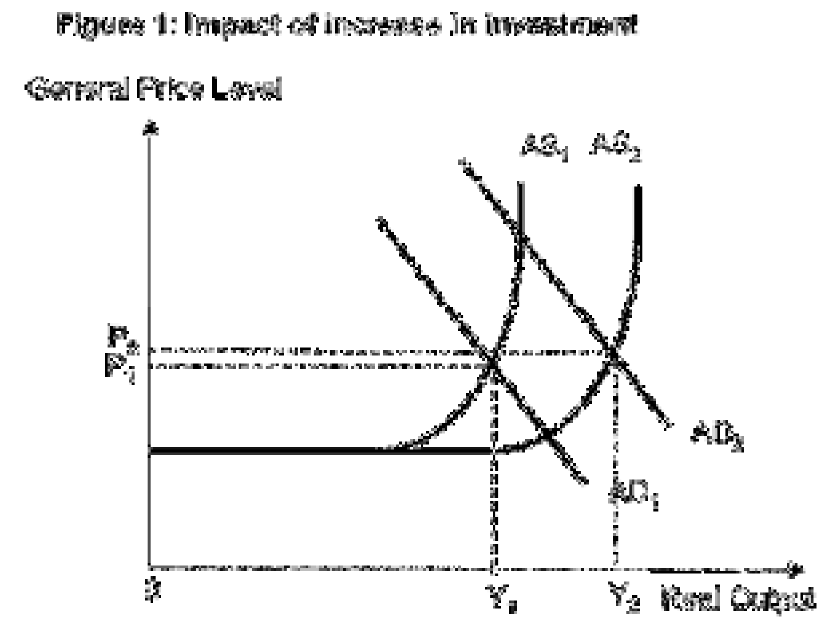
Body (2) – Costs of the AEC to SG

- Costs of increased trade flows to SG
- Costs of increased capital flows to SG

Evaluative Conclusion

- Judgement on whether the AEC will benefit Singapore.
- Any relevant evaluative comment, e.g. factors that may affect the overall impact on the SG economy.

Suggested Answer	*Comments*
One of the aims of the ASEAN Economic Community (AEC) is to promote freer movement of trade and capital in the region, which can have potentially significant consequences for the Singapore economy. This essay seeks to examine the potential benefits and costs of the AEC, before forming a judgement on whether the AEC would benefit Singapore's economy.	*Give brief background.* *State approach.*
The theory of comparative advantage states that provided the opportunity costs of producing various goods differ in two countries, a country is able to enjoy higher consumption levels if it were to specialise in goods in which it has comparative advantage in, and trade the good for other goods in which it has a comparative disadvantage. With lower trade barriers and freer trade in the AEC, a greater degree of specialisation based on comparative advantage is encouraged and Singapore is likely to benefit from higher consumption possibilities, increasing the material standard of living.	*Benefit of increased trade flows – higher consumption possibilities*
In addition, with the reduction of trade barriers and the freer flow of goods that will ensue under the AEC, firms in Singapore can market and sell their goods and services more easily to the 630 million people that make up the population of all 10 ASEAN states. This prospect is extremely beneficial amidst the global economic slowdown, which hampers Singapore's growth in external demand. Furthermore, the growing middle-income class in ASEAN is likely to demand for more luxury consumer goods, creating opportunities for Singapore to export her consumer products and services. With increase in exports (X), aggregate demand (AD) and real output may increase, leading to faster economic growth. In fact, it is predicted that Singapore's GDP will be 9.5 per cent higher by 2030 if the AEC is well implemented. The economic growth is also likely to increase the derived demand for labour, lowering unemployment levels.	*Benefit of increased trade flows – greater access to the ASEAN markets → ↑X → higher economic growth and lower unemployment*
Furthermore, the promotion of freer movement of capital may contribute to both actual and potential growth in Singapore. There may be increased capital flows from the other ASEAN countries into Singapore. At the same time, with the business-friendly environment in Singapore, export-oriented FDI from non-ASEAN countries may also increase, as firms outside of the AEC may seek to establish their production in Singapore to export to the region. As shown in Figure 1, the increase in capital flows increases investment levels in Singapore, increasing AD from AD_1 to AD_2. In the long run, the greater capital accumulation causes long-run aggregate supply to increase from AS_1 to AS_2. Overall the real output increases from Y_1 to Y_2 while general price level increase P_1 to P_2. The AEC can be said to act as an engine of growth as it enables Singapore to achieve sustained economic growth without significant upward pressure on the general price level.	*Benefit of increased capital flows – ↑ long-term capital inflow, especially export-oriented FDI from non-ASEAN countries → engine of growth*



However, with freer trade, as Singapore increases the degree of specialisation in the production of goods in which she has comparative advantage, workers in the declining industry in which Singapore does not have a comparative advantage may face a fall in derived demand for their labour. This may result in a rise in structural unemployment, which refers to unemployment due to mismatch between the skills of the unemployed and those required by producers seeking factors of production. Also, the increased specialisation may widen income inequality as demand for highly-skilled labour in the "sunrise" industries increases, causing wages to rise, while wages in the "sunset" industries fall due to the lower demand for labour.	*Cost of increased trade flows – rise in structural unemployment and income inequality*
Furthermore, Singapore may offshore her production processes to lower-wage ASEAN countries to lower cost of production and boost exports price competitiveness. However, this may lead to loss of job opportunities for domestic workers and worsen structural unemployment if they lack the skills to take on jobs in other industries.	*Cost of increased capital flows – worsen structural unemployment*
In addition, the AEC may increase Singapore's reliance on Multinational Companies (MNCs), and this may make her more vulnerable to the footloose nature of MNCs. For example, MNCs might pull out of Singapore in the event of global recessions or when other countries offer better investment conditions. Without strong support of domestic companies and industries, Singapore may face greater difficulty in cushioning falls in national income when there is an outflow of FDI. In fact, Singapore's reliance on MNCs to fuel economic growth has been blamed for the absence of home-grown companies the likes of Korea's Samsung and Taiwan's Acer and there are calls to grow local SMEs, which stay in Singapore through highs and lows of our economy, unlike MNCs which choose their locations based on economic considerations.	*Cost of increased capital flows – vulnerable to long-term capital outflows*

Given that Singapore's economy is already highly liberalised, the extent to which the AEC may hasten changes in comparative advantage and hence result in greater structural unemployment and income inequality is likely to be less significant. Comparatively, amidst the global economic slowdown driven by the weakening in Europe and US as well as China, the benefits of an easier access to the ASEAN markets are likely to be heightened. While Singapore has been an active member within ASEAN, intra-ASEAN trade and investment is still minimal, contrary to the proximity of these nations. As such, AEC further provides Singapore with a greater diversification of its trade and investment portfolio, moving beyond the traditional partners in the West as well as China. While greater integration might increase vulnerability, the AEC may have been an attempt to hedge against the vulnerability of Singapore's traditional partners. <u>Overall the benefits of increased integration are likely to outweigh the challenges</u>.	*Evaluative conclusion – weigh the extent of costs against the extent of benefits*
Whether AEC would benefit Singapore also depends on Singapore's ability to maximise the benefits and mitigate the costs. Firms may want to focus on consumer sectors that cater to the increasingly affluent middle class in ASEAN, and the Singapore government can continue to provide subsidies to local SMEs to help them lower their costs of production so that they can survive and compete with the MNCs, as well as to help them expand to the ASEAN markets and tap on the opportunities there. Instead of constantly looking at how FDIs might enter Singapore to aid in our economic development, the AEC is a great opportunity for local firms to consider entering the largely under utilised ASEAN markets, under the guidance and support of IE Singapore.	*Evaluative comment – depends on firms' or governments' ability to maximise the benefits & mitigate the costs.*

Suggested Answer for H1 Prelim EQ4

Marks Scheme

	Knowledge, Application / Understanding and Analysis	
L3	Answers that analyse thoroughly the benefits and costs of rising trade and capital flows under the AEC, applied to the context of Singapore. Answers recognise the nuance that Singapore is already open to globalisation, and therefore centre the analysis on the benefits and costs of having a greater degree of integration (instead of analysing the benefits and costs of moving away from autarky towards free trade and capital flows) Answers in this range are characterised by strong and well-structured paragraphs with relevant and complete diagrams.	9 – 11
L2	Insufficient rigour: Answers that inadequately analyse the benefits and costs of rising trade and capital flows under the AEC, applied to the context of Singapore. Lacks application: Answers lack application to the context of Singapore and AEC OR Answers fail to recognise the nuance that Singapore is already open to globalisation, and centre the analysis on the benefits and costs of moving away from autarky towards free trade and capital flows. Insufficient scope: Answers that analyse thoroughly the benefits or costs of rising trade and capital flows under the AEC, applied to the context of Singapore.	5 – 8
L1	A very superficial description of the benefits or costs of increased trade and capital flows.	1 – 4
	Evaluation/Synthesis	
E2	For an answer that synthesizes economic arguments to arrive at a well-reasoned conclusion. Insightful, and convincing evaluative comments are supported by economic or contextual analysis, demonstrating good awareness of real world context.	3-4
E1	For an answer that gives an unsupported evaluative statement(s).	1-2

H1

TAMPINES JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION

ECONOMICS **8819**

Tuesday, 12 Sept 2017

Additional Materials: Writing Paper **3 hours**

READ THESE INSTRUCTIONS FIRST

Write in dark blue or black pen.

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

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

Section A (Case Study) [70%]
Answer **ALL** questions

Section B (Essay) [30%]
Answer **ONE** essay question

Submit each question separately.

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

Section A

Answer **all** questions in this section.

Question 1 **Uber in Singapore**

A Certificate of Entitlement (COE) represents a right to vehicle ownership and use of the limited road space for 10 years. There are 5 categories of COE for bidding – Category A to Category E. Vehicles classed under Category A are up to 1,600cc and 130bhp.

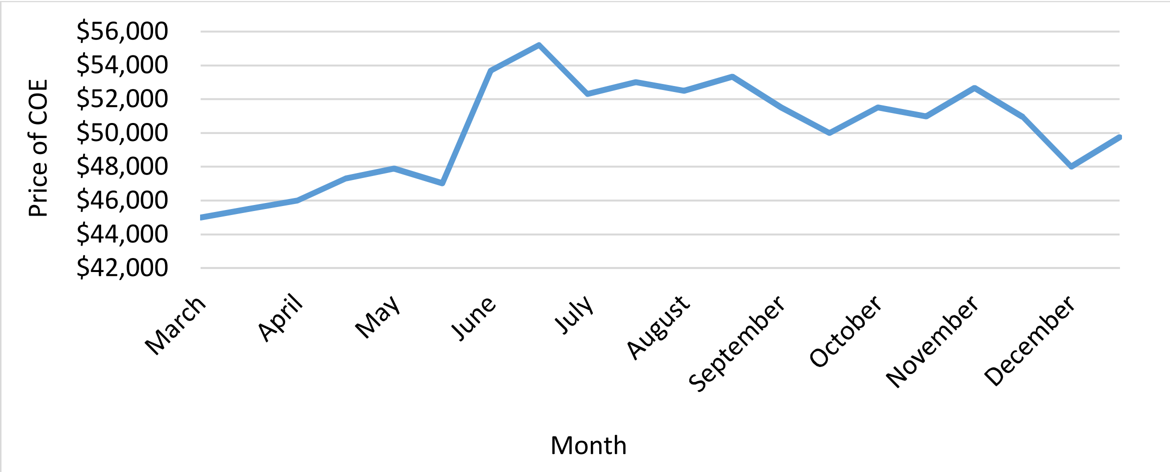


Figure 1: 2016 COE Prices for Category A (1,600cc and 130bhp)

Source: Land Transport Authority

Extract 1: Private-hire car companies join in the bid for COE

Uber-owned Lion City Rental is looking to put 1,800 new cars on the road in anticipation of growing demand. Rival company Grab is also expected to do the same. In recent months, both have started sourcing for new vehicles, and are jostling with private car owners for fresh Certificates of Entitlement (COE). Now, with the Government announcing "light touch" regulations governing third-party taxi apps, the proliferation of private-hire vehicles will accelerate. Most of the taxi companies are also starting up private-hire subsidiaries to compete with Uber, Grab and other small players like Smove and Tribecar. This will only intensify the competition for COEs. Most private-hire cars are smaller vehicles, so the pressure will be greater on COE Category A bidders (cars up to 1,600cc and 130bhp).

However, the COE quota is set to grow. The supply of COE is mainly determined by how many cars are de-registered (and either scrapped or re-exported thereafter); when one car leaves the road for good, it creates room for a fresh COE so that a new one can take its place. The COE release for passenger cars is expected to rise sharply to about 95,000, compared to about 58,000 in 2015.

Source: *Todayonline*, 16 January 2016 & *The Straits Times*, 16 April 2016

Extract 2: Regulations on private-hire cars

Private-hire car (PHC) drivers from ride-sourcing service operators such as Uber and Grab are now required to obtain a vocational licence under amendments to the Road Traffic Act. PHC drivers are required to go through a medical examination, attend a 25 hours course and pass a test. This framework will ensure the drivers are equipped with sufficient knowledge and skills to provide the service safely. Together with the existing rules that require PHCs to be licensed as public service vehicles and to have adequate insurance, these measures help LTA better enforce against errant drivers and vehicle owners.

Source: *The Straits Times*, 10 March 2016

Extract 3: Enhancing vehicle incentive schemes for a cleaner environment

Extra miles' worth of pollution is being belched into Singapore's air every year from a traffic spike fuelled by ride-sharing apps such as Uber. The lower cost of taking an Uber is encouraging some people to step away from public transport and get into the Uber. According to figures in the past two years, Singapore fell short in meeting its targets for pollutants. The Government will hence adjust the current Carbon Emissions-Based Vehicle Scheme (CEVS) in a bid to nudge car-buyers towards cleaner and more environmentally-friendly models such as electric vehicles.

The current CEVS will be replaced with a new scheme that would consider four other pollutants which include nitrogen oxides, hydrocarbons, particulate matter and carbon monoxide on top of carbon dioxide. The National Environment Agency said rebates for environmentally-friendly car models will range between S$10,000 and S$20,000, depending on the vehicle's worst-performing pollutant. By including four more pollutants, the new scheme hopes to account more holistically for the health and environmental impact of vehicular emissions.

Source: *Channel News Asia*, 8 March 2017

Extract 4: Electric vehicles 'not economically feasible yet'

A study on electric vehicles (EVs) found that consumers were concerned about the purchase price of EVs as it is more expensive than a petrol-driven car even with rebates, the availability of personal and public charging infrastructure and the limitations of the technology such as the range, battery life and time taken to charge EVs. Nevertheless, the LTA and the EDB noted that similar to the development of hybrid vehicles, the prices of EVs are expected to fall as the cost of the technology continues to decline and mass production allows for cost savings from larger scale of production.

Source: *Today*, 6 July 2017

Extract 5: The unstoppable march of the gig economy

This year we saw the rise of the "gig economy", which is characterized by the prevalence of short-term contracts or freelance work. For instance, there is a flow of investments into Singapore as Uber and Grab firms established their foothold in Singapore. Even as retrenchments rose and job vacancies fell in the tepid job market this year, private-hire jobs have emerged as a bright spot. Consumers embrace having personal drivers to ferry them. Employers benefit as they could turn to hiring freelancers to reduce cost. Push factors for workers include greater work-life balance and structural challenges such as a mismatch between skills and jobs that may nudge them into temporary freelance work. Ride-sharing services may also generate positive externalities. They could reduce parking congestion. More importantly, the widespread availability of private-hire services can signal that a local economy is friendly to the high-tech industry and so can be a draw for investments.

While the gig economy has unravelled a vast ocean of opportunities for many, it also carries downsides, with the lack of benefits and protection posing headaches for policymakers. For instance, in Singapore, the lack of Central Provident Fund (CPF) contributions, a core pillar of the Republic's social security system has implications for home ownership and healthcare. Experts also expressed their concern that the gig economy may stymie workers' desire to deepen their skills.

Source: *Today Online*, 22 May 2017

Questions

(a) Using the data from Figure 1, summarise how the price of COE had changed from March to December 2016. [3]

(b) With reference to Extract 1, use supply and demand analysis to explain the likely impact on the price of COE. [5]

(c) **(i)** Define price elasticity of supply. [1]

(ii) Using Extract 2, explain how the price elasticity of supply for private-hire cars might have changed with the need for the drivers to apply for a vocational license. [2]

(d) **(i)** Using Extract 3, explain the economic case for government intervention. [5]

(ii) Comment on the effectiveness of rebates for environmentally-friendly car models in curbing vehicular emissions of pollutants. [6]

(e) Extract 5 describes the introduction of private-hire car services in Singapore. [8]

In light of the above, discuss whether the advantages outweigh the disadvantages.

[Total: 30]

Question 2 **Economic Woes**

Table 1 **Selected Economic Indicators for Singapore, 2013-2016**

	2013	2014	2015	2016
GDP growth at market prices (%)	5.0	3.6	1.9	2.0
Inflation rate (%)	2.4	1.0	-0.5	-0.5
Unemployment rate (%)	1.9	2.0	1.9	2.1
Gross fixed capital formation (annual % growth)	5.7	-1.1	1.1	-2.5
Exports of goods and services (% of GDP)	194.2	193.4	177.9	172.1
Imports of goods and services (% of GDP)	171.8	168.9	152.0	146.3

Source: http://databank.worldbank.org, accessed 21 July 2017

Extract 6: China announces subsidies to boost agriculture as growth slows

The Chinese government on Friday announced tax breaks and other measures aimed at creating jobs and promoting entrepreneurship, as the country seeks to boost economic growth, which slowed to 7 percent in the first quarter of 2015, its slowest rate in six years. The State Council pledged easier access to loans for start-ups and small enterprises, along with tax breaks for migrant workers who want to set up businesses in their home towns, and incentives for university graduates to work in less developed parts of the country, according to Reuters. It offered tax breaks to businesses that employ people who had been jobless for more than six months and it said companies that created significant numbers of jobs would receive priority in bids for large-scale projects.

Separately the government pledged increased agricultural subsidies to boost economic modernization in the countryside. The Ministry of Agriculture announced on Thursday that it would set aside 14 billion yuan (US$2.26 billion) in subsidies to grain farmers, with another $3.3 billion to promote good crop varieties and $3.7 billion to promote grain farming by large scale family farms and cooperative societies.

Source: *International Business Times*, 5 January 2015

Extract 7: China's surprise currency devaluation

China stunned the world's financial markets on Wednesday by devaluing its currency for a second consecutive day, triggering fears its economy is in worse shape than investors believed. The move sent fresh shockwaves through global markets, pushing shares sharply lower and sending commodity prices further into reverse as traders feared the move could also ignite a currency war that would destabilise the world economy. There were widespread losses on stock exchanges in Asia, and in Europe markets. The Chinese authorities have acted after a string of poor economic figures showed that previous efforts to boost exports and growth against the headwind of an overvalued currency had failed.

One financial analyst said the devaluation, which pushed the yuan to a four-year low, heralded a tidal wave of cheap goods from Asia as other south east Asian countries followed suit. The central bank sought to reassure financial markets that it was not embarking on a steady depreciation. “Looking at the international and domestic economic situation, currently there is no basis for a sustained depreciation trend for the yuan,” it said. But with the bank having said on Tuesday that that day’s action was a “one-off depreciation”, the rapid two-day drop in the value of the currency of about 4% dealt a blow to investors. They fear a prolonged currency war that could damage world trade should the US and Japan retaliate and drive down the value of the dollar and yen.

Oil prices remained below $50 a barrel, down from more than $110 a barrel last summer when the slowdown in China first became apparent. The prices of key industrial and construction metals – nickel, copper and aluminium – hit six-year lows. The two devaluations come after a run of poor economic data and have raised suspicions that China is embarking on a longer-term slide in the exchange rate. The first move on Tuesday was the biggest one-day fall in the yuan since a massive devaluation in 1994. On Wednesday the yuan fell to 6.43 against the dollar, its weakest point since August 2011.

Source: *The Guardian*, 12 August 2015

Extract 8: The death of the Trans-Pacific Partnership

The Trans-Pacific Partnership (TPP) is a trade agreement intended to deepen economic ties between 12 nations, slashing tariffs and fostering trade and investment to boost growth. Members, including the United States and Singapore, also hoped to foster a closer relationship on economic policies and regulation. The agreement was designed so that it could eventually create a new single market, something like that of the European Union. Vietnam would be considered one of the biggest winners, as analysts predicted the deal would boost its growth by 11% in the next 10 years, as firms move factories to the low-wage country.

On his first day in office, Donald Trump, the President of the United States of America, pulled out of the TPP, citing that it would take away American jobs and further worsen the U.S. trade deficit. However, critics claimed that this may have been a wrong move – studies from the Peterson Institute for International Economics projected that the TPP deal would have created more than 130,000 jobs and would raise U.S. national income by $130 billion.

Post-fallout, this leaves the remaining 11 countries to forge ahead and try to cement a free-trade deal without the U.S.

Source: *BBC News Online*, 23 January 2017

Extract 9: Trumponomics 101: “Buy American, Hire American”

Tapping into economic discontent, Donald Trump has argued for protectionism and asserted that decades of free-trade policies were responsible for the collapse of the American manufacturing industry. He has been feeding on the perception among many Americans that globalisation has brought more pain than gain, for example, by bringing cheap consumer goods into the country, costing domestic jobs and depressing wages. Outsourcing of jobs to cheaper markets has also been a concern.

The Trump administration has been aggressively pursuing an “America First” policy, which focuses on putting America’s interests first. One of the measures that has emerged is the “Buy American, Hire American” executive order. On the “Buy American” side, the order calls for the U.S. government agencies to buy more domestically produced products in order to support the domestic economy, and for firms to produce their goods locally. “Hire American” tackles the labour aspect, by reducing the ability of companies to abuse U.S. visa programmes to bring in foreign workers on the cheap. The administration has also threatened to impose tariffs on nations that have trade surpluses with the U.S., including China and Germany.

In April 2017, global finance leaders from the G20 nations dropped their anti-protectionist commitment after opposition from the U.S. This would potentially open a protectionist Pandora's Box that could lead to an overall decrease in global trade, which undermines the current system built around the World Trade Organisation.

Source: *Various*

Questions

(a) Using the data in Table 1,

(i) Describe the trend in real Gross Domestic Product for Singapore from 2013 to 2016. [1]

(ii) Identify the year where General Price Level was the highest. [1]

(b) What conclusion would you draw about the overall economic performance of Singapore in 2016 compared with 2013? [4]

(c) Using elasticity concepts, analyse the incidence of agricultural subsidy on producers and consumers of grain. [4]

(d) **(i)** Using AD/AS analysis, explain how 'surprise devaluation of the yuan' can reignite growth in China. [4]

(ii) Suggest a possible reason why this policy may have limited effectiveness. [2]

(e) Analyse the effects of the TPP fallout and China's slowdown on the Singapore economy. [6]

(f) Extract 9 explains Trump's "America First" protectionist stance, which he claims will address the negative consequences brought about by globalisation. [8]

Discuss whether Trump's protectionism can ever be justified.

[Total: 30]

Section B (Essay)

Answer **one** question from this section.

Begin your answer on a **fresh sheet of paper**. This section is to be submitted separately.

3 **(a)** Explain how the economic problem of scarcity could be overcome with the rise of globalisation. [10]

(b) Discuss the view that globalisation is always beneficial to a small and open economy. [15]

4 India's consumer prices is on the rise. India's fast growing economy has made her an attractive destination for foreign investment. The main upward effect on inflation in India was driven by rising global crude oil prices. Economists are expecting Reserve Bank of India to hike the interest rate if inflation continues to rise further.

Source: *Reuters*, 14 March 2017

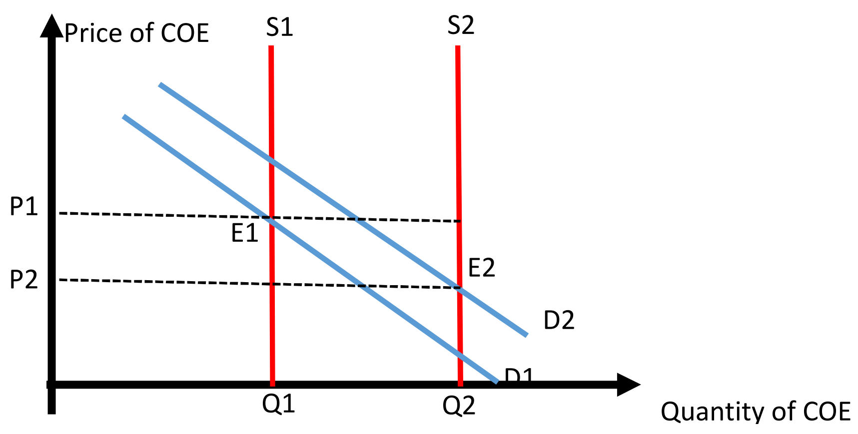
(a) Explain the domestic and external causes of inflation in India. [10]

(b) Discuss the view that a hike in interest rate is the most effective means of tackling inflation in India. [15]

END OF PAPER

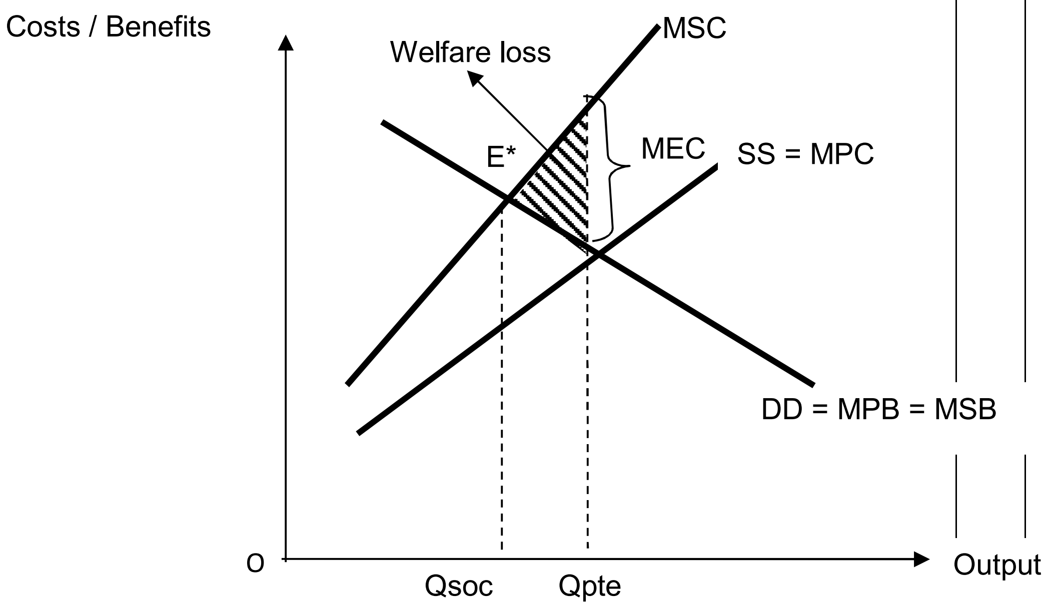
H1 CSQ 1

Suggested Answers

(a)		**Using the data from Fig. 1, summarise how the price of COE had changed from March to December 2016.**	**[3]**
		General Trend: Overall, the price of COE had increased from March to December 2016. [1] Distinct Segments: The price of COE had gradually increased from March to June 2016 [1] before prices declined steadily from July to December 2016. [1]	
(b)		**With reference to Extract 1, use supply and demand analysis to explain the likely impact on the price of COE.**	**[5]**
		The price of COE is determined by the forces of supply and demand for COE. **Demand factor** As mentioned in Extract 1, with Uber and Grab sourcing for new vehicles to be on the road coupled with minimal government intervention on 3rd party apps, the demand for private-hire cars will be on the rise. As the increase in demand for new private-hire cars will require COE, the demand for COE will increase, shifting the demand rightwards from D1 to D2, ceteris paribus. [1] **Supply factor** Also as mentioned in Extract 1, as COE quota is set to grow, supply of COE will shift rightwards from S1 to S2, ceteris paribus. [1] **Justify which curve shifts more** COE supply "is expected to rise sharply in 2016 to about 95,000, compared to about 58,000 in 2015" → the numbers is expected to increase by almost twice → we could justify that supply shifts by a greater extent compared to demand. [1] **Diagram**  **Market adjustment process**	

		At the original price P1, quantity supplied is greater than quantity demanded, this leads to a surplus and hence downward pressure on price from P1 to P2 till the surplus is eliminated. [1] **<u>Final Outcome</u>** Hence, prices of COE falls from P1 to P2 and quantity of COE increases from Q1 to Q2. [1]	
(c)	**(i)**	**Define price elasticity of supply.**	**[1]**
		Price elasticity of supply measures the degree of responsiveness of quantity supplied to a change in the price of good itself, ceteris paribus.	
	(ii)	**Using Extract 2, explain how the price elasticity of supply for private-hire cars might have changed with the need for the drivers to apply for a vocational license.**	**[2]**
		As mentioned in Extract 2, the private-hire car drivers are required to apply for a vocational license where they need to go through a medical examination, attend a 25 hours course and pass a test. This makes it relatively more difficult for an individual to be a private-hire car driver and may even deter some of the private-hire drivers who drive to earn a part-time income. [1] Given an increase in price, the quantity supplied for private-hire cars increases by less than proportionate. Hence, the introduction for the need to apply for vocational license will make the price elasticity of supply for private-hire cars to be relatively more price inelastic. [1]	
(d)	**(i)**	**Using Extract 3, explain the economic case for government intervention.**	**[5]**
		Identify the source of market failure: Air pollution caused by cars generate negative externalities in consumption, which is a source of market failure. [1] Define negative externality in consumption: refers to the costs of consumption, which fall on people other than the consumers of the product, for which no compensation is made. Example of negative externality in consumption: From Extract 3: “health and environmental impact of vehicular emissions” → reduce the quality of the environment to the community, and may cause long-term health problems such as lung cancer to others, incurring medical costs. [1]	

Elaborate on the source of MF with the aid of a diagram [3m]:



In a free enterprise economy, the price mechanism will only consider private costs and benefits, ignoring externalities. To the individual car user, the level of car usage will be at the point where MPB = MPC (private efficiency). Car users do not take into account external costs generated. As such, Qpte is being consumed. However, the socially optimal level of output is at Qsoc, where MSC = MSB. At Qpte, the MSC is greater than MSB. One extra unit of output adds more to society's costs than to society's benefits. There is over-consumption of car usage that generates negative externalities, and hence a welfare loss to society occurs, shown by the shaded area. The market fails because economic efficiency has not been achieved at Qpte. Link to qn: Hence, the need for government intervention.

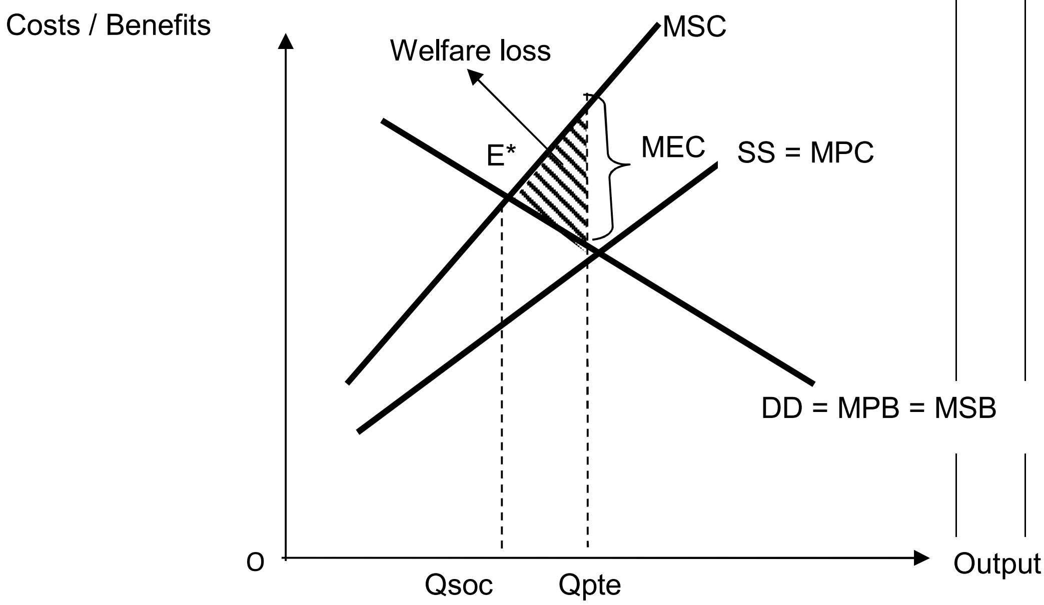
OR

Identify the source of market failure: Air pollution caused by Uber and Grab drivers generate negative externalities in production, which is a source of market failure. [1]

Define negative externality in production: refers to the costs of production, which fall on people other than the producers of the product, for which no compensation is made.

Example of negative externality in production: From Extract 3: "Extra miles' worth of pollution being belched into Singapore's air every year from a traffic spike fuelled by ride-sharing apps such as Uber. The lower cost of taking an Uber is encouraging some people to step away from public transport and get into the Uber." + "health and environmental impact of vehicular emissions" → reduce the quality of the environment to the community, and may cause long-term health problems such as lung cancer to others, incurring medical costs. [1]

Elaborate on the source of MF with the aid of a diagram [3]:



In a free enterprise economy, the price mechanism will only consider private costs and benefits, ignoring externalities. To Grab/Uber, the level of output will be at the point where MPB = MPC (private efficiency). Grab/Uber do not take into account external costs generated. As such, Qpte is being produced. However, the socially optimal level of output is at Qsoc, where MSC = MSB. At Qpte, the MSC is greater than MSB. One extra unit of output adds more to society's costs than to society's benefits. There is over-production of private-hire car service that generates negative externalities, and hence a welfare loss to society occurs, shown by the shaded area. The market fails because economic efficiency has not been achieved at Qpte. Link to qn: Hence, the need for government intervention.

	(ii)	**Comment on the effectiveness of rebates for environmentally-friendly car models in curbing vehicular emissions of pollutants.**	[6]

Explain how rebates for environmentally-friendly car models curb vehicular emissions:

- From Extract 3: "The National Environment Agency is implementing rebates for environmentally-friendly car models that range between S$10,000 and S$20,000, to nudge car-buyers towards cleaner and more environmentally-friendly models such as electric vehicles."
- The rebates equivalent to the size of the MEB at Qsoc will lead to a fall in the cost of purchasing an environmentally-friendly car model. This will compensate the consumer for the

positive externalities generated. The subsidy encourages the consumer to take into account (internalise) the external benefits, raising the MPB to be at the same level as the MSB. Faced with the new demand curve, the consumer will increase consumption of environmentally-friendly car models to Qsoc, which is the socially efficient level. This will lead a fall in consumption of non-environmentally-friendly car models and hence a fall in vehicular emissions of pollutants as consumers switch towards environmentally-friendly car models which are cheaper substitutes with the rebates. The welfare loss to society would be eliminated.

Evaluation of rebates:

- From Extract 2: “A study on electric vehicles (EVs) has found that consumers were concerned about the purchase price of EVs as it is more expensive than a petrol-driven car even with rebates.” There is difficulty in measuring the exact value of the MEB in monetary terms, as externalities are “unpriced” effects. If the external benefits are not accurately estimated, the government could either provide too much subsidy or too little subsidy. In this case, the rebates may be too little to make consumers switch to buy environmentally-friendly car models such as electric vehicles.
- From Extract 2: “lack of personal and public charging infrastructure as well as the limitations of the technology such as the range, battery life and time taken to charge the vehicles.”→ Besides cost, consumers are concerned with the infrastructure and the limitations of the technology, hence rebate alone is not sufficient to encourage consumers to switch to buying electric vehicles to curb air pollution.
- Subsidies require a high level of government expenditure; in order to provide finance for the subsidies, the government may have to impose high tax rates on citizens. This may in turn have disincentive effects on work, investment and hence adverse effects on the economic growth of the country./Opportunity cost of government expenditure. The money could be channelled to other productive purposes such as education and healthcare.

Conclusion:

- In conclusion, rebates may not be effective in encouraging consumers to switch towards environmentally-friendly cars due to the limitations mentioned above.
- As such, government will need to implement other policies such as provision of charging infrastructure and R&D to overcome the current limitations of the technology to encourage more consumption of environmentally-friendly cars to curb air pollution.

		Mark Scheme:	

Level	Descriptor	Marks
L2	Two-sided answer i.e. one that explains how rebates work and explains its limitations.	4-6
L1	One-sided answer i.e. one that only explains the how rebates work without explaining limitations, OR An undeveloped answer that lacks economic rigour.	1-3

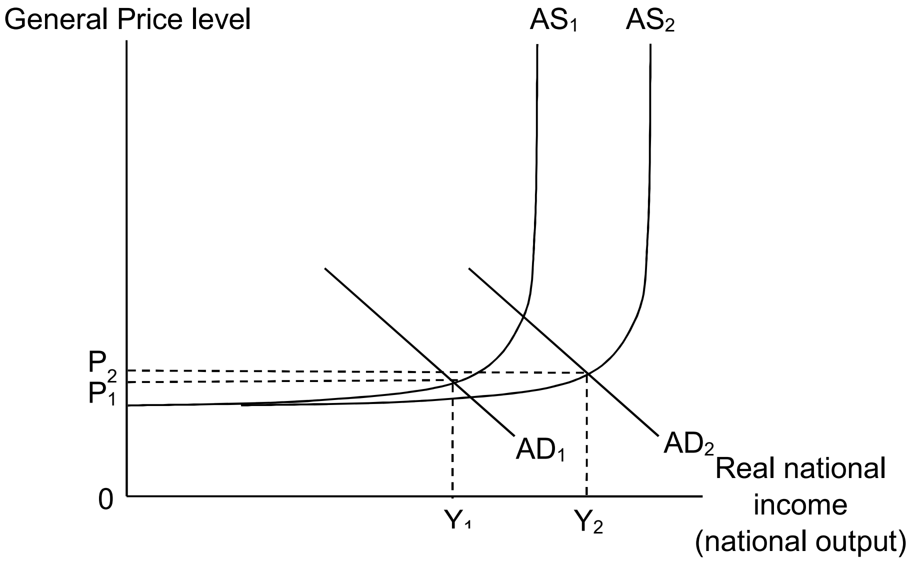
(e)		**Extract 5 describes the introduction of private-hire car services in Singapore.** **In light of the above, discuss whether the advantages outweigh the disadvantages.**	[8]

<u>Thesis: Advantages of the introduction of private-hire car services</u>

1. Higher I → Sustained Positive Economic Growth and Low Unemployment + Improve capital and financial account

- Extract 5: "there is a flow of investments into Singapore as Uber and Grab firms established their foothold in Singapore." + "More subtle but perhaps even more important, the widespread availability of private-hire services can signal that a local economy is friendly to the high-tech industry and so can be a draw for investments." → improve capital and financial account + Increase I → increase in AD → AD shift rightwards.
- Firms will experience a fall in inventories. This will signal to the firms to step up production. Firms will employ more workers leading to rising output. This results in falling unemployment and rising income. As income rises, spending by the households will increase. As one's spending becomes another income, this rise in spending will lead to a rise in income of another group of people because of the increasing demand for the goods and services they produce. The multiplier effect is triggered off leading to a multiple increase in production, output and national income → actual economic growth, assuming the Singapore economy is operating in the intermediate range.
- Increase in investment → more spending on capital goods (e.g. on machines, equipment and factory buildings) + bring about an improvement in technology, the economy's ability to produce goods and service increases. LRAS increases and shift to the right. This will increase the potential output of the economy and results in potential growth in the long run.

- Sustained positive EG will be attained with the economy achieving both actual growth in the SR and potential growth in the LR.



2. Improvement in non-material standard of living

- From Extract 5: "Consumers embrace having personal drivers to ferry them" → provide consumers convenience → improve nmSOL
- From Extract 5: "Greater work-life balance for workers" → more time for themselves and with their family → improve nmSOL
- From Extract 5; "Ride-sharing services may also generate positive externalities. For example, they could reduce parking congestion → easier to find parking → improve nmSOL.

Anti-thesis: Disadvantages of the introduction of private-hire car services

1. SOL worsen for workers + in the LR may lead to higher government expenditure

- From Extract 5: "lack of benefits and protection posing headaches for policymakers. For instance, in Singapore, the lack of Central Provident Fund (CPF) contributions, a core pillar of the Republic's social security system has implications for home ownership and healthcare."
- Grab and Uber drivers lack healthcare, retirement benefits or have insufficient savings in their CPF for retirements → lack access to affordable healthcare + harder to own a home + not enough savings when they retire → worsen their current and future mSOL and nmSOL
- In the LR, government may incur higher government expenditure to ensure that these workers have access to

housing and healthcare service and are able to retire comfortably → worsen Singapore's fiscal budget.

2. Underemployment

- From Extract 5: "structural challenges such as a mismatch between skills and jobs may nudge workers into temporary freelance work." Private-hire car service firms such as Uber and Grab may be relying on the very people who are structurally unemployed or are suffering from demand-deficient unemployment. They are forced to take up these freelance/part-time and low-paying work because they can't find full-time jobs that make use of their skills. Underemployment occurs as they could be working fewer hours/not fully utilising their skills as they would like to.

Overall Evaluation:

- **Stand:** The advantages of the introduction of private-hire services outweighs the disadvantages in Singapore. From the economic angle, the introduction of private-hire care services clearly bring about improved consumer welfare. Furthermore, facilitated by technology, we can expect the gig economy, and the introduction of such services similar to the private-hire car services to keep growing.
- Hence, the challenge for the government is to implement policies to maximise the advantages and minimise the disadvantages. For instance, Singapore government need to ensure that employees' welfare are taken into account by reviewing its labour laws to protect the interests of workers working in the private-hire car services industry/the gig economy.

Level	Descriptors	Marks
L2	Response addresses both the advantages and disadvantages of the introduction of private-hire services. There are links made to the macroeconomic goals of the economy. Response makes good use of case study material	4-6
L1	Response only addresses either only the advantages or the disadvantages of introduction of private-hire services. Response lacks the use of case study material and has poor application to the Singapore context.	1-3
E2	Response with a justified economic reasoning	2
E1	Response without economic reasoning	1

H1 CSQ 2

Suggested Answers

(a) Using the data in Table 1,

(i) Describe the trend in real Gross Domestic Product for Singapore from 2013 to 2016. **[1]**

Real Gross Domestic Product for Singapore increase from 2013 to 2016. **[1]**

(ii) Identify the year where General Price Level was the highest. **[1]**

General Price Level was the highest in 2014. **[1]**

(b) What conclusion would you draw about the overall economic performance of Singapore in 2016 compared with 2013? **[4]**

Comparing between 2013 and 2016, Singapore's real GDP growth fell from 2.6% to 2.5%. This implies that its real GDP is increasing at a decreasing rate and its unemployment rate rose from 1.9% to 2.1%. The increase in unemployment reflects an increase in unutilised resources in the economy. Since GDP measures the total value of final goods and services produced within the geographical boundary of a country in a given year. A fall in Singapore's real GDP growth rate reflects a slower growth and this is supported by a -2.5% growth in its gross fixed capital formation. This signifies a fall in the level of investment in the country which is detrimental to the economy both in the short and long run. Although there is an improvement in the Balance of Trade in 2016 as compared to 2013, we have insufficient information to conclude on the overall Balance of Payment account of the country. Hence, the overall economic performance of Singapore deteriorated in 2016 compared to 2013. **[1]**

Any 3 indicators – 3m
State the conclusion – 1m

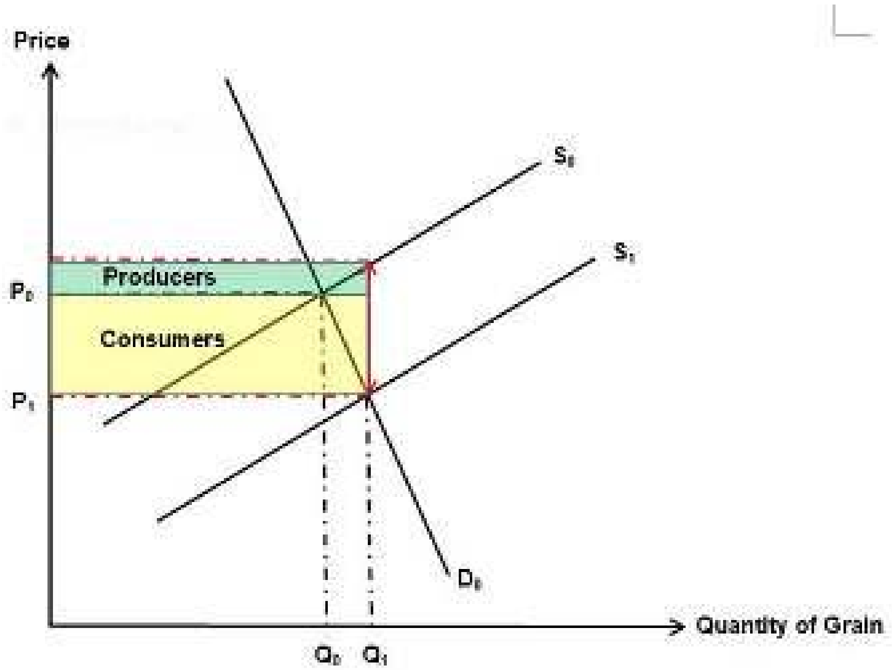
(c) Using elasticity concepts, analyse the incidence of agricultural subsidy on producers and consumers of grain. **[4]**

From Extract 6, Para 2 "Separately the government pledged increased agricultural subsidies…set aside 14 billion yuan (US$2.26 billion) in subsidies to grain farmers" → Lower cost of producing grain → Supply curve shifts to the right → a fall in equilibrium price and increase in equilibrium quantity. **[1]**

Concept of price elasticity of demand and supply can be used to determine the incidence of subsidy that is experienced by the producer and consumer of final goods and services.

Demand for grain tends to be price inelastic due to grain being a staple in Asian country like China. Hence, degree of necessity is high. **[1]**

Use diagram to illustrate the incidence of subsidy on consumers and producers of grain



Since PED for grain is more price inelastic than PES for grain [1]

Where demand for grain, which is a necessity for China (since most Asian consume rice as a staple) are highly price inelastic, a fall in price leads to a less than proportionate increase in quantity demanded by consumers. As consumers are relatively less responsive to price changes than producers, producers can more easily pass on the fall in cost of production to consumers. As a result, the consumers would bear a greater proportion of the subsidy while producers bear a smaller proportion.

Evaluation: [1]

In conclusion, whether the incidence of agricultural subsidy will fall more on consumers or producer depend on the relative elasticity of demand and supply for grain.

(d) (i) Using AD/AS analysis, explain how 'surprise devaluation of the yuan' can reignite growth in China. **[4]**

The aim of the Japanese government is to seek to boost economic growth which slowed to 7 percent in the first quarter of 2015 as mentioned in Extract 6, Para 1.

A 'surprise devaluation of the yuan' will cause China's exports to gain international competitiveness → exports will become relatively cheaper in foreign currency → Assume demand for exports to be price elastic, a decrease in the export prices will bring about a more than proportionate increase in quantity demanded for exports (X) resulting in an increase in export revenue of China. **[1]**

Locals will now find imports to be relatively dearer than before in local currency → Assume demand for imports to be price elastic and that imports and locally-produced goods are close substitutes, there will be a more than proportionate fall in quantity demanded for imports (M) resulting in a fall in import expenditure of China. **[1]**

Assuming Marshall-Lerner condition holds where the sum of the price elasticity of demand for imports and exports is greater than one [$E_X + E_M > 1$] **[1]** → increase in (X-M) → increase in AD → trigger the multiplier → multiple expansion of production, output, employment & national income **[1]**

(ii) **Suggest a possible reason why this policy may have limited effectiveness.** **[2]**

As mentioned in Extract 7, Para 1 "traders feared the move could also ignite a currency war" **OR** Extract 7, Para 2 "fear a prolonged currency war … US and Japan retaliate" **[1]** → retaliation by China's trading partner in the weakening of their currency hence, China's exports will seem relatively dearer in foreign currency to them leading to a fall in demand for China's export, c.p. AD ↓ → limiting the effectiveness of the policy to reignite growth in China. **[1]**

Any **POSSIBLE** reason may be accepted: **[2]**

- Demand for exports and imports are price inelastic

Demand for exports and imports may be price inelastic in the short run. There are other determinants affecting locals' decisions to buy foreign goods and foreigners' demand for a country's exports (other than price considerations).

For instance, it will take some time for consumers to switch their taste and preferences. In addition, it will also take time for trading contracts between firms to expire before they can respond to the change in exchange rate and switch trading partners. Thus the aggregate demand might not rise by the full extent.

- Conflict with other macroeconomic goals

Devaluation improves the country's export competitiveness and helps to stimulate aggregate demand and economic growth. However this could be at the expense of demand-pull inflation especially if the economy has supply bottlenecks or is operating at full employment levels. Hence, policymakers in deciding the timing and extent of growth policies have to weigh the benefits of economic growth versus the costs of higher inflation (demand-pull inflation).

However, it must be noted that China is facing economic slowdown. Hence, unless the increase in AD is substantial enough, China should not be hit with the problem of inflation.

- Ceteris paribus assumption does not hold in real life

Ceteris paribus assumption does not hold in the real world. There could be other external shocks or variables affecting the level of aggregate demand and the economy – which could cancel out the effectiveness of the implemented exchange rate policy.

- Time lags

It takes time before the economic situation is fully recognised as time is needed to gather key economic statistics and data ***[recognition lag].***

Central banks also need time to make decisions and implement the appropriate monetary policy ***[implementation lag].***

There is also a time lag for the monetary policy to affect the economy and inflation ***[impact lag].***

Owing to the time lag associated with the working of monetary policy, the depreciation of exchange rate may take effect at a time when the economy may have already recovered from the economic recession, thus resulting in the economy overly expanding and facing inflationary pressures instead.

- Uncertainty

There is uncertainty to the extent and duration of the macroeconomic problem – recession – at hand. Governments do not have perfect information as to the degree and duration to weaken the exchange rate.

(e) **Analyse the effects of the TPP fallout and China's slowdown on the Singapore economy.** **[6]**

Effects of TPP fallout on SG economy:

- TPP was intended to be a multilateral FTA among a number of countries, aimed to create freer trade and investment flows among these countries → increase (X-M) and increase I → link to actual and potential growth → sustained EG
- Benefits of TPP cannot be reaped (Extract 8: "fostering trade and investment to boost growth")
- Lack of increase in (X-M) to increase AD, and lack of increase in I to increase AD and LRAS
- Inability to achieve sustained economic growth (stagnation) and reduce cyclical unemployment
- If there is a decrease in investor confidence, might even result in a decrease in I → lower AD and AS → fall in sustained growth

Effects of China's slowdown on SG economy:

- China's slowdown → Chinese economy growing at a slower rate (i.e. slower pace of increase in economic growth)
- Slower rise in incomes than before (or lower than expected increase in incomes)
- Adverse effect on purchasing power
- Chinese consumers will spend on fewer goods and services, including imports from Singapore
- Fall in Singapore's export demand
- Fall in Singapore's export revenue
- Assuming Singapore's import expenditure remains unchanged, there will be a fall in net export revenue (X-M)
- Adverse effect on BOP: Lower (X-M) → BOT, current account and hence BOP worsens
- Adverse effect on EG and unemployment: Lower (X-M) → lower AD → multiplier process → decrease in real NY → fall in actual growth in Singapore; fall in derived demand for labour → rise in cyclical

unemployment (AD/AS diagram)

Evaluation:

All in all, both events have had adverse impacts on the Singapore economy, in terms of worsening or stunting her economic performance. However, the death of TPP is likely to have a more substantial impact on the Singapore economy than China's slowdown, as although Chinese economic growth is slowing, there is still positive growth. Hence, the loss of confidence due to the death of TPP leading to adverse impacts on C and I would probably have more severe impacts on the SG economy.

L2	For a developed answer that explains the impact of **both** the TPP fallout and China's slowdown on the Singapore economy, with links to Singapore's macroeconomic goals and/or standard of living	4-6
L1	For an undeveloped answer that describes/states the possible impacts of the TPP fallout and China's slowdown on the Singapore economy, with lack of economic reasoning or significant missing links **OR** For an answer that only addresses the impact of **either** the TPP fallout **or** China's slowdown on the Singapore economy	1-3

(f) **Extract 9 explains Trump's "America First" protectionist stance, which he claims will address the negative consequences brought about by globalisation.**

Discuss whether Trump's protectionism can ever be justified. **[8]**

Introduction (and brief explanation of protectionism in U.S. context)

Protectionism involves measures taken to partially or completely protect domestic industries from foreign competition in domestic markets. According to Extract 9, Trump's protectionism policy, "Buy American, Hire American", involves incentivising firms to use domestic factor inputs (e.g. raw materials, assembly parts, labour) instead of imported inputs, and getting the U.S. government to purchase locally produced goods and services as opposed to imported ones. In doing so, this would reduce America's import demand and hence import expenditure.

T1: Trump's protectionism may be justified – helps to reduce structural unM

One argument to justify protectionism may be that it helps to reduce structural unemployment. According to Extract 9, globalisation has brought "cheap consumer goods into the country, costing domestic jobs". This could imply that the U.S. has lost its comparative advantage in the production of certain goods and services (sunset industries), due to the emergence of countries which can produce these same goods at a lower cost of production (e.g. emerging economies such as Vietnam and China being able to produce low-end manufactured goods at lower prices due to their lower labour costs). Since globalisation involves the freer flow of goods and services, households around the world will tend to buy the relatively cheaper goods and services from other countries. As a result, U.S. firms' product demand and hence revenue will fall due to the lack of competitiveness. Subsequently, if they earn subnormal profits in the long run, they will shut down and leave the industry. This may lead to structural unemployment as U.S. workers in these sunset industries may not have the relevant skills to work in other industries (occupational immobility), which in turn has adverse effects on material and non-material standard of living.

As a result, protecting domestic industries in the above-explained ways would help to boost demand and revenue for local firms, preventing them from shutting down. This helps to avoid structural unemployment.

AT1: Limitations of above argument that protectionism can help reduce structural unemployment

However, the above argument has its limitations. Importantly, protectionism does not solve the root cause of the problem when it comes to structural unemployment. The U.S. is losing its comparative advantage because of the emergence of low cost competitors that are more efficient in production. Protectionism merely artificially protects the U.S. from competition with the rest of the world, but does nothing to solve the problem of inefficiency/lack of competitiveness. What should probably be done instead is to implement supply side policies to improve productivity/efficiency in production, or for the U.S. to bite the bullet and develop new areas of comparative advantage instead.

Furthermore, such protectionist policies are at the expense of households' standard of living, as they will be denied access to cheaper foreign imports. This not only reduces the quantity of goods and services available to them, but also reduces the variety of goods they get to enjoy, hence worsening material standard of living.

T2: Trump's protectionism may be justified – helps to protect domestic workers

Extract 9 also mentions that there has been "outsourcing of jobs to cheaper markets". In these cheaper markets, the lower cost of labour leads to lower cost of production. However, many a time, workers in these countries are being exploited by producers, or are being treated unfairly by labour laws deliberately keeping the cost of production low. This lowers the material and non-material standard of living of the workers in such low-cost labour countries. Hence, one argument by Trump might be that protectionism is justified in shielding the U.S. from such imports produced via exploitation of labour.

AT2: Limitations of above argument that protectionism can help protect domestic workers

However, wages in developing countries are usually low because of the abundance of labour (large labour pool). Labour productivity is also usually relatively low in such countries due to the relatively lower education and skill levels, thus explaining their relatively lower wages compared to that in developed countries, where higher skilled workers command a higher wage. As such, if lower labour costs are due to these reasons, then the argument that workers in developing countries are being exploited is moot.

Furthermore, as argued earlier, the U.S. should instead upgrade their factors of production (especially labour and capital) such that they have a comparative advantage in certain types of goods, so that they can increase their wages in the long run, rather than trying to sustain current wages by protecting their domestic industries.

(Other possible arguments: protection against unfair foreign competition i.e. dumping, protection to achieve self-sufficiency, protection to develop infant/strategic industries)

AT3: Protectionism: beggar-thy-neighbour policy → could invite retaliation

Worse still, protectionism is well known as a beggar-thy-neighbour policy i.e. an economic policy where one country (in this case, the U.S.) attempts to solve its economic problems by means that worsen the economic problems of other countries. With this in mind, other countries might retaliate against the U.S. and implement similar protectionist measures against U.S. exports too. If this were to happen, the lower export revenue in the U.S. would lead to lower AD, and via the multiplier effect result in a multiple decrease in real national income, adversely affecting economic growth. The balance of payments could also worsen because the worsening balance of trade (lower (X-M)) would worsen the current account. Ultimately, retaliation by the U.S.'s trading partners would result in the U.S. economy being negatively impacted.

Retaliation by U.S. trading partners would also mean that import controls/restrictions are being implemented across countries. This would lead to an all-round contraction of world trade, which goes against the principles of free trade being mutually beneficial to all countries.

Evaluative Conclusion

It is unlikely that protectionism can ever be justifiable because no matter what arguments are provided by governments to justify their protectionist actions, there are loopholes to these arguments that either render the argument moot or suggest that other policies may be more appropriate instead.

In the case of the U.S., which is a large economy with many trading partners, protectionism is a hostile anti-trade policy to adopt. Besides worsening U.S. economic performance in the current period, the souring of trade relationships with her trading partners might lead to worsening economic performance in the future if the U.S.' trading partners decide to trade less with the her.

As such, it is better for the U.S. to implement other policies to deal with the economic problems that they are facing instead – for instance, if faced with structural unemployment due to loss of comparative advantage, the U.S. should probably adopt supply-side policies i.e. education and retraining/skills upgrading to help displaced workers develop relevant skills so that they can transit to other jobs instead.

L2	For a developed answer that discusses reasons why protectionism may **<u>and</u>** may not be justified, with the use of economic reasoning and evidence from the case material. Links to economic goals and standard of living should be drawn	4-6
L1	For a one-sided answer that explains why that protectionism can (or cannot) be justified **OR** For an undeveloped or descriptive answer that discusses whether protectionism can ever be justified, without economic reasoning and application to context	1-3
E2	For a reasoned conclusion using economic reasoning, and with application to the U.S. context	2
E1	For a conclusion stated without economic reasoning used in justification	1

H1 EQ3

Suggested Answers

3	**(a)**	Explain how the economic problem of scarcity could be overcome with the rise of globalisation.	[10]
	(b)	Discuss the view that globalisation is always beneficial to a small and open economy.	[15]

Suggested answer for (a):

Introduction:

- **Define globalisation** → Globalisation is defined as the increasing integration of economies around the world especially through various forms like:
- Free flow of goods and services (*free trade*)
- Free flow of capital and investment (*financial flows)* → emergence of world financial markets & rapid movement of financial capital & rise and expansion of multinational corporations (MNCs) internationally
- Free flow of people (*labour migration*)
- Free flow of ideas and knowledge (*technology*)

Define economic problem of scarcity → Unlimited wants and limited resources → resulting in scarcity → thus required to make choices between competing uses → incur opportunity cost, which is the next best alternative forgone.

Body/Essay Development:

→ **Free flow of goods and services**

- With globalisation → Free flow of goods and services hence this allow consumers to gain access to goods and services internationally and even those that are not available in these home country → Resulting in an increases in quantity, quality and varieties → Thus increases consumers' utilities and reduces the economic problem of scarcity, i.e. there are unlimited wants but limited resources to produce where the domestic country might not have the resources to do so, such as lack of knowledge, skills and technology etc. Hence with the rise of globalisation, the country can now consume beyond the production possibility curve (PPC).

→ **Free flow of capital and investment**

- Globalisation opens up the country and results in an increase in the level of competition → In order to remain competitive in the international market, country would need to specialise in the production of goods that it has comparative advantage in i.e. lowest opportunity cost → Increasing both individual as well as world output → allowing countries to consume beyond their PPC → Thus, reduces the problem of scarcity.
- At the same time, specialisation allows the countries to be more productive and efficient → Leading to better allocation of resources → Increasing quality and quantity of resources → Increases productive capacity → PPC shifts to the right/LRAS shifts to the right → Reducing the problem of scarcity.

→ **Free flow of people/Free flow of ideas and knowledge**

- Globalisation increases cross-border transfer of resources, in terms of labour, capital and technology & knowledge.
- **Labour** → Increase quantity of labour in the countries, with highly skilled labour, it will also increase in quality of work force → Enhance productivity. Influx of low skilled foreign labour will also lead to an increase in quantity of FOPs → Increasing productive capacity → Shift PPC or

LRAS to the right → Hence reduce the resource constraints face by a country → Reduce problem of scarcity.

- **Capital and technology transfer** → Increase capital inflow and efficiency → FDI increases thus lead to increase quality and quantity of resources → Helping the country boost its productive capacity → Shift PPC or LRAS to the right → Hence reduce the resource constraints face by a country → Reduce problem of scarcity.
- With the rise of globalisation → More goods and services being produce, increase in labour, capital inflow and technology transfer → both AD and AS rises → increase real NY via the multiplier process → Country achieve both actual growth and potential growth → Achieving sustained economic growth → speed up economic growth → leading to more and greater utilisation of resources.

Conclusion:

Globalisation allows the economy to better utilise their resources due to the theory of comparative advantage. It also allows them to increase world output, thus reduces the 'limited resources' constraint. At the same time, with more goods and services available for consumption, it can also satisfy more wants, thus able to tackle the problem of 'unlimited wants'.

<u>Marking Scheme for (a)</u>

Knowledge, Application, Understanding and Analysis.		
Level	**Descriptor**	**Mark Range**
L3	• Well-developed answer using real-life examples to explain and illustrate how globalisation is able to reduce the problem of scarcity. • Minimum 3 aspects of globalisation covered, i.e. goods and services, labour, capital and technology linking clearing how it can reduce the problem of scarcity of BOTH unlimited wants and limited resources. • Max. 7m for theoretical answer without using any example(s) for illustration purpose.	7 – 10
L2	• Sound explanation of only 2 aspects of globalisation with no clear link to the problem of scarcity. Or answer that only focus on unlimited wants or limited resources. Insufficient or inadequate examples given to support the analysis. • Max 5m: only 1 aspect of globalisation but well-explained with clear link to the problem of scarcity.	5 - 6
L1	• Smattering of points. • No link of globalisation to reduce the problem of scarcity. Superficial analysis with limited economic concepts and framework. • Presence of major conceptual errors and inaccuracies. • High L1: only 1 aspect of globalisation well-explained with clear link to only unlimited wants or limited resources	1 - 4

Suggested answer for (b):

Introduction:

- **Define globalisation** → Define globalisation: the process through which an increasingly free flow of ideas (exchange of knowledge), people, goods and services (trade), and capital leads to the integration of economies and societies.

- **Define small and open economy** → Example: Singapore is a relatively small economy with domestic markets that are limited in size and is an open economy where trade to GDP ratio exceeds 300%, amongst the highest in the world. Other economies, such as the US and Indonesia, have large domestic markets and are less open as trade to GDP ratio is much lower, at about 28 and 53% respectively.

- Explain that globalisation benefits economies when they help the countries achieve their micro and macroeconomic goals (Economic growth, low inflation, full employment, healthy BOP position, efficiency and equity)

Body/ EssayDevelopment

1. THESIS: Globalisation is always beneficial to a small & open economy

- **Small economies such as Singapore and Hong Kong depend heavily on trade and FDI to drive economic growth** → globalization which brings about increased trade and foreign investment will allow significant benefits to be reaped by small economies
- **Explain the extent of increase in AD via trade is <u>greater</u> for smaller economies.**

2. ANTI-THESIS 1: Globalisation <u>is not</u> always beneficial to a small and open economy → Possible dangers from globalisation to small and open economies which large and less open economy could be less susceptible to

- **Possibility of dd-pull inflation** when export industries do not have pdtn capacity (i.e. small economy faces labour shortages and infrastructural inadequacies) to cope with rising AD → could erode X competitiveness → Hurting EG

3. ANTI-THESIS 2: Large & less open economies may also benefit from globalisation → may be more able to withstand downsides of globalisation

- Domestic firms are larger and likely more productive efficient due to int. EOS. Free movement of gds & svs increase availability of export markets to them. Their firms more able to penetrate markets of small and open economies more effectively for greater profit, which when remitted improve BOP via the CA.

1. **THESIS: Globalisation is always beneficial to a small & open economy (contd)**

- Both large and small economies gain access to other economies. → But globalisation allows small and open economies to overcome the limited domestic market size to grow. For large economies, the gain to access markets in small economies may be insignificant. Also, Spore is able to benefit in terms of cheaper raw materials and intermediate products to be used for pdtn, exporting domestic goods to more countries and hence improving X comp.

  For eg, Spore could capture the refined petroleum market in China of 1.3 billion population, dd for Singapore's refined petroleum will experience a huge increase and output can be increased to reap greater internal Economies of Scale (EOS) since the domestic market in Spore was previously too small to gain enough EOS to lower cost. Sporean firms enjoy greater profit margin since revenue will become higher and cost will be lowered. On the other hand, if China produced clothes and shoes for Spore, there will not be as much increase in dd and not much EOS to be reaped by Chinese firms given that Spore's market size for shoes and clothes is relatively small (5 million) compared to that of China. Therefore, not much profit can be gained by Chinese firms. That is why small countries will gain more when signing FTA with big countries, since AD will increase more and greater EOS can be reaped

2. **ANTI-THESIS 1: Globalisation is not always beneficial to a small and open economy → Possible dangers from globalisation to small and open economies which large and less open economy could be less susceptible to (contd)**

- **Greater possibility of imported inflation (**especially for small and open economies which lack natural resources) and depend heavily on imported goods and services.

- **Increase in vulnerability to external shocks & more volatile EG as compared to large and less open economies who can depend on domestic C and I**

3. **ANTI-THESIS 2: Large & less open economies may also benefit from globalisation → may be more able to withstand downsides of globalisation (contd)**

   Many MNCs are from countries that are large and less open as the large domestic market enables their expansion

   E.g. With the onset of globalisation and market liberalisation by China, this has led to FDI inflow into China to tap on their relative abundance in unskilled/semi-skilled workers → China gained CA in low end/labour intensive manufacturing → Singapore increasing imports from China such goods like food, textile, consumer electronics → China has become Singapore's 2nd largest trading partner in 2010.

- **Able to tap on small and open economies to invest in and export to neighbouring hinterlands like HK for China and Spore for Asia.**

- **Large and "less open" economies may benefit more since less subjected to vulnerability in external shocks** such as global downturn due to its large domestic demand. Less open economies can fall back on protectionism cushion global shocks though protectionism is likely to lead to contraction in world trade and making all countries worse off).

1. THESIS: Globalisation is always beneficial to a small & open economy (contd)

- **Explain other benefits through freer movement of capital investment → LRAS (potential growth)**. Which may not be possible with a small domestic market -> local SMES may be inadequate to drive economic growth → Knowledge and transfers of technology via foreign MNCs based in Singapore.

  FDI inflows help to increase domestic fixed capital formation and promotes capital widening and deepening

  E.g. Singapore's push to attract FDI in the biomedical sciences industry since 2000 has attracted 11 of the world's leading pharmaceutical and biotechnology companies such as GlaxoSmithKline (GSK), Lonza, Merck & Co, Novartis and Sanofi-Aventis to produce medical equipment, vaccines, etc. Coupled with generous research grants to top scientific talents, have helped to grow her biomedical industry → Biomedical export is a top export of Singapore and this industry is the second-largest contributor to Singapore's GDP within the manufacturing sector.

- **Explain benefits of improvement in CA and KA a/c (external impacts)**

2. ANTI-THESIS 1: Globalisation is not always beneficial to a small and open economy → Possible dangers from globalisation to small and open economies which large and less open economy could be less susceptible to (contd)

- **Remittances of wages by foreign workers and profits by foreign MNCs may worsen invisible balance of current a/c → worsening BOP**

3. ANTI-THESIS 2: Large & less open economies may also benefit from globalisation → may be more able to withstand downsides of globalisation (contd)

- "Less open" economies may still benefit more if economy is relatively closed to flows of labour migrants → would be able to reduce the extent of competition at low skilled workers and highly skilled workers → reduce the degree of income inequality somewhat. **Evaluation of extent of benefits:** However if they are large and less open economies like China where there are wide disparity in the destination of FDI in China provinces, there could still be increasing inequality between local workers in the urban and rural areas.

Evaluation of extent of benefits:

- However globalization does not necc imply it will benefit the large and less economy especially if it has lost its CA in trade and investment arena. For instance, US who has lost CA in manufactured activity has seen rising trade deficit, falling AD and economic growth. Possibility of structural UN+.
- Environmental concerns in developing countries like China and India arise with the inflow of FDI.

1 **THESIS: Globalisation is always beneficial to a small & open economy (contd)**

- **Explain benefits via increased labour pool and reduction in local COP**

  Openness of the economy allows for free movement of labour resulting from globalization, both highly skilled as well as lowly skilled. This augments the quantity and quality of labour, thus helping to overcome labour constraints of small economies. This compares to large countries where there is larger pool of talent which already ensures a larger productivity capacity.

  For instance, as labour force increase through high and lowly skilled immigrants (i.e. 1 million foreign population in Spore), this increase the quantity and quality of labour → raising productive capacity → raises potential growth → thus achieving non-inflationary EG and falling unemployment.

2. **ANTI-THESIS 1: Globalisation is not always beneficial to a small and open economy**
   → Possible dangers from globalisation to small and open economies which large and less open economy could be less susceptible to (contd)

- **Increase in income inequality and rising competition for services like public housing, transport and education →** competition from locals and foreign workers for domestic jobs and services

Conclusion

- Globalisation has served as both a platform for greater opportunities as well as increased challenges for all countries, though it can be said that in some countries, the level of challenges faced as a result of globalisation to be greater than the opportunities presented.

- It is not true that globalisation is always beneficial to small and open economy, though small and open economy tend to gain more from the increase in export market and can circumvent the limitations imposed by their small domestic markets in achieving their macroeconomic objectives. This is because globalisation enables them to trade with the world, attract foreign workers and FDI. Such limitations are faced by large and less open economies to a smaller extent given their larger domestic demand.

- Given the problems brought about by globalisation, small and open economy need to be able to mitigate its costs in order to ensure that they benefit. Need to assert greater control over their external environment – through exchange rate policies. This requires them to build up sizeable reserves to manage their exchange rate for better stability. Signing FTAs with a larger number of countries to reduce the risk of external fluctuations.

Marking Scheme for (b)

Knowledge, Application, Understanding and Analysis.		
Level	**Descriptor**	**Mark Range**
L3	• Well-developed answer that explains and illustrates the benefits and costs of globalisation to small and open and large and **compares them** with less open economies **using clear economic frameworks**. • Answer is thoroughly evaluated with constant use of real world examples applied to the context.	8 – 11
L2	• For an under-developed answer that explains and illustrates the benefits and costs of globalisation to small and open and large • Answer has some attempt at evaluation and limited usage of real world examples to the context. • Max 7m for a one-sided answer.	5 - 7
L1	• Mere listing of the benefits and costs of globalisation • Some conceptual misunderstanding	1 - 4

Evaluation		
Level	**Descriptor**	**Mark Range**
E2	Economic judgement with justification using clear economic framework. Candidates need to present their own opinion backed up by economic theories.	3-4
E1	Economic judgement with justification but lacking in economic reasoning. A mere presentation of personal opinions without substantiation using economic theories.	1-2

H1 EQ4

Suggested Answers

India's consumer prices is on the rise. India's fast growing economy has made her an attractive destination for foreign investment. The main upward effect on inflation in India was driven by rising global crude oil prices. Economists are expecting Reserve Bank of India to hike the interest rate if inflation continues to rise further.

Reuters, 14 March 2017

a) Explain the domestic and external causes of inflation in India. [10]

b) Discuss the view that a hike in interest rates is the most effective means of tackling inflation in India. [15]

<u>Suggested Answer for part (a)</u>

<u>Introduction:</u>

Define inflation: Inflation can be defined as a situation in which there is a sustained increase in the general (average) price level.

Indicated by an increase in CPI, which measures the average price level of a basket of goods and services

2 main types of inflation: demand pull and cost-push

Cost push inflation

- A situation when there is a sustained ↑ in the cost of production.

Factors leading to cost-push inflation in India: [use the preamble where possible]

External Cause: Rising global oil prices

Import-price-push inflation

- Increase in global oil prices
    - High price of oil → fuel for power generation + fuel for most transportation + factor of production for many g/s → rise in COP of most g/s → increase GPL significant (imported inflation) for India which is a net oil-importer
- Higher prices of oil means higher costs of production for businessmen, higher prices of finished goods and higher costs of living to consumers, setting off an inflationary spiral.

Domestic Cause: India government policy to raise minimum wage to get trade unions to call off their proposed nationwide strike.

- India government policy to raise minimum wage to get trade unions to call off their proposed nationwide strike. This may lead to large increase in wages without corresponding rises in productivity. When trade unions ask for a rise in the wages of workers which is greater than the rate of inflation, bosses oblige as they think they can pass the extra costs to consumers. The higher prices in turn mean that trade unions will ask for even higher wage rise to maintain the real income of its members. Thus, we get the wage spiral – one group of workers obtains a wage increase and then the next group follows and so on → drive up wages → higher COP → passed on in the form of higher prices of g/s → increase GPL significantly. This led to a leftward shift in aggregate supply from AS1 to AS3 as depicted in Figure 1.

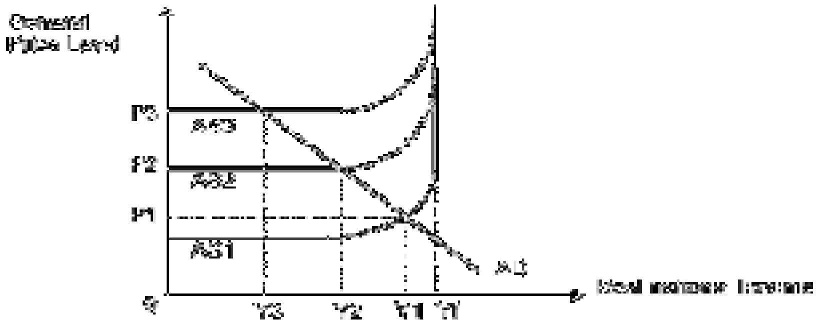


Figure 1

As depicted in Figure 1, the above factors led to a rise in cost of production and a **leftward shift in short run aggregate supply** from AS1 to AS3. Firms raise prices of goods and services [P1 to P3] as well as cut back on production [Y1 to Y3]. The extent by which firms can raise prices or reduce output levels depends on the shape of the aggregate demand. The more inelastic (i.e. steeper) aggregate demand is, the greater will be the rise in the general price level.

CPI Inflation

Domestic Cause: Rising food prices with India's late monsoon

- India's late monsoon → fall in supply of food → increase in food prices
- Households in India spend a greater percentage of their income on food (meaning that they have a much larger weighting of food in their CPI basket).
- Rising food prices → raises the **Consumer Price Index (CPI)** which measures the cost of purchasing a basket of goods and services by a typical household during a time period relative to the cost of the same basket during a base year. The items within the basket of goods and services include transportation, housing, food, insurance, electrical appliances and furnishing etc.
- Increase in CPI index → higher inflation in India → higher cost of living

Demand-pull inflation

Domestic Cause:

- Positive economic outlook as India is one of the fastest growing emerging economies → increase investors' confidence level in the economy → "topmost attractive destination for foreign investment" → attract greater inflow of FDIs → increase in I → Increase in AD
- Positive economic outlook as India is one of the fastest growing emerging economies → improvement in consumers' confidence + expect future wages to increase → increase C → increase in AD

External Cause:

- China's economy is slowing down + rising labour costs in the manufacturing sector (China's hourly manufacturing wages is 5 times hourly manufacturing wages in India) → makes India a relatively more attractive destination for foreign investment → attract greater inflow of FDIs → increase in I → Increase in AD

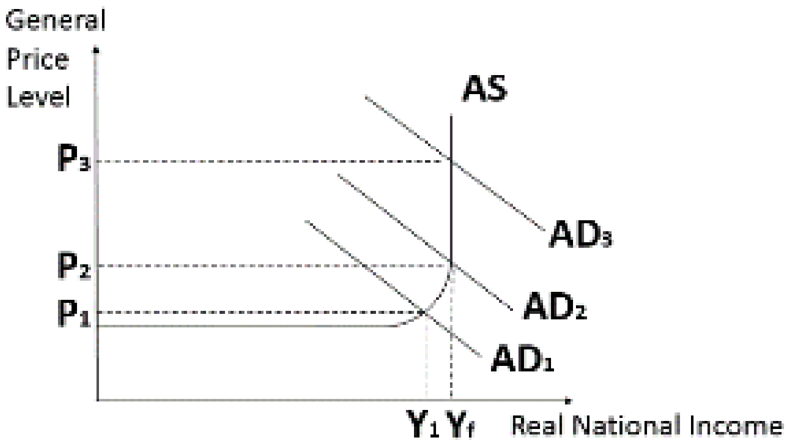


Fig 2: Demand-pull inflation

Diagram explanation:

- The factors above lead to a rise in aggregate demand as shown by a rightward shift of AD curve from AD_1 to AD_3 **as seen in Figure 2.** India is most likely to be operating at the intermediate range. When AD increases at the intermediate range (from AD1 to AD2), firms respond to the deficiency in aggregate supply partly by raising general price level (P1 to P2) and partly by raising output (Y1 to Yf). When AD continues to increase at full employment (AD2 to AD3), output cannot increase due to resources being fully utilised. Households are willing to pay more for the limited supply and firms take advantage of the shortage by increasing general price level sharply from P2 to P3. The persistent increase in the general price level services from P1 to P3 depicts demand-pull inflation.

Knowledge, Application, Understanding, Analysis		
L3	A well-developed explanation of at least 3 causes, which encompasses both domestic and external causes. There is also consideration of both demand-pull and cost-push inflation. Diagrammatic analysis and concrete examples are also used. There is clear attempt to explain why "high".	**7-10**
L2	An underdeveloped consideration of at least 2 causes, with at least one domestic cause and one external cause. There might be inconsistent/incomplete attempts to use diagrammatic analysis and/or concrete examples.	**5-6**
L1	A weak explanation overall. May be lacking in scope and depth. Multiple errors may be present. May have rehearsed answers to the question as a "demand-pull" vs "cost-push" question for this question. No use of diagrams and examples.	**1-4**

Suggested Answer for part (b)

Candidates are expected to look at various policies that a government can implement to tackle inflation and come to a conclusion if monetary policy is the best policy to tackle inflation.

Introduction:

- Briefly explain the benefits of low inflation: In the long run, with stable prices maintained in the economy, this can bring about greater economic certainty and hence help to promote greater investments. This will help to boost actual and potential economic growth in the country.
- In order to achieve this, governments can employ a range of policies
- In this essay, we will be evaluating various policies to assess if a rise in interest rate is the best way to reduce inflation in India.

Body:

- **Thesis: Yes, control of interest rates can be considered the best way to tackle inflation if the economy is operating near full-employment and encountering dd-pull inflation (i.e. increase in AD) or imported inflation**
    - Governments can choose to increase interest rates to decrease the rate of inflation.
    - Households: With higher interest rates, it raises the cost of borrowing to households (more costly to obtain loans from banks). Purchasing goods and services on credit have become more expensive. Consumers may have to cut back on their consumption expenditure on cars and renovation works for the house. In addition, with higher interest rates, the opportunity cost of spending the money is higher since savings in a bank offers higher returns now. This will lead to a fall in consumption as household portions higher ratio of their income for savings. With a fall in consumption (C), holding other components of aggregate demand (AD) constant, AD falls.
    - Firms: With higher interest rates, it raises the cost of borrowing to firms. This leaves fewer investment projects with expected rate of return high enough to cover the higher cost of borrowing in order for profits to be made. In other words, a rise in interest rate leads to a reduction in investment on capital goods by firms. With a fall in investment (I), AD falls, ceteris paribus.
    - When interest rates increase, cost of borrowing increases and thus leads to lower levels of C and I as there will be reduced borrowing to consume and invest.
    - This leads to a fall in AD which would mitigate the initial increase in AD and thus brings about a slower increase in GPL, assuming c.p./ The fall in AD leads to a decrease in the general price level and thus offset inflationary pressures. In this case, the aggregate demand of the economy has been lowered from AD3 to AD1 through contractionary monetary policy, and this lowers the price level from P3 to P1.(ref to fig 2 in part a)
    - This is effective if India is experiencing high demand-pull inflation as the policy will cut down domestic demand.

- **Anti-Thesis: However, control of interest rates may not be effective due to its limitations:**
    - However, the fall in AD could also bring about a fall in growth as real NY would fall via the multiplier effect, if the economy was operating within the intermediate range of AS. It could result in falling economic growth and rising demand-deficient unemployment if the fall in AD is overly excessive. The lower

level of consumption and investment gets translated into lower demand for labour services which results in job losses. This is the classic inflation-unemployment trade-off.

- Consumption and/or investment may be interest inelastic, i.e. changes in interest rate do not affect consumption and investment by households and firms very much. Other determinants of consumption and investment include: the economic outlook and how it affects consumers' and investors' confidence. For instance, if consumers and producers are optimistic and confident of rising streams of income and profits, consumers and producers will persist in borrowing from the banks despite the higher interest rate. This undermines the effectiveness of the contractionary monetary policy in curbing demand pull inflation.
- In addition, the higher interest rate will lead to an increase in the inflow of hot money and would increase domestic money supply and this increase in money supply would lead to a fall in interest rates which mitigates the initial increase in interest rates.
- Control of interest rates may only be effective to reduce demand-pull inflation. If inflation is due to supply side factors, interest rate policy may be ineffective.

Anti-Thesis: Alternative Policy 1: Exchange rate policy

(1) <u>Other underlying root causes e.g. rising global crude oil price</u>

- Appreciation of Indian Rupee → decreases the price of imports in India, which counters the rising global oil prices. The decrease in Pm decreases the costs of imports used as raw materials in production, and this decreases the unit costs of production of a firm. With a sustained rightward shift of the SRAS curve from AS3 to AS2 to AS1, imported inflation will be curbed as inflationary pressures are reduced from P2 to P1 (reference to Fig 1 in part a).
- Imported inflation can also come from higher prices of final goods and services, and this may lead to greater consumer price index (CPI) inflation. Appreciating the SGD will also help to lower CPI inflation through lower prices of imported final goods and services. It also pressures the prices of domestic goods and services to fall to remain competitive against cheaper imports. Overall, this decreases domestic consumer prices.

Evaluation: This is effective if the main source of inflation in India is due to imported inflation from rising global crude oil prices.

- An appreciation of the currency which adversely affects the country's export competitiveness. This again hurts the country's current account and the balance of payments, which is a conflict of macroeconomic objective.
- The appreciation of the exchange rate raises the prices of domestically-produced goods and services relative to foreign-produced goods and services. If we assume Marshall Lerner condition holds, where the sum of price elasticities of demand for exports and imports in greater than 1, the appreciation of Indian Rupee will lead to fall in net exports and hence a fall in AD. However, the fall in AD could also bring about a fall in growth as real NY would fall via the multiplier effect, if the economy was operating within the intermediate range of AS. It could result in falling economic growth and rising demand-deficient unemployment if the fall in AD is overly excessive. The lower level of consumption and investment gets translated into lower demand for labour services which results in job losses. This is the classic inflation-unemployment trade-off.

Anti-Thesis: Alternative Policy 2: Supply-side policy

(2) <u>Other underlying root causes e.g. Structural Rigidities – Cost-push inflation</u>

High inflation can be caused by problems of structural labour rigidities, leading to cost-push inflation. Interest rate policy will be ineffective in addressing this root cause as a supply-side policy such as education & retraining will be required to resolve the issue to improve labour productivity to justify the rise in minimum wages.

Explain how supply-side policies work:

The India government also conducts supply-side policies such as education and training of workers. Examples: The Central Board for Workers Education (CBWE) provides subsidised training and education for the workforce. Education and training enhance workers' productivity. Workers will be able to produce more output per man hour resulting in a lower unit cost of production. This increases individual market supply curves. If enough individual market supply curves are impacted, total output that the economy can produce increases. This raises the productive capacity of the economy, causing a rightward shift of the AS curve, further decreasing inflation as GPL falls from P1 to P2 (fig 3).

With the increase in productivity, labour resources are able to produce more goods and services per unit time and thus lowers the average cost of production, bringing about an increase in the SRAS and thus addresses cost-push inflation. (refer to fig 1 in part a)

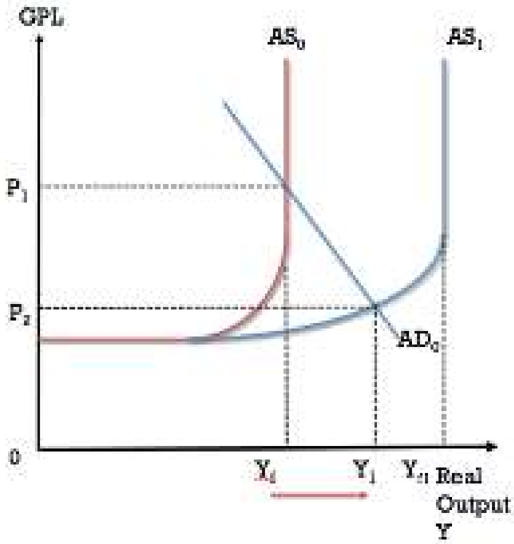


Fig. 3 – Supply-side Policies

Evaluate effectiveness of policy:

(1) Leads to improvement in other macroeconomic goals

- increases in labour productivity → decrease unit COP → increase price-competitiveness of goods and services made in India → decrease Px → increase X rev (assuming PEDx>1) and at the same time, lowered prices of domestic goods → switch consumption away from relatively more expensive imported goods (assuming domestically produced goods are close substitutes with imported goods) → increase Cd → increase in AD → increases actual growth and employment
- increases in X and fall in M will also lead to an improvement in balance of trade, hence improving the overall balance of payments, ceteris paribus

- increase in no. of skilled workers able to be employed in expanding industries → reduce structural employment

Evaluate limitations of the policy:

- Outcome of the policy is uncertain as the effectiveness of the policy is dependent on the ability of the workers to be re-trained. Also, it depends on the receptivity of employers to send their workers for such courses as it leads to a trade-off of decreased man-hours at work, lowering revenue levels. Workers may be resistant to retraining due to their advancing age, limitation in aptitude and less than forthcoming attitude towards retraining.
- Takes a long time to take effect as training takes time and no guarantee that training will necessarily lead to increase in labour productivity.
- SS-side policies such as education and training are likely to be costly → imposes high opportunity cost in terms of the allocation of govt resources → lesser resources available to be channelled for other government projects.

Anti-Thesis: Alternative Policy 3: Contractionary fiscal policy

(3) If increase in inflation is due to demand-pull arising from domestic factors

High inflation can be due to domestic factors, leading to demand-pull inflation.

Contractionary fiscal policy

Explain how it works:

- A decrease in government expenditure directly decreases the aggregate demand of the economy.
- An increase in taxes can be examined through changes in the personal and corporate income taxes. An increase in personal income taxes will reduce disposable income, and that leads to a fall in domestic consumption. The increase in corporate taxes will decrease post-tax profits, and that causes firms to decrease investment expenditure. The fall in both consumption and investment expenditure thus leads to a fall in AD.
- The fall in AD leads to a decrease in the general price level, and sustained contractionary fiscal policy will thus offset inflationary pressures. The main objective of the policy is achieved, as demand-pull inflation will be curbed as inflationary pressures are reduced. In this case, the aggregate demand of the economy has been lowered from AD3 to AD1 through contractionary fiscal policy, and this lowers the price level from P3 to P1.(ref to fig 2 in part a)

Evaluate limitations of the policy:

- Households and firms may not be responsive to an increase in taxes, and may continue to spend.
- The decrease in government spending may compromise socio-economic and political goals.
- And again, inflationary pressures need to be pre-empted as fiscal policies, like any other policy, will face time lags in implementation.
- If I and Cd make up a small proportion of AD, then when I and Cd decrease, AD may not decrease significantly. As a result, decrease in general price level is also not significant.

Anti-Thesis: Alternative Policy 4: Trade policies

Trade policies: The government may choose to sign **Free Trade Agreements (FTAs)** with countries that are an important source of imported raw materials and food products e.g. ASEAN, Australia, Brazil, Saudi Arabia, Canada and United Arab Emirates. Through these trade partnerships, India is able to diversify its sources of imports. Should there be disruptions in the supply of these raw materials or commodities in a particular foreign market, e.g. food products or oil, India is able to import them from other countries instead and this helps to minimise imported inflation. As the fall in price of imported raw materials reduces cost of production of firms, SRAS curve shifts rightwards and thus tackle cost-push inflation.

Evaluate limitations of the policy:

- Excessive rise in import expenditure (M)

  FTA could lead to an increase in import expenditure as the consumers spend more on foreign goods and services and less on locally-made import substitutes, such that it could lead to a fall in AD and therefore affect economic growth for the country as local firms suffer from greater competition. As there is an increase in import expenditure, this could result in a worsening of current account deficit.

- Dumping and unfair foreign competition to local firms

  FTA would introduce foreign competition (imports) to domestic market. These imports could be heavily subsidized by the foreign countries or government such that the prices could be lower than those of the domestic products. This is perceived to be dumping into the domestic market. Furthermore, foreign competition could jeopardise the development of home industries before the industries could realize its potential. These infant industries could have the potential to be more efficient compared to the foreign firms. The hampering of the development of these industries could precipitate long run welfare loss. Production of commodities, especially strategic goods, makes a country overly dependent on other countries.

Synthesis/Conclusion:

- The government has many policy tools at its disposal but each has its own merits and costs.
- Each policy tool is also more suited to tackle specific sources of inflation and thus there is no best policy to tackle inflation. As an economy can suffer from high inflation due to several sources, a government should consider implementing a mix of policies. Furthermore, it could implement complementary policies to address the trade-offs that are brought about by the policy to tackle inflation while keeping in mind the other macroeconomic goals.
- India government has to diagnose and ascertain the type of inflation that the countries and implement policies that address the root cause of the inflation problem. For example, the main cause of inflation in India is due to rising global prices, hence the government can implement exchange rate policy alongside trade policies so to reduce COP and tackle imported inflation.
- Also, a combination of polices is better as LR policies such as supply side policies need to be complemented with SR policies such as contractionary monetary policy and contractionary fiscal policy in order to deal with inflationary pressures more effectively.

Level (Marks)	Descriptors
L3 **(9 – 11)**	Answer provides clear analysis of at least 3 policies that a government can employ to tackle inflation with examples. One of the policies MUST be interest rate policy as in the question requirement. Answer must encompass policies to address BOTH demand-pull and cost push inflation.
L2 **(5 – 8)**	Answer provides an undeveloped analysis of at least 2 policies to tackle inflation. One of the policies MUST be interest rate policy as in the question requirement.
L1 **(1 – 4)**	Answer shows some knowledge of the policies to tackle inflation but lacks of scope and depth.
Evaluation	
E2 **3-4**	An evaluative assessment on the limitations of the policies based on sound economic analysis. Evaluating and ranking the appropriateness of the policies.
E1 **1-2**	Mainly unexplained judgment based on analysis.

VICTORIA JUNIOR COLLEGE

JC 2 PRELIMINARY EXAMINATION 2017

H1 ECONOMICS
8819

September 2017
3 hours

Additional Materials: Answer Paper

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 BAR CODES.

Answer **all** sections.

Start each question on a FRESH piece of paper.

At the end of the examination, fasten your work securely, by question, using the strings provided.

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

This document consists of **9** printed pages

[Turn over]

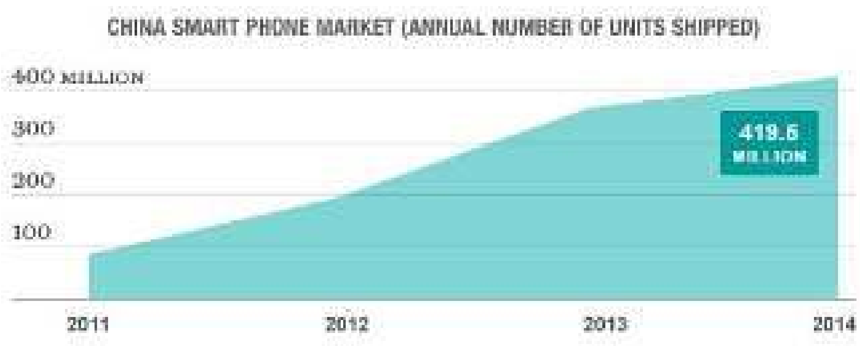
Section A

Answer **all** questions in this section.

Question 1

The Rise of the Mobile and E-Waste Economy

Figure 1



Source: Fortune, 1 March 2015

Extract 1: Growing domination of China's phone makers

Low-priced, high-tech mobile phones have become objects of desire for many of the 1.36 billion people in China, even though income per capita—after adjusting for purchasing power—is less than a fourth that of the U.S. In 2012, China passed the U.S. as the world's largest smartphone market. Samsung and Apple, the global leaders in mobile phones, have made no secret of their desire to command the world's largest smartphone market. But as demand exploded in China, local companies sprang up to meet it. "Now you see the proliferation of 400 brands in China," says Neil Shah, a director at Counterpoint Research.

For years Chinese phone makers served in the shadows as manufacturers for Nokia and others. Everything changed after Google introduced Android in 2008. The inexpensive and customisable mobile operating system, an answer to Apple's status-quo–shattering iPhone, made it possible for any electronics company with some savvy to develop a worthy alternative. In no time, Chinese companies shifted their strategies from manufacturing phones for brands of other firms to building brands for themselves. Take the case of Meizu. Meizu was the first Chinese phone maker to emerge as a brand in its own right. Four days after Apple introduced its iPhone in 2007, the founder of Meizu, Jack Wong, boasted that the firm would build an iPhone killer called the M8. The phone turned out to be too much like Apple's distinctive device, and Meizu, under pressure from Apple, pulled it from stores. Today Meizu is trying to expand within China to better position itself for entry into other Asian markets. Though the company builds some of the best-reviewed smartphones in China, it remains outside the country's top 10 brands. "The problem is, our phones are great, but no one knows about us," a Meizu marketing consultant said.

Source: Fortune, March 1, 2015

Extract 2: Why you should take disposal of e-waste seriously

Generation of e-waste is set to exponentially increase. This is due to the rapid technological diffusion this world has experienced in the last decade, with mobile phone and laptop penetration in developing countries also reaching extremely high levels.

Thus, the disposal of e-waste becomes increasingly important as e-waste generation captures only the firms' cost of production, but not the external environmental and health costs associated with its use and disposal. The decreasing costs of technology leading to the falling price of electronic products will only exacerbate the failure to account for such 'end-of-life-cycle' costs and the true environmental and health impact of marginal e-waste generation.

There is a need to integrate ecological practices in the production process itself, and shift responsibility to the producer to negate future environmental consequences of the e-waste, and to raise public awareness of e-waste pollution to manufacturers and users, who should both be active stakeholders in e-waste disposal and management in an increasingly tech-infused world.

Source: Businessworld, 13 July 2017

Extract 3: Electronic waste dump of the world

Guiyu, China is often referred to as the "*e-waste capital of the world.*" The city employs over 150,000 electronic waste dis-assemblers, recyclers, and salvage workers who toil through 16-hour days tearing apart discarded computers and other electronic devices. Recycling is a labour intensive industry with high labour costs. The low revenue of e-waste recyclers in developed countries such as the U.S. prevent them from covering their costs, much less turn a profit. This tempts them to charge the public a fee for merely the disposal service, then reap additional profits by selling the waste to cities in China like Guiyu, where labour is less expensive.

The environmental and health side effects from e-waste recycling in Guiyu are extremely damaging; the air is not safe to breathe and the water not safe to drink. Lead and other poisonous metals course through the veins of the residents. Drinking water has to be trucked in as the local river and underground water table are poisonous. Guiyu has the highest level of cancer-causing dioxins in the world; pregnancies are six times more likely to end in miscarriage and seven out of ten children are born with 50 percent higher levels of lead in their blood than children born elsewhere. The residents are only partially aware of the significant negative health effects. They understand that conditions aren't ideal, but the higher-than-average wages keep them working in Guiyu.

Source: Sometimes Interesting, 17 July 2011

Extract 4: China's e-waste could end up in Africa

Many unwanted electrical goods are shipped from the US to China and Africa, and clear data at federal level on safe recycling of e-waste is lacking, the UN report says.

Increasingly much of the world's e-waste that would previously gone to China is going to West Africa instead, where the processing of discarded items is cheaper. The processing of such items recovers valuable metals and plastics for sale to industries that utilise them as raw materials. In particular, metals have a high resale value. Some of these metals recovered in Africa are exported to other countries such as China. Each type of scrap metal has a monetary value and the types and quantities that are exported depend on the current market conditions and whether there is demand for the specific metal locally.

Source: chinadialogue, 20 April 2015

Questions

(a) **i)** Describe the trend in the number of smart phones sold in the China market. [1]

ii) Using demand and supply analysis and the data, account for this trend. [4]

(b) Justify the difference in price elasticity of demand between phones produced by global leaders such as Apple and Samsung and those produced by Chinese firms like Meizu. [3]

(c) With reference to Extract 2, explain the market failure associated with the consumption of electronic products. [4]

(d) Comment on one solution that may be used to tackle market failure associated with the consumption of electronics products. [6]

(e) Explain the effect of the growth of the electronic waste recycling industry on the living standards of residents in Guiyu. [4]

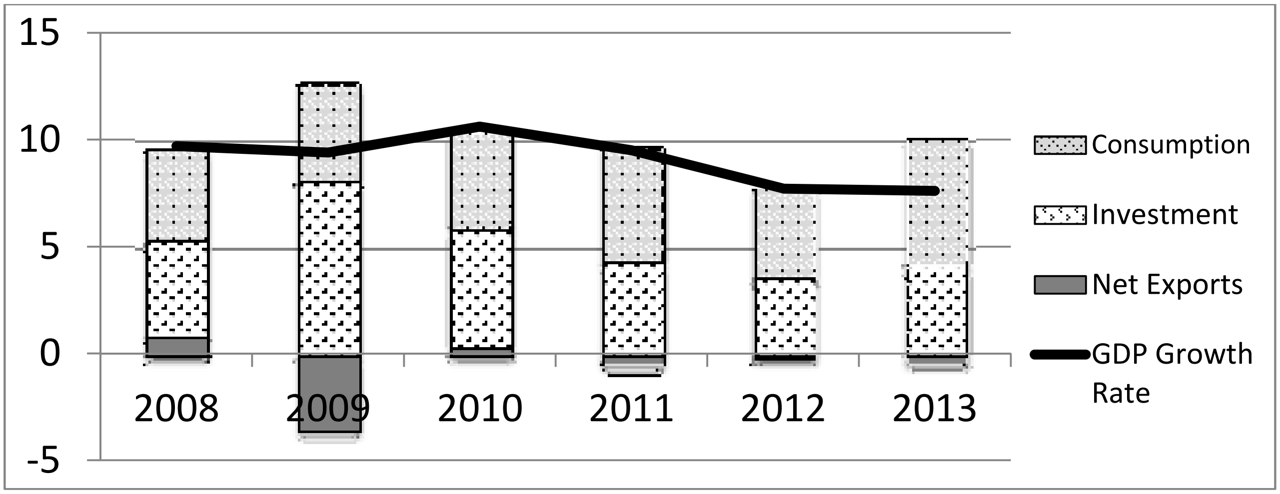
(f) Assess the value of using the theory of comparative advantage to explain Africa's export of materials such as metals and plastics recycled from electronic waste. [8]

Total: 30 m

Question 2

The Middle Income Trap

Figure 2: China's Consumption, Investment, Net Exports and GDP Growth (annual % change)



Source: Census and Economic Information Centre

Extract 5: Is China Suffering from the Middle Income Trap?

For about 30 years, the Chinese economy has grown at an average pace of 10 per cent per year, or three times the global average and has transformed China from a low-income to a middle-income country. Yet, as China now looks to make the next jump to high-income status, it is showing signs of trouble. China appears to be slowing even more quickly than anticipated. While weaker growth is a relatively new phenomenon for China, it is a common experience for other countries that have swiftly moved from low-income to middle-income status. It is so prevalent a trend that it has come to be known as the "middle-income trap" and China may be destined for this trap.

Essentially, the middle-income trap characterises economies that, once they achieve middle-income status, wind up stagnating there, unable to move to high-income status because economic growth continues to be weak. At the middle-income level, a country's competitiveness need to become driven by productivity increases that utilise resources more efficiently. Ramping up domestic demand is also important as an expanding middle class can use its increasing purchasing power to buy high-quality, innovative products and help drive growth.

China has experienced periodic labour shortages that are putting upward pressure on costs, such that some multinational corporations that produce labour-intensive products in China have started looking at lower-cost alternatives elsewhere. And they are also losing the competitiveness battle to high-income countries that produce higher-end, more sophisticated products. The design and workmanship of Chinese products are not of the same quality. Some Chinese consumers have reached a level of income to allow them to buy higher-end products, but they often perceive Chinese automobile brands, for example, as being inferior to foreign brands, even those that were actually manufactured in China.

China has deliberately lowered the value of the yuan with respect to the US dollar. The devaluation could help stimulate China's declining export industry. As exports have softened, China runs the risk of large job losses in the manufacturing industries. However, there may also be some unintended problems alongside any potential benefit to exports. A weaker yuan will raise the cost of commodities that are priced in US dollar, such as oil. Following the announcement of the devaluation, Chinese airline stocks fell.

Adapted from Investopedia.com, September 2015 and Los Angeles Times, August 2015

Extract 6: Can Brazil Escape the Middle Income Trap?

One often hears that Brazil's economy is stuck in the "middle-income trap." Since the debt crisis of the 1980's, Brazil has failed to revive the structural transformation and per capita income growth that had characterised the previous three decades. Middle-income countries seeking to reach the next stage of development can no longer simply import or imitate existing technologies or capabilities; they must build their own.

The president of Brazil has recognised that the country needs more business-friendly policies. Last year her re-election campaign saw a doubling of the fiscal deficit, to 6.75 per cent of GDP. To stabilise gross public debt, the president has promised to cut back on government spending. In order to get the economy moving, ideally, Brazil would offset this fiscal contraction with looser monetary policy. But because of the country's hyperinflationary past, as well as more recent price hikes — Central Bank cannot cut its interest rate.

Adapted from project-syndicate.org, February 2015.

Extract 7: Unemployment in China

Youth unemployment is coming down in rich countries but rising in China as economic growth abates, the International Labour Organization said.

In China, those who are less educated are far more likely to be employed than those who are better educated. The country is not creating a sufficient number of high-quality positions to soak up its educated youngsters. At the same time, most universities are more interested in pursuing revenue and growing themselves in size. The result is that there is little motivation to enhance the quality and the employability of their students.

Young job seekers often find themselves trapped in a vicious cycle. The job-searching period for them becomes considerably longer than for experienced workers, which leads to gaps in employment history, loss of skills and productivity, and harms their future work prospects. High youth unemployment causes immediate and long-term economic damage.

Adapted from OECD.org October 2013 and UK Reuters October 2014

Extract 8: An Industrialised China

After over three decades of double-digit rates of hyper-growth, China's economy in recent years has significantly slowed down, and this growth deceleration is set to continue. But the country's present economic slowdown has been much sensationalised by international media.

China's past dynamic growth had indeed been fuelled by significant technological progress associated with simple technology transfer from imported machines. But China today is no longer relying on technology imports. Its future productivity gains will have to come from its' own technological development.

China has already rapidly expanded its R&D activities, which reached 2.1 per cent of GDP in 2014, compared with 2.8 per cent for the US. In total terms, China's R&D spending is actually quite high, being the world's second-largest after the US. Not surprisingly, China has for several years in a row topped the world in filing the largest number of patents and inventions - some 2.7 million applications were registered in 2015 alone.

With nearly eight million new university graduates every year joining the ranks of the educated workforce and a vast industrial base that is becoming increasingly sophisticated, China is admittedly on track to develop a viable technological base that will eventually generate new sources of productivity increases to support its future growth.

In the meantime, the government has also stepped up its industrial restructuring efforts. Recently, it unveiled a bold "Made in China 2025" Master Plan (reportedly similar to Germany's "Industry 4" plan for its Fourth Industrial Revolution) to promote "intensive manufacturing". This is aimed at fundamentally transforming China's manufacturing sector from being a global giant in terms of volume and output to a leading manufacturing power in a quality and high-tech sense. The key slogan is to upgrade China's manufacturing industries from "Made in China" to "Created in China". The focus is on 10 crucial sectors, including information technology, robotics, large aircraft, new materials and biotech.

Adapted from Straits Times, February 2016

Questions

(a)		Compare the changes in the level of China's consumption, investment and net exports from 2009 to 2013 in Figure 2.	[2]
(b)		Explain why GDP growth is used as a measure of a country's economic performance.	[3]
(c)		With reference to Extract 5, explain the expected impact of China's devaluation on its exports revenue and comment on the extent of this impact.	[6]
(d)		Extract 6 states that 'ideally, Brazil would offset this fiscal contraction with looser monetary policy'.	
	i)	Explain how Brazil's fiscal policy would lead to a contraction of the economy.	[3]
	ii)	Explain how an expansionary monetary policy would 'offset' this contraction.	[3]
(e)	**i)**	Justify the type of unemployment that is observed in Extract 7.	[2]
	ii)	Explain why a government would be concerned with this type of unemployment.	[3]
(f)		Discuss the view that China's economic growth will slow over time.	[8]

Total: 30 m

Section B

Answer **one** question from this section.

3 Governments use subsidies for purposes ranging from increasing affordability of essential goods such as petrol to protecting domestic manufacturing industries.

(a) Explain the impact on market price and quantity of imposing a subsidy on a good with price inelastic demand such as petrol, and a good with price elastic demand such as electric cars. [10]

(b) Discuss the reasons for a government's protection of local industries. [15]

4 **(a)** Explain the causes of inflation in Singapore. [10]

(b) Discuss the view that supply-side policies are more effective than exchange rate-centred monetary policy in addressing inflation in Singapore. [15]

------ End of paper ------

Answers and Mark Scheme for VJC 2017 H1 Economics Preliminary Examination

Question 1

a) i)	**Describe the trend in the number of smart phones sold in the China market.**	**[1]**
	Rising trend. [1]	
ii)	**Using demand and supply analysis and the data, account for this trend.**	**[4]**
	Extract 1 highlights a change in taste and preferences as the Chinese gravitates towards smart phones. This has led to a rise in demand for smart phones. [2] Extract 1 highlights the proliferation of 400 brands in China which suggests an increase in the number of suppliers thus raising the supply for smart phones. [2] With a rise in both demand and supply, equilibrium quantity will rise, supporting the trend in (a)(i).	
b)	**Justify the difference in price elasticity of demand between phones produced by global leaders such as Apple and Samsung and those produced by Chinese firms like Meizu.**	**[3]**
	The price elasticity of demand (PED) for phones global leaders will be less elastic given that their superior branding ensures that phones produced by competitors are not thought of as close substitutes as suggested by Extract 1. On the other hand, the inability to distinguish their phones from the other Chinese brands suggesting greater availability of close substitutes renders the PED of their phones to be lower. *1m for identifying difference in PED* *2m for justification (need to relate to a PED factor for max marks)*	
c)	**With reference to Extract 2, explain the market failure associated with the consumption of electronic products.**	**[4]**
	The consumption and subsequent disposal of electronic products results in external costs imposed on those staying near the site of recycling and/or disposal. This is highlighted in Extract 3 where the contaminated water leads to the poisoning of residents who are not involved in consuming and disposing the products in the first place. The external cost is ignored by the price mechanism and leads to a divergence between MSC and MPC. The market equilibrium quantity is based on the intersection of the MPC and MPB curves as private firms and consumers only consider their private costs and benefits respectively. On the other hand, the social optimal level of consumption occurs where MSC=MSB as society accounts for all benefits and costs. This leads the market to fail as there is an overconsumption of electronic products where the market equilibrium quantity exceed the social optimal level of consumption. *1m for explaining the external cost on third parties in context.* *Up to 3m for explaining why the external cost results in market failure.*	
d)	**Comment on one solution that may be used to tackle market failure associated with the consumption of electronics products.**	**[6]**
	Extract 2 highlights the raising of public awareness as a possible solution. By making consumers aware of the harmful third party effects of e-waste, it may lead to a fall in demand for electronic products as consumers may avoid changing or acquiring new devices as frequently. This will lead to a fall in demand, shifting the MPB curve to the left given the change in tastes and preferences. The intersection of the new demand curve and the MPC will result in a lower market equilibrium quantity, thus reducing the level of overconsumption and improving allocative efficiency. Evaluation: The solution may not be particularly effective as consumption is heaviest in the developed countries and the issue is not so much about ignorance of third party	

	effects but rather an indifference towards the plight of these third parties. Such attitudes are resistant to change and thus much time is needed with no guarantee of success if the aim of raising public awareness is to target these attitudes. *Up to 4m for the analysis of one solution in tackling the relevant market failure* *Up to 2m for the evaluation of the solution*	
e)	**Explain the effect of the growth of the electronic waste recycling industry on the living standards of residents in Guiyu.**	**[4]**
	Employment generated by the e-waste recycling industry raises income of the residents in Guiyu. This increases their purchasing power for goods and services, thus raising their material standard of living. [2] On the other hand, the environmental and health side effects as stated in Extract 3 are external costs associated with e-waste recycling in Guiyu. This has lowered the non-material standard of living for the residents with the destruction of the environment they live in and the resultant impact to their health. [2]	
f)	**Assess the value of using the theory of comparative advantage to explain Africa's export of materials such as metals and plastics recycled from electronic waste.**	**[8]**
	Intro: The theory of comparative advantage states that mutually beneficial trade between countries is possible whenever one country has a comparative advantage at producing an item over another country, which means being able to produce an item at lower opportunity cost. Thesis: Extract 4 suggests that Africa may possess a lower opportunity cost than developed countries in recovering materials such as metals and plastics from electronic waste as compared to other countries. One possible reason for this is the low cost of labour in Africa which stems from its factor endowment of having a large pool of low skilled labour in the country. This is compatible with the theory of comparative advantage as defined above. Specialisation according to comparative advantage leads to an increase in world output and subsequent trade may allow countries to enjoy higher consumption possibilities as opposed to non-trade. Anti-thesis: 1. Africa's potential in exporting such materials may not stem from a supply-side reason as suggested by the theory of comparative advantage but rather differences in levels of demand between countries. Unlike more industrialised countries such as China, the local demand for such materials may be lower in Africa. Thus, recyclers can obtain a better price for these materials by exporting it to countries where such materials are more highly valued as raw materials for industrial production. As such the value of using comparative advantage to explain Africa's potential in exporting such materials is diminished. 2. Comparative advantage may also not justify Africa's export of such materials as the assumptions of the theory do not hold in the real world. One assumption that the theory ignores is the presence of transport costs. The low value of such recycled materials means that any relative cost advantages in terms of opportunity cost may be negated once factoring in the transport costs to export the materials to other countries, particularly those further away. Conclusion:	

	Stand: The theory of comparative advantage only holds limited value in explaining the potential Africa possesses in exporting recycled materials from electronic waste. Substantiation: This can be seen in that only highly valued materials such as metals are successfully exported (Extract 4) suggesting that the primary reason is demand rather than supply driven.	

Knowledge, Application, Understanding, Analysis		
L1	Some knowledge of comparative advantage but unable to apply it with sufficient accuracy to address question. OR Use of case evidence without economic analysis	**1 – 2**
L2	Descriptive explanation of the value of comparative advantage in addressing Africa's export of materials recycled from electronic waste OR One-sided analysis that fails to fully address the question	**3-4**
L3	Analysis of the value and shortcomings of comparative advantage in explaining Africa's export of materials recycled from electronic waste. Good reference to the case and/or over-arching context.	**5 - 6**
Evaluation		
E1	Weakly substantiated judgement.	**1**
E2	Well substantiated judgement based on sound economic analysis and context.	**2**

Question 2

(a)	**Compare the changes in the level of China's consumption, investment and net exports from 2009 to 2013 in Figure 2.** Both China's consumption and investment generally increased at a [1m], whereas her net exports had decreased from 2009 to 2013 [1m].	**[2]**
(b)	**Explain why GDP growth is used as a measure of a country's economic performance.** Gross domestic product (GDP) measures the <u>total value of final goods and services produced in a country over the period of one year</u> [1m]. GDP growth indicates a rise in real GDP, which are GDP values that have <u>been adjusted for inflation</u>, and this reflects a rise in the real quantity of output [1m]. <u>A higher growth rate</u> would then imply that actual output has increased at a greater rate, and thus the country that has a high real GDP growth rate, can be described to be <u>performing well as there would be a higher level of economic activity taking place. [1m]</u>	**[3]**

(c)	**With reference to Extract 5, explain the expected impact of China's devaluation on its exports revenue and comment on the extent of this impact.** <u>[A] China's devaluation on will increase its exports revenue [2m]</u> With a weaker yuan, Chinese exports will be cheaper when priced in US currency [1m] This will cause a rise in demand for Chinese exports (when valued in yuan) by US consumers and increase Chinese export revenue. [1m] **Any TWO of these evaluative comments = 2m+2m** <u>[A] The extent of the rise in exports revenue may be limited due to more expensive factor input [2m]</u> The weaker yuan will cause commodities that are priced in US dollar to be more expensive. From Extract 5: "A weaker yuan will raise the cost of commodities that are priced in US dollar, such as oil". [1m] The rise in the price of oil and other commodities will raise the cost of production of manufactured exports and this rise in cost will offset the increase in price competitiveness gained from the devaluation. [1m] Overall, the devaluation may not cause a significant rise in export revenue. <u>[A] China's devaluation may not be able to stimulate her exports revenue due to a loss in non-price competitiveness [2m]</u> There is also evidence that the fall in the demand for China's exports could be due to a deterioration in its non-price competitiveness [1m]. The quality of Chinese exports may be lower and may not be as technologically advanced as those goods that are produced by high income countries. Extract 1: "And they are also losing the competitiveness battle to high-income countries that produce higher-end, more sophisticated products." [1m] A weaker yuan while lowering the price of exports in foreign currency may not sufficiently increase quantity demanded as they are not sufficiently close substitutes to their competitors [1m]. Thus the extent of the rise in export revenue will be rather limited.	**[6]**
(d)	**Extract 6 states that 'ideally, Brazil would offset this fiscal contraction with looser monetary policy'.**	
i)	**Explain how Brazil's fiscal policy would lead to a contraction of the economy.** As highlighted in Extract 6, the Brazilian government plans to reduce government expenditure [1m] in order to reduce its budget deficit. However, this measure is regarded as a contractionary fiscal policy in which the fall in government expenditure results in a fall in AD [1m] and this will cause a fall in real national income causing a contraction in the economy. [1m]	**[3]**
ii)	**Explain how an expansionary monetary policy would 'offset' this contraction.** An expansionary monetary policy as suggested by Extract 6 will involve cutting the interest rate. [1m] With a lower interest rate, the cost of borrowing will fall. In addition, consumers will receive lower returns on their savings hence C will be encouraged. For firms, the expected rate of return will now be higher than the prevailing interest rate, thus	**[3]**

	investment opportunities that were not profitable previously now become profitable hence I will increase [1m for either the explanation for C or I]. The rise in C and I will cause AD to increase, causing a real national income to rise thus 'offsetting' the contraction [1m].	
(e) i)	**Justify the type of unemployment that is observed in Extract 7.** The type of unemployment that is observed in Extract 7 can be described as structural unemployment [1m]. There are insufficient high quality jobs in China to cater to its young educated job seekers. Many of the jobs available do not match the skills and the qualifications of these young educated jobseekers [1m], causing occupational immobility.	**[2]**
ii)	**Explain why a government would be concerned with this type of unemployment.** *Answers will need to cover <u>both short term and long term impact</u> as according to Extract 3, "high youth unemployment causes immediate and long-term economic damage"* <u>Short term impact (any one explanation = 2m)</u> A large number of unemployed graduates would mean that **resources are not being fully utilised, leading to wastage** [1]. The economy is operating only within its PPC -> there is a loss of potential output [1] or in other words, productive efficiency is not achieved. In addition, if these workers are not employed for a long period of time (Extract 3: they will need to seek help from the government for financial assistance, which is a **strain on the Chinese government's budget** [1]. The government may have less funds to spend on other sectors of the economy e.g. providing healthcare amenities which may affect the **material SOL of the citizens**. [1] <u>Long term impact = 2m</u> When these youths are unemployed for a long period, the skills that they acquire may be lower due to the lack of training and qualification, they will become less productive [1] as there is a long gap in their employment history. This may impact the country's productive capacity in the long run, causing a slowdown in the rise in AS curve and will cause a slowdown in potential growth. [1] **[2+2 = 3m]**	**[3]**
(f)	**Discuss the view that China's economic growth will slow over time.** <u>Thesis: China's economic growth will slow down over time</u> <u>Impact on actual growth</u> • Extract 5 states that China is facing rising costs due to shortage of workers, which will cause wages to be bid up. Should the rise in wages be accompanied by lower productivity, this will cause a rise in unit labour cost. The rise in the cost of production has made many MNCs to relocate to lower cost countries, causing a fall in the level of investment, and at the same time, China would lose its export price competitiveness. The rise in unit labour cost -> fall in AS as illustrated by an upwards shift in the horizontal AS curve -> a fall in real national output.	**[8]**

	• Also, there may be slower rise in the demand for Chinese exports due to the fact that she has lost some of her exports competitiveness to high-income countries as mentioned in Extract 5. Some of her products may be lacking in quality and workmanship. The slower rise in demand for exports due to these reasons would cause a slower rise in AD. • China's consumption of domestic goods may also experience a slow increase. This can be seen from figure 1, China's growth in consumption has been generally rising at a falling rate from 2009 onwards with the exception of 2013. This is further supported by the point in Extract 5 that mentioned even though some of the Chinese consumers have high income level, to allow them to buy higher-end products, but they do not wish to buy Chinese made products. This may impact domestic consumption adversely. Since there is an upwards shift in the horizontal AS, and a slow rise in AD -> the overall impact will be a slow rise in national income via the multiplier. <u>Impact on potential growth (possible but not required point)</u> • Should the problem of youth unemployment continues to be high as mentioned in Extract 7, there will be a serious impact on the quality of labour productivity. This is especially so when the Chinese universities are not enhancing the 'quality and employability' of the students. The lower productivity of the labour force may cause slower rise in AS curve as there is limited improvement in the quality of the country's labour force. The increase in potential output will be limited which may slow down potential growth. Anti-thesis: <u>China is able to sustain a strong economic growth</u> <u>China will able to boost her actual growth</u> • From Extract 8, China has expanded its R&D activities and has the largest number of patents and inventions, should these R&D activities translate into new innovative products, China will be able to boost her exports demand and generate more exports revenue. • Furthermore, China wants to develop its advanced technology sectors, allowing her to move up into a higher level of production chain, which will also attract foreign and domestic investments in such sectors. The rise in X and I will cause a rise in her AD and a rise in national income via the multiplier. • These new technologies will also help to improve production processes which will help to lower unit cost of production. At the same time, these inventions will help to boost labour productivity which will mitigate the problem of high cost due to the rise in wages -> unit labour cost will fall. The fall in cost of production will cause AS to rise as illustrated by the horizontal AS curve shifting downwards, resulting in a rise in real national income. Evaluation: However, China would need a highly skilled labour force to be absorbed into these high tech industries. Should the local universities not able to provide quality education that would meet the needs of such industries (Extract 7), there will be severe labour shortage, unit cost will not fall significantly and this will impede the development of these industries.	

China will be able to boost her potential growth (possible but not required point)

The increase in investments in high tech sectors will bring about new technologies which will expand the productive capacity of the economy, causing a rise in AS as illustrated by a rightward shift of the vertical AS curve causing a rise in potential growth.

Conclusion:
China's growth is unlikely to slow too severely given that the government's 'Made in China' Masterplan seeks to develop new areas of comparative advantage which will attract investors and address the lack of competitiveness of her exports which has contributed to China's slowing growth.
Ultimately the issue may boil down to the quality of education and training that the local universities will be able to provide the highly skilled labour force to complement the initiatives in the Masterplan. A closer partnership between the universities and the high tech sectors will be needed to ensure the skills of its labour force do not lag behind the needs of the evolving economy.

Knowledge, Application, Understanding, Analysis		
L1	Some knowledge of factors contributing to China's economic growth but not linked to the relevant macro goal(s) with sufficient accuracy to address question. OR Use of case evidence without economic analysis	**1 – 2**
L2	Descriptive explanation of both views pertaining to the slowing down of China's growth. OR One-sided analysis that fails to fully address the question	**3-4**
L3	Analysis of both views pertaining to China's slowly growth. Good reference to the case and/or over-arching context.	**5 - 6**
Evaluation		
E1	Weakly substantiated judgement.	**1**
E2	Well substantiated judgement based on sound economic analysis and context.	**2**

Question 3

Governments use subsidies for purposes ranging from increasing affordability of essential goods such as petrol to protecting domestic manufacturing industries.

(a) Explain the impact on market of imposing a subsidy on a good with price inelastic demand such as petrol, and a good with price elastic demand such as electric cars. [10]

(b) Discuss the reasons for a government's protection of local industries. [15]

(A)

Suggested outline:

Introduction:

The impact of imposing a subsidy on different markets will be considered in light of its impact on equilibrium price and quantity as well as total expenditure.

Body:

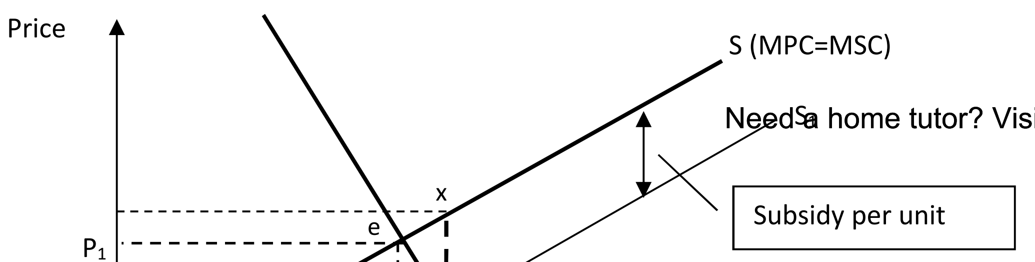
[A] A subsidy given to producers lowers the prices of subsidised goods and services and increases the quantity consumed.

[C +E] A subsidy is a form of payment made to producers by the government, not in exchange for any goods or services. With a subsidy, producers will experience a fall in their marginal cost of production as part of their production cost will be offset. Thus, subsidies increase the supply, resulting in a rightward shift in the Supply curve as shown in the diagrams below. Total subsidy is P_2XYP_3.

Subsidies are commonly given out for necessities such as petrol. The price elasticity of demand of these goods and services is likely to be less than 1 as not many close substitutes available for goods like petrol. The price elasticity of supply for petrol is also likely to be less than 1 as these producers are not likely to have a lot of spare capacity to increase production in the short term as discovery of new oil wells take time to be discovered and drilled .

When supply increases, there will be a surplus at the original price level P_3. As both demand and supply are unresponsive to changes in price, it will take a very large drop in price to eliminate the surplus. Consumers pay a lower price of P_2 while producers receive a higher price of P_3. The difference between P2 and P3 is the subsidy per unit petrol. Quantity sold and consumed increases to Q2.

The producer revenue increases with a subsidy from area P1eQ10 to area P3xQ20. Consumer expenditure falls from area P1eQ10 to area P2yQ20 as demand is price inelastic. When prices fall after the subsidy is given out, quantity demanded will increase less than proportionately. The increase in expenditure from a rise in quantity consumed is outweighed by the fall in expenditure due to the fall in prices consumers pay, leading to a fall in total expenditure.



P_3

Diagram 1: Good with demand that is price inelastic

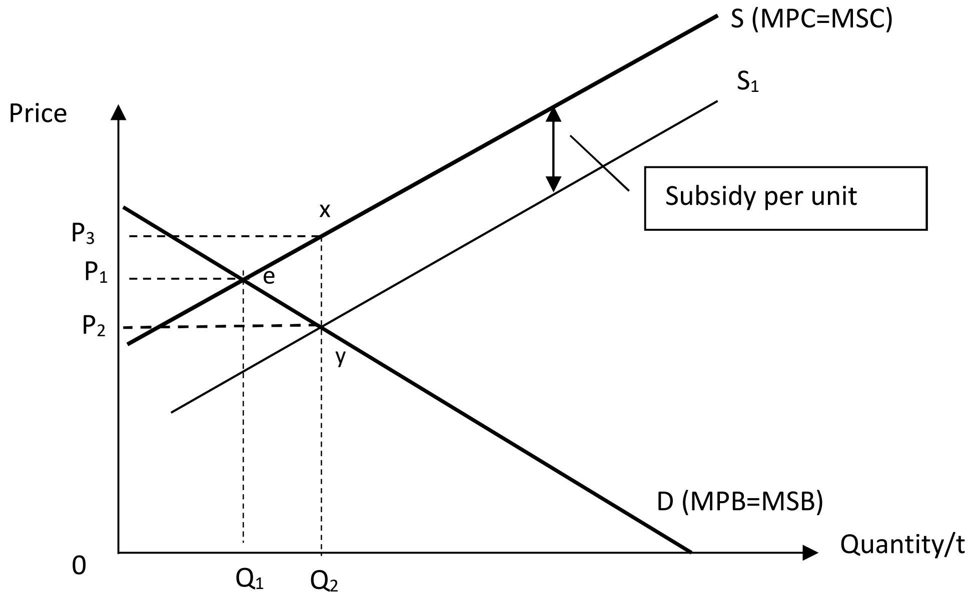


Diagram 2: Good with demand that is price elastic

Demand for electric cars is likely to be price elastic as electric cars are costly and form a large proportion of consumers' income.

As shown in the diagram above, the increase in equilibrium quantity is more than proportionate than the fall in price when demand is price elastic in contrast to when the demand is price inelastic. Consumer expenditure when demand is price elastic will rise as the increase in expenditure from a rise in quantity consumed more than offsets the fall in expenditure from a fall in prices.

Levels	Descriptors	Marks
L1	Answer shows some knowledge of subsidies. May contain some inaccuracies and does not address the question clearly.	1-4
L2	Descriptive explanation of the impact of subsidies on market. Max 7m for answers that do not address both elastic and inelastic demand, or impact on total expenditure/revenue.	5-7

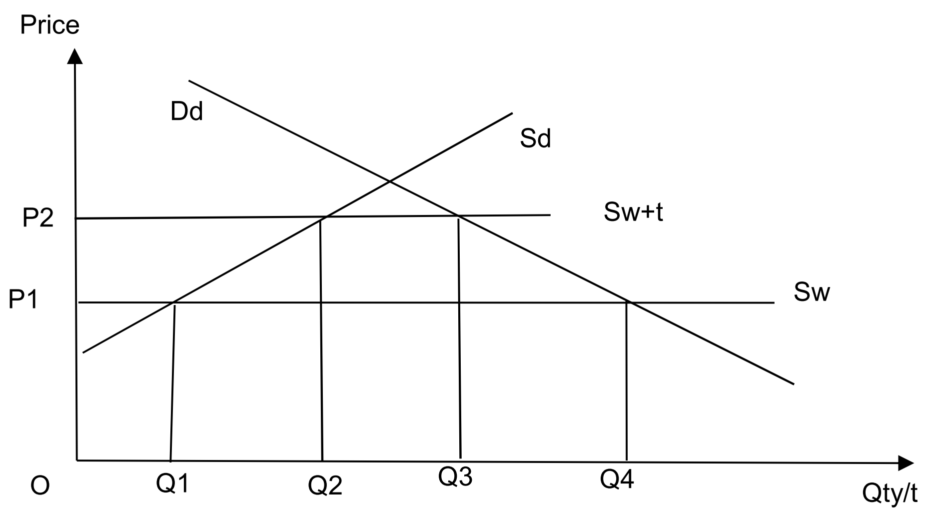
L3	Analysis of impact on equilibrium price and quantity as well as total expenditure/revenue of subsidies on goods with different price elasticity of demand.	8-10

(B)

[A] A government can protect an infant industry from foreign competition to enable it to develop comparative advantage over time

[C+E] Firms in infant industries are operating on a small scale and might not developed any comparative advantage yet.

[A] There may be industries in a country that are in their infancy which have a potential comparative advantage. This is particularly likely in developing countries. These industries are too small yet to have gained economies of scale. Without protection, these infant industries will not survive against competition from abroad. Protection from foreign competition will allow them to expand and become more efficient. Once they have achieved a comparative advantage, the protection can then be removed when they are able to compete internationally.



Consider the market for a manufactured goods such as textiles in a small, less developed country. Suppose initially free trade prevails and the world price of the good is P_1. At that price, consumers would demand Q4. However few domestic producers are able to compete at the world price and thus only supply OQ1. Thus Q2Q3 is imported. With protectionism such as a tariff, the world price will be raised to P2 thus allowing the domestic industry to increase its production to Q2. This allows the domestic industry an opportunity to expand despite international competition and possibly realise their potential comparative advantage over time.

[Eval] Possible points:

1. Protectionism may cause such industries to become contented and remain internationally uncompetitive and inefficient. Hence, the desired comparative advantage may not materialise.
2. Once protection is given, it is hard to remove. Vested interests are created, and the industries concerned would fight strongly against the removal of trade barriers. The government may also be unable to remove it, as it might be politically damaging to do

so, especially if they receive political funding from firms in such industries or if the removal of barriers will result in significant structural unemployment.

3. Such protectionism also potentially exposes the country to retaliation by her trade partners and the ‘beggar-thy-neighbour’ syndrome where trade partners demand less exports in return due to the adverse impact on their national income.
4. It is difficult for governments to identify the right industries to protect. Given the dynamic and unpredictable nature of the world, it is difficult to accurately identify the industry with the potential comparative advantage.

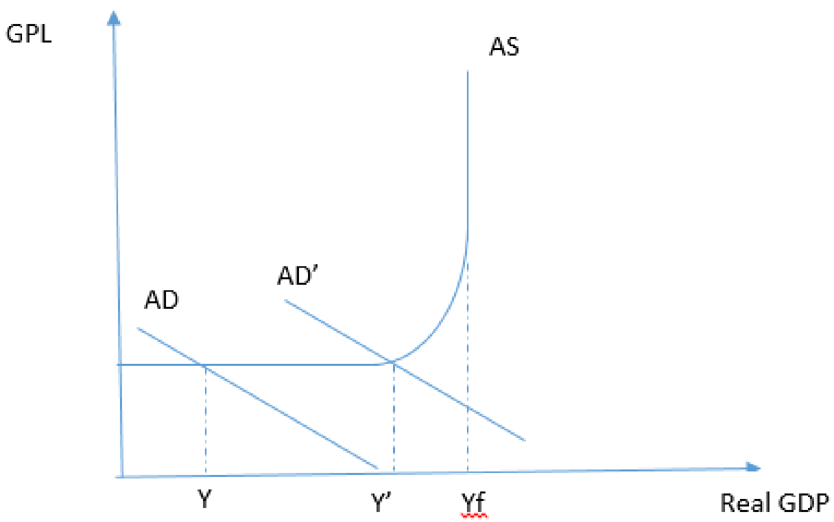
[A] Governments can also protect local industries to slow the decline of sunset industries in a bid to manage structural unemployment

[C+E] Protection may be given to these industries that having lost their comparative advantage. Such restrictions on imports can slow down the decline of the industry, providing time for labour to be retrained and re-channelled to other growing industries. This will reduce the incidence of structural unemployment which results because the unemployed lack the skills to move into other growing sectors. With reference to diagram above, the added production of Q1Q2 allows more labour to be employed.

[Eval] Such an argument makes sense when labour is immobile in the short run but tends to be more mobile in the long run. Thus, the opportunity cost of resources utilised for protectionism is lower in the short run compared to that in the long run. However, such protection may instead unnecessarily slow down the restructuring process, depriving the thriving industries of valuable resources.

[A] Governments can also protect local industries to protect employment of workers in these industries

[C+E] Trade restrictions may be used especially in times of recession to protect jobs in the domestic economy. The restriction of imports results in households substituting towards domestically produced goods and services which raises the Aggregate Demand from AD to AD’, when restrictions are applied across a wide range of imports. The resulting rise in real national output from Y to Y’ will generate jobs for the unemployed in such times. Given that Yf denotes the level of equilibrium income where resources in the economy are fully employed, the change in the output gap from YYf to Y’Yf suggests that the level of demand-deficient unemployment has also fallen.



[Eval] Possible points:

1. Ultimately, such a measure may turn out to be self-defeating. The fall in the output and income of the trading partners will result in a fall in their demand for the exports of the domestic country. This fall in domestic exports will then cause a fall in aggregate demand leading to a decline in the domestic output and income, thereby reversing the initial gains in employment.
2. Trading partners may also retaliate with similar restrictions, resulting in a loss of export demand for both countries. Ultimately, both countries will suffer from a contraction in their economy as trade levels shrink.

Conclusion:

Stand: While most of the reasons for protection discussed above possess validity for the short-run, they are typically inferior to other available policy options.

Substantiation: The reason lies in that most governments lack the political will to remove the protection once it has been given which leads to the detriment of the economy as discussed above. In addition trade partners may also impose trade restrictions on imports as a form of retaliation. Coupled with the beggar-thy-syndrome' where trade partners have less purchasing power to demand imports, the end-result is often the permanent reduction of trade and welfare. As such, protectionism is more often than not counter-productive and the problems of unemployment are often better dealt with using relevant demand and supply-management policies.

Levels	Descriptors	Marks
L1	Answer shows some knowledge of reasons for protectionism. May contain some flaws and/or fail to link adequately to the question.	1-4
L2	Descriptive explanation of the reasons why governments protect local industries.	5-7
L3	Analysis of reasons behind the protection of local industries by the government.	8-11
E1	Unsubstantiated or weakly substantiated judgement.	3-4
E2	Reasoned judgement(s) based on sound economic justification	1-2

Question 4

(a) Explain the causes of inflation in Singapore. [10]

(b) Discuss the view that supply-side policies are more effective than exchange rate-centred monetary policy in addressing inflation in Singapore. [15]

Suggested answer (a)

<u>Approach</u>

Students should identify the two main triggering causes of inflation in Singapore. The answer should therefore explain how cost-push and demand-pull inflation arise. Suitable diagrammatic analysis should be used to illustrate both types of inflation.

<u>Introduction</u>

Inflation happens when there is a sustained increase in general price level in a country. There are two main types of inflation: cost-push inflation which is caused by rising cost of factors of production, and demand-pull inflation which is caused by rising aggregate demand when the economy is at or approaching its full employment level of output.

<u>Body</u>

A: Cost push inflation in Singapore can be due to a rise in the prices of an internal factor input.

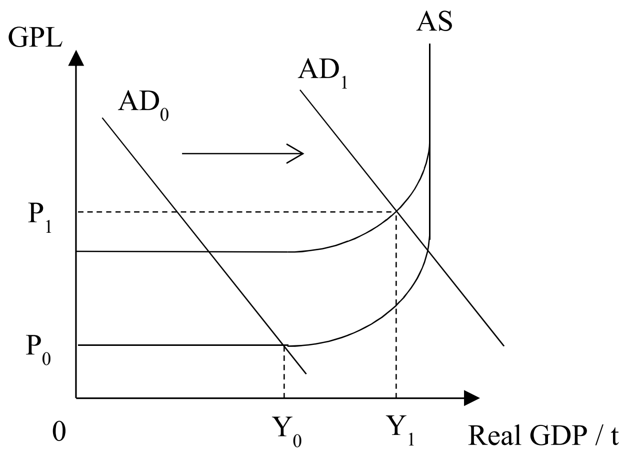
C/E: The continued increase in foreign worker levy by the government, an internal factor, is another cause of cost push inflation in Singapore. The rise in this levy leads to increases in unit labour cost. The rise in the unit cost of production results in a fall in AS as illustrated by a shift of the horizontal portion of the AS curve.

A: Cost-push inflation in Singapore can also be due to external factors.

C/E: A rise in price of imports, will cause imported inflation, a type of cost push inflation in Singapore. Singapore is a small country and lacks natural resources. Nearly every raw material is imported. Imports as a percentage of GDP is high. When prices of imported factor inputs such as food and oil increase due to supply shocks in their countries of origin, unit cost of production rises for the economy. Firms will then attempt to pass on this increase in unit cost to consumers. This leads to a fall in AD as depicted by a shift of the horizontal portion of the AS curve.

A: Inflation in Singapore may also be driven by demand-side reasons

C: With increasing demand for goods and services from the US, Japan and the Eurozone, possibly due to economic recovery after the global financial crisis and European debt crisis, it would mean an increased demand for Singapore's exports. This leads to a rise in export revenue for Singapore, ceteris paribus, and consequently an increase in AD through a rising X component. An increase in AD from AD to AD' would lead to an unplanned fall in firms' inventories, causing firms to increase production in response. With the Singapore economy being near full employment of its resources, as shown through the tightness in the labour market, a rising AD would then lead to firms having to incur higher marginal costs in increasing production as spare factors of production are not as abundantly available. Hence, this increased demand for Singapore's exports results in demand-pull inflation as firms pass on the higher marginal costs incurred to consumers in the form of higher prices.



<u>Fig. 1</u>

Referring to Figure 1 above, the fall in AS is collectively shown by the upward shift of the horizontal portion of the AS curve. Coupled with a rise in AD from AD to AD', the general price level rises from P_0 to P_1 due to a combination of cost-push and demand-pull inflation.

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	Must include accurate analytical explanation of both cost-push and demand-pull inflation with appropriate reference to the Singapore context. Accurate diagrammatic analysis is necessary. Max 10m if internal and external factors present.	8-10
L2	Descriptive explanation of cost-push and demand pull inflation. OR Analysis of only one type of inflation Max 7m if analysis is purely theoretical and does not account for the Singapore context entirely.	5-7
L1	Knowledge of cause(s) for inflation; statements largely unexplained.	1-4

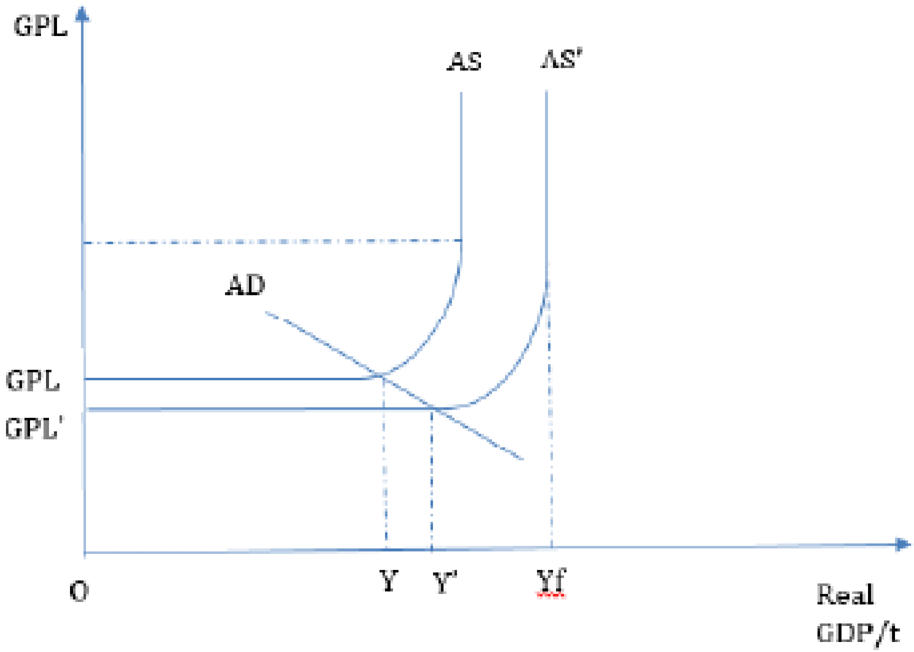
Suggested answer for (b)

<u>Approach</u>

Building on part (a) of the question, students should recognise that controlling inflation entails addressing both cost-push and demand-pull inflation. Students should analyse how exchange rate-centred monetary policy and supply-side policy can be used to tackle both types of inflation when relevant. This will form the bulk of the body of the answer. In-body evaluative comments can be provided to assess the effectiveness of each policy in tackling inflation though this should not be excessive due to the limited marks allocated. The key rather is in providing a comparative evaluation of the effectiveness of both policies in tackling inflation as stated by the question. This will likely be tackled in the conclusion.

A: SS-side policies are effective in managing inflation in Singapore

C/E: A critical factor for sustained growth is to increase labour productivity and overall TFP which can be done so through supply-side policies such as government spending on education, training and skills upgrading (E.g. Workfare Training Support Scheme (WTS), SkillsFuture credit scheme). These serve to boost the quality of labour thus increasing AS as depicted by a rightward shift of the vertical component of the AS curve. This aids to create excess capacity in the economy thus curbing demand-pull inflationary pressures. In addition, the rise in labour productivity will lower unit cost of production. The resultant rise in AS is depicted by an upward shift of the horizontal component of the AS curve. This aids to curb cost-push inflationary pressures. With reference to the diagram below, the rise in AS due to these policies will cause the AS curve to shift from AS to AS'. There is a resultant fall in the general price level from GPL to GPL' demonstrating the positive impact on inflation in Singapore.



Possible Ev:

- These schemes have a long gestation period and their success can also be dependent on the mindset of those being trained. With an aging population such as Singapore, workers can be more resistant to the notion of such training or may not be fully attentive during the sessions.
- With the fast evolving global economy, improvements made in the educational sector may not necessarily translate into necessary skills demanded by the economy when the students graduate due to the time lag involved.
- The fall in unit labour course due to training is dependent on wages remaining the same or rising by a small percentage.

A: Exchange rate policy is effective in managing inflation in Singapore

C/E: Exchange rate appreciation is useful in controlling both cost-push and demand-pull inflation in Singapore. The Monetary Authority of Singapore utilises a policy of gradual and modest appreciation of the Singapore dollar over the long term to control inflation, particularly cost-push inflation.

As the Singapore dollar appreciates against foreign currencies, the price of imports becomes relatively cheaper in domestic currency terms. Given Singapore's reliance on imported inputs, having relatively cheaper imported inputs helps to reduce the marginal cost of production for most firms. This results in a rise in AS as depicted by a downward shift in the horizontal component of the AS curve as seen in Fig. 1 which was used in part (a).

In addition, Singapore's exports would also become more expensive in foreign currency terms, leading to a fall in demand for Singapore's exports when valued in domestic currency. This lowers export revenue earned. With imports being cheaper in Singapore dollar terms, quantity demanded for imports will rise more than proportionately assuming the demand for imports is price elastic. This will lead to an increase in import expenditure. As export revenue falls and import expenditure rises, the (X-M) component of AD falls, leading to a decrease in AD as depicted by the shift in the AD curve from AD' to AD in Fig.1 used in part (a).

With reference to Fig. 1, the rise in AS and fall in AD due to the use of exchange-rate-centered monetary policy will lead to the general price level falling from GPL' to GPL, thus tackling inflation in Singapore.

Ev: The exchange rate appreciation may not sufficiently address inflation that is due to domestic sources. In Singapore's case, these are characterized by a tight labour market and low productivity growth.

Conclusion

Stand: The effectiveness of the policies boils down to the main cause of inflation that the government seeks to address in SG.

Substantiation: Exchange rate-centred MP is more effective in controlling inflation if it is caused by a rise in price of imported inputs which is often the key cause of inflation for a small and open economy like SG. But if the inflation is due to domestic cost-push inflation which has grown in prominence in recent years, supply-side policy would be more appropriate as a long-term solution. A stronger Singapore dollar may seem to be a stop-gap measure but will ultimately fail to address the root cause of the problem, allowing it to persist further. Supply-side policies will be needed to boost productivity to tackle those issues instead.

Level	**Knowledge, Application/Understanding and Analysis**	**Mark**
L3	Analysis of the mechanics of both policies in tackling inflation. Good consideration is given in applying the Singapore context to the answer. Max 9m if students fail to consider how the policies can tackle both types of inflation.	8 - 11
L2	Descriptive explanation of how both policies tackle inflation. Or analysis of one policy in tackling inflation. There may be little or no consideration of the Singapore context.	5 - 7
L1	Response shows some knowledge and relevance, and may be lacking in accuracy.	1 - 4
E2	Well substantiated judgement with good consideration of the Singapore context. Evaluation must consider the relative effectiveness of both policies.	3 - 4
E1	Weakly substantiated judgement of the effectiveness of both policies. There may be little or no consideration of the Singapore context.	1 - 2

YISHUN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATIONS 2017

H1 ECONOMICS **8819/01**

PAPER 1 **23 AUGUST 2017**
0800 – 1100 hrs

TIME 3 hours

Additional materials: Writing papers, cover pages

INSTRUCTIONS TO CANDIDATES

Write your name and CTG on all the work you hand in.
Write in dark blue or black pen.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use highlighters, glue or correction fluid.

Answer questions **1**, **2**, and **either 3 or 4**.

Start a new question on a fresh piece of paper.

At the end of the examinations, fasten all your work securely together.
Tie a cover page to **three** separate questions:
1. Case Study Question 1,
2. Case Study Question 2, and
3. Either Essay Question 3 or 4.

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

You are reminded of the need for good English and clear presentation in your answers.

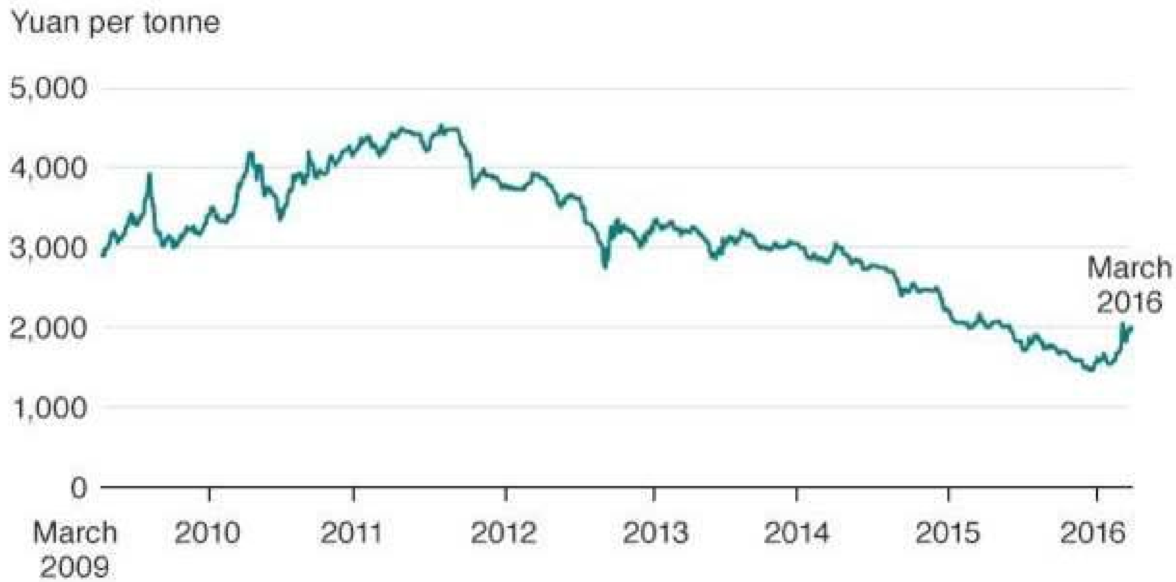
This paper consists of **8** printed pages, including this cover page

Section A

Answer **all** questions in this section.

Question 1 The Market for Steel

Figure 1: World price of steel



Source: Bloomberg

Extract 1: Global steel demand set to fall again in 2016: Worldsteel

Global steel demand will continue to fall this year before a slight pick-up in 2017, the World Steel Association forecast on Wednesday.

Falling demand has plunged the global steel market into crisis, with excess capacity taking a heavy toll on producers, including those in China - leading to plant closures and job losses.

Global apparent steel use - deliveries minus net exports of steel industry goods - is expected to fall 0.8 percent in 2016 to 1.488 billion tonnes after a 3 percent fall last year, according to Worldsteel.

China, which produces about half the world's steel, is under increasing international pressure to tackle a local supply glut that has led to accusations of China flooding markets with cheap steel. However, China is reluctant to do so as cutting industrial capacity will force China to lay off probably 1.8 million workers from steel and related sectors.

"The key to this year's figure is the decline in demand from China, which is responsible for half of the global demand, where a surplus in residential properties is a problem, but also weaker demand from Brazil and Russia," Worldsteel Director General Edwin Basson said.

Source: Reuters, 13 April 2016, the Straits Times, 8 March 2016

Extract 2: China tackles pollution woes

Worried by the social and political impact of pollution, China has vowed to crack down on lawbreaking companies and the local governments that protect them. As part of its war on pollution, China's traditionally underpowered environment ministry was granted new powers to send inspection teams to local regions without warning, and was also given the authority to summon senior provincial officials to explain their conduct.

During a nationwide investigation of 1,019 steel enterprises across the country, the Ministry of Environmental Protection inspectors found that 173 firms were found to have violated the country's environmental rules, with 62 firms involved in illegal construction and 35 exceeding state emission limits. 23 of the offending firms had been asked to cut production, while another 29 had been shut down temporarily to "rectify" their problems. Fines totaling 18.9 million yuan have been imposed and three officials have been detained.

Source: Reuters, 10 Oct 2016, South China Morning Post, 2 Apr 2017, FORES Study 2012:1

Extract 3: UK and EU urged to act on Chinese steel dumping after US raises duty on imports

Britain's steel trade body and unions have called on the UK and the EU to take urgent action to stop Chinese steel dumping, after the US government increased tariffs on imports of cold rolled steel from China to 522% from 266%. A spokesman for the Community trade union said that unfairly traded Chinese steel was hurting UK and European steel producers.

China's steel exports reached a record 112.4 million tonnes last year, up by 19% – but their value fell 10.5% to $62.8bn (£43.2bn) as a result of falling prices. This has led to a global steel glut, which has plunged European steel producers into crisis. UK steel factories have also been put up for sale, putting thousands of jobs at risk across the country.

In defiance of the US move, China, the world's largest steel producer, said it would push on with controversial tax rebates to steel exporters to support the sector's restructuring after a slowdown in demand at home.

China's ministry of finance said that the tax rebate policy on steel exports was to fund a costly capacity closure plan which it plans to eliminate 100 to 150 million tonnes of annual production – more than the amount US produces every year – over the next five years.

The US commerce department said that Chinese-made steel products, which totalled $272.3m in 2015 were being sold in the US at below cost with unfair subsidies. China, however, denies that its mills have been dumping their products in other countries, arguing that its steelmakers are more efficient.

Source: The Guardian, 18 May 2016

Questions

(a) **i)** With reference to Figure 1, describe the trend in the world price of steel between March 2009 and March 2016. **[2]**

ii) With reference to the case material and use of a diagram, explain the change in world price of steel in 2015. **[5]**

(b) **i)** Explain one example of negative externality which could result from steel production. **[2]**

ii) With the use of a diagram, explain how negative externality in steel production could lead to market failure. **[5]**

iii) Explain the measure undertaken by the Chinese government (from Extract 3) in tackling the negative externalities associated with steel production and discuss an alternative policy option the Chinese government could consider. **[8]**

(c) Discuss if UK and EU should adopt protectionist measures against Chinese steel in circumstances described in the case material. **[8]**

[Total: 30]

Question 2 **Economic Growth of China and Japan**

Table 1: Annual real GDP growth rates (%) for China and Japan

	2010	2011	2012	2013	2014	2015
China	10.6	9.5	7.9	7.8	7.3	6.9
Japan	4.2	-0.1	1.5	2.0	0.4	1.2

Table 2: Annual inflation rates (%) for China and Japan

	2010	2011	2012	2013	2014	2015
China	3.3	5.4	2.6	2.6	2.0	1.4
Japan	-0.7	-0.2	-0.1	0.4	2.8	0.8

Table 3: Components of GDP for China and Japan, 2015

	China	Japan
Private Consumption Expenditure (% of GDP)	38	56
Gross Fixed Capital Formation (% of GDP)	45	23
Government Consumption Expenditure (% of GDP)	14	20
Exports of goods and services (% of GDP)	21	18
Imports of goods and services (% of GDP)	18	17

Source: Worldbank.org

Extract 4: China economic growth slowest in 25 years

After experiencing rapid growth for more than a decade, China's economy has experienced a painful slowdown in the last two years.

It has come as the central government wants to move towards an economy led by domestic consumption, rather than one driven by exports and investment. Those two aspects now make up 50.5% of the economy, up from 48.5% in 2014. But managing that transition has been challenging.

Some argue that China's focus on creating an economy driven by consumption is misplaced. They say as the country attempts to rebalance its economy, it should focus on productivity in order to sustain high growth.

China's headline annual economic growth numbers are important, but so too are other economic data, as they can provide a more in-depth look at the economy and where it's heading.

"The health of the labour market, retail sales and industrial production data are all key indicators for growth," said Catherine Yeung from Fidelity International in a note.

Adapted from BBC News, 19 January 2016

Extract 5: Japan hit by weaker economic growth in the Second Quarter

Between April and June, economic growth slowed by 0.4% compared with the first three months of the year.

Lagging exports and sluggish consumer spending were the biggest contributors to the drop in growth. Japanese Economics Minister Akira Amari said the slowdown in GDP growth was due to weak export growth to China and the US, as well as poor consumer spending.

The disappointing economic growth follows a recent run of weak data including exports and factory output, raising doubts about the outlook for the rest of the year.

Adapted from BBC News, 17 Aug 2015

Extract 6: Japan announces more stimulus measures as economy struggles

In the three and a half years since he won the Japanese prime minister’s office on a pledge to rekindle economic growth, Shinzo Abe has tried many tactics to coax the economy into expanding. Tokyo's reform efforts, dubbed Abenomics, were kicked off in 2012. He persuaded the central bank to flood the country with cheap money. He sanctioned a sharp fall in the value of the yen, a boon for big exporters like Toyota and Panasonic. And he increased government spending, pouring cash into areas as varied as day care and defense.

The stimulus effort faces several obstacles. The government has struggled to implement policies to deregulate the job market and open up some of the country's very protected industry sectors, such as the farming and pharmaceutical sectors. Another bigger problem is the yen, which has strengthened over the years, cutting into the profits of Japanese exporters.

The result has therefore been well short of the renaissance Mr. Abe promised. Now his government is embarking on what may be its biggest spending program yet. About ¥3.5 trillion will be spent on social items like wage subsidies for people who leave work to care for children or aging relatives. But more will be spent on infrastructure, including the maglev train, which the government wants to help build between Tokyo and Osaka by as early as 2037, eight years earlier than a previous timetable.

Mr. Abe is not only betting that Japan can spend its way to growth, but that economic expansion will help the country claw its way out of a canyon of debt. Japan’s government debt is bigger than that of any other country, relative to the size of its economy.

Adapted from the New York Times, 2 Aug 2016

Questions

a) Compare the economic growth of China and Japan between 2010 and 2015. **[2]**

b) Explain how any **two** of the following data can be key indicators of economic growth: **[4]**
- Health of the labour market,
- Retail sales, or
- Industrial production.

c) Assess the possible costs and benefits of switching from "relying on external demand to domestic demand in generating growth" (Extract 4). **[6]**

d) With reference to Extract 5, explain why Japan has been experiencing slowing growth in the second quarter of 2015. **[4]**

e) Identify and explain two pieces of evidence you would need to determine the appropriateness of fiscal policy. **[6]**

f) With reference to the data where appropriate, discuss how current and future living standards are affected by Tokyo's reform efforts. **[8]**

[Total: 30]

Section B

Answer **one** question from this section.

3 **(a)** Explain, with the help of examples, the concepts of price elasticity of demand and supply. [10]

(b) Discuss the view that the best way for the Singapore government to respond to the existence of positive externalities is to implement a subsidy. [15]

4 **(a)** Explain why Singapore trades with both developed as well as developing countries. [10]

(b) Comment on the impact of globalisation on a small and open economy, like Singapore. [15]

END OF PAPER

Yishun Junior College
2017 JC2 H1 Economics
Paper 1
Preliminary Examination
Suggested Answers, Marking Schemes & Markers' Comments

Question 1

(a)	**i)**	**With reference to Figure 1, describe the trend in the world price of steel between March 2009 and March 2016.**	**[2]**

Suggested answer:

World price of steel generally rose between Mar 2009 to end 2011 before decreasing generally until Mar 2016.

	ii)	**With reference to the case material and use of a diagram, explain the change in world price of steel in 2015.**	**[5]**

Suggested answer:

World price of steel generally fell in 2015.

A fall in price could be due to decrease in demand and/or increase in supply.

Reason for the decrease in DD:

1) The decrease in global demand for steel stems from the fall in demand for steel from China, Brazil and Russia. And since China is responsible for nearly half the global metals demand, a decrease in demand from China due to slow-down in the construction industry will lead to a large (extent) fall in global demand.

Reasons for the increase in SS:

1) Overcapacity in China (Ext 1 P3) could have led to increase in SS or over-supply of steel to the world market. This can be seen from Ext 3 P4 that China government is aiming to shut down facilities producing 100 to 150 million tonnes annually by 2020.
2) China could also be dumping their steel into the global market. This will increase in SS of steel in the world market at low prices. This can be seen from Ext 3 P2 and 5 where China's steel exports reached a record 112.4m tonnes (19% increase) but value fell by 10.5% (prices would have decreased by approximately 30%)

(b)	**i)**	**Explain one example of negative externality which could result from steel production.**	**[2]**

Suggested answer:

1) Greenhouse gases emissions causing global warming

2) Air pollution affecting the health of population and visibility in country.

ii) With the use of a diagram, explain how negative externality in steel production could lead to market failure. [5]

Suggested answer:

1) Greenhouse gases emissions and air pollution are negative externalities which are negative spill-over effects on 3rd parties → MEC > 0. MSC = MPC + MEC → MSC > MPC
2) Since individuals only consider marginal private cost and benefit in their decision-making, market/private equilibrium will be when MPC = MPB → Ep → Qp
3) However, society welfare is maximised when MSB = MSC → Es → Qs
4) Since Qp > Qs → over-production of QsQp units. Between QsQp, MSC > MSB, summing up the whole area will give the deadweight loss.

iii) Explain the measure undertaken by the Chinese government (from Extract 3) in tackling the negative externalities associated with steel production and discuss an alternative policy option the Chinese government could consider. [8]

Suggested answer:

Measure undertaken = regulation (setting standards, emission limits or environmental rules)

Explanation of how measure work to tackle negative externalities:

- The Chinese government probably have 'calculated' the optimal level of emissions and in turn set emission limits for firms.
- Firms are supposed to abide by these limits and reduce their emissions through reduction in production or adopting cleaner methods of production.
- This will reduce the amount of negative externalities to the socially optimal level.

Alternative options = subsidy into R&D for cleaner production methods, taxation on emissions/production or others

- Explanation of how measure work to tackle negative externalities
- Evaluation of effectiveness of measure in tackling negative externalities
- Overall judgement

L1	Able to describe how both measures work or state some limitations or unintended consequences or able to explain clearly how existing measure work	1 – 2
L2	Able to explain clearly how both measures work only (1-sided) Or Able to explain how existing measure work and explain how alternative measure could be limited in effectiveness or unintended consequences (1-sided)	3 – 4
L3	Able to explain how existing measure work and explain and evaluate how alternative measure may or may not tackle the negative externalities	5 – 6
E	Able to provide value judgement on the overall effectiveness of alternative measure	1 – 2

(c)	Discuss if UK and EU should adopt protectionist measures against Chinese steel in circumstances described in the case material.	[8]

Suggested answer:

UK and EU governments should adopt protectionist measures against Chinese steel:

- There is a possibility of China dumping steel into UK and EU.

As highlighted in Ext 4, China's steel exports reached a record 112.4m tonnes (up 19%) but their value fell 10.5% as a result of falling prices. This has led to European and UK steel factories to close down and putting thousands of jobs at risk. The same could be said to have happened to US as well. Therefore, UK and EU government should adopt protectionist measures to protect their own producers from being driven out by foreign (unfair) competition.

In fact, Ext 4 further highlighted that Chinese-made steel exports enjoyed a tax rebate policy or the Chinese-made steel products have enjoyed unfair subsidies from the government.

- Protection jobs in the home industries

Regardless of whether there is fair competition (cheap imports due to CA) or unfair competition (cheap imports due to government subsidies). UK and EU governments should adopt protectionist measures to protect the jobs and incomes of workers in the steel industries. By ensuring that the local firms can withstand the foreign competition, production will continue and that will provide jobs and income for UK and EU steel workers.

- Environmental concerns (can accept, but this wasn't presented in the notes)

UK and EU governments may adopt protectionist measures against Chinese steel for environmental reasons. It is quite clear from Ext 2 and 3 that Chinese steel firms are highly pollutive. Some more argue that the low prices could be the result of lack of adoption of cleaner but expensive production methods. Therefore, by putting (for example) a tariff on Chinese steel, the quantity demanded for Chinese steel will fall and lesser pollution will be created.

UK and EU governments should not adopt protectionist measures against Chinese steel:

- China may have the comparative advantage in steel production or UK and EU do not have the comparative advantage

Ext 2 mentioned that there is overcapacity of steel output in country. This could be due to China's factor endowment in cheap low-skilled workers or low-cost land which has resulted in lower opp cost of production. As mentioned above, the older (but dirtier) production methods could also be cheaper. Therefore, China may indeed have the comparative advantage in steel production.

What more, if US should impose 522% tariff on Chinese steel, clearly the opp cost for producing steel in US is way higher than China. And since UK and EU are similar in the stage of economic development as US, UK and EU are not likely to have the comparative advantage in the production of steel.

Overall judgement

- It is probably true that China indeed has the comparative advantage in steel production and importing the cheaper steel into UK and EU will benefit the steel users or importers.
- Also, the argument that China is dumping their steel is difficult to ascertain due to lack of information on the actual marginal cost of production.
- And if UK and EU should protect against Chinese steel, it could invite retaliation by China which will adversely impact UK's and EU's exports to China.
- Therefore, EU and UK should not adopt protectionist measures against Chinese steel.

L1	able to describe the case for and against protectionism	1 – 2
L2	Able to explain clearly the case for OR against protectionism (1-sided)	3 – 4
L3	Able to explain clearly the case for AND against protectionism (2-sided)	5 – 6
E	Able to provide value judgement on whether protectionism should be implemented	1 – 2

Question 2

a	**Compare the economic growth of China and Japan between 2010 and 2015.**	**[2]**

Suggested Answer

- Direction: Both generally decreased (similarity)
- Sign: Both countries generally experienced positive growth, except Japan in 2011 (difference)
- Level: China has higher economic growth than Japan throughout/always (difference)
- Volatility: China's experienced a steady decrease in economic growth whereas Japan's economic growth tended to fluctuate (difference)

b	**Explain how any two of the following data can be key indicators of economic growth:** • **Health of the labour market,** • **Retail sales, or** • **Industrial production.**	**[4]**

Suggested Answer

Shows link of indicator to economic growth

- Health of the labour market
  - employment rate - increase in employment, increase household income and purchasing power and hence consumption, indicating stronger economic growth
  - with stronger economic growth, there is more production. As firms increase production, the demand for factors of production would increase, resulting in higher employment rates
- Retail sales
  - strong retail sales signals strong consumer confidence - in turn give rise to investor confidence - suggest higher C and I, higher AD and hence economic growth
  - with stronger economic growth, there is more production. As firms increase production, the demand for factors of production would increase, resulting in higher employment rates and increase in purchasing power, leading to higher retail sales
- Industrial production
  - strong industrial production signals strong consumer demand, leading to stronger economic growth
  - with stronger economic growth, there is more production. As firms increase production, industrial production increase

c	**Assess the possible costs and benefits of switching from "relying on external demand to domestic demand in generating growth".**	**[6]**

Suggested Answer

Switching from relying on external demand to domestic demand refers to China adjusting the driver of economic growth from export revenue to domestic consumption.

Costs:

- Slower growth in the short run as producers change production outputs to suit local tastes – the increase in domestic consumption may be slow as household income are still low in many China cities, while export revenue may not increase as rapidly as before. This may lead to a slower increase in AD, leading to slower actual growth in the short run as the

economy adjusts.
- May need to restructure the economy due to different taste and preferences between domestic and foreign demand, leading to structural unemployment
- In the short run, the balance of payments may deteriorate as the export revenue may rise more slowly now (compared to before the switch) or even fall, leading to a deterioration of the current account in the short run.

Benefits of focusing on domestic demand:

- More stable economic growth/Less cyclical unemployment: less vulnerable to external shocks in the long run: China has large domestic market, or domestic market consumption (C) tends to be more stable compared to external demands and FDI.
- Less structural unemployment: Domestic taste and preferences more stable than demand patterns of export markets - less structural changes needed
- Potential for future actual growth: Current C/GDP in China is 38%, hence there is potential for increase in this ratio to bring about greater economic growth

Overall assessment

The costs of adjustment are likely to occur in the short run, but the benefits of adjustment are more likely to be seen in the long run. Overall, the impact on the economy is likely to be positive in the long run, if China is able to make the switch successfully.

d With reference to Extract 2, explain why Japan has been experiencing slowing growth in the second quarter of 2015. [4]

Suggested Answer

1. Slow increase in X or C (extract 6) – weak exports, poor consumer spending or Slow increase in I – raising doubts of outlook (for identifying the component that is affected)
2. AD increases slower than before
3. Adjustment process –
   a) unplanned running down of stocks → firms increase production but at a slower rate → employment, factor income increases at a slower rate
   b) national income increases at a slower rate, hence slowing actual growth via the multiplier process

e Identify and explain two pieces of evidence you would need to determine the appropriateness of fiscal policy. [6]

Suggested Answer

Effectiveness

- Size of multiplier
- Size of C, I, G as a proportion of GDP
- Crowding out effect
- Time lag
- Root cause of problem
- Business / consumer outlook

Feasibility

- Size of government debt
- Unintended consequences

f	**With reference to the data where appropriate, discuss how current and future living standards are affected by Tokyo's reform efforts.**	**[8]**

Suggested Answer

Tokyo's reform efforts include expansionary monetary policy, devaluation of the Yen, increased government expenditure, and supply-side policies to deregulate the job market and open up some industries.

Material:

- Wage subsidies for work leavers – increases household income of the group – increase purchasing power – able to consume more goods and services
- Increase in factor income for factor owners of construction and other firms who received infrastructure construction projects from the government. Induced consumption leads to multiple rounds of income expansion via multiplier effect.
- The devaluation of the yen may lead to increased NX, increase in AD and hence increased national income – higher purchasing power of households and therefore an improvement in material SOL. On the other hand, the devaluation will also increase import prices in Yen and would reduce the ability of Japanese to purchase imports, reducing the material well-being of the Japanese.
- <LT> Increase in productive capacity – possible for economy to produce more goods and services in the future - extent of this depends on suitability of current investment <e.g. usefulness of maglev train?> and how much capacity can be taken up in the future
- <LT> Increase in debt burden may lead to increase in taxation – if increase in tax is more than increase in income (assuming policy is successful), households' disposable income may instead fall

Non-material:

- Children and aging relatives who received care from work leavers
- Negative externalities – noise/air pollution from construction <construction brought forward by 8 years>
- <LT> Improvement in social infrastructure – ease of living

L1 (1-2)	Give an account of the reform efforts, and a listing of either: • the impact on current or the future only • the positive or negative impact
L2 (3-4)	For an explanation of either: • the impact on current or the future only • the positive or negative impact
L3 (5-6)	For a balanced explanation of both the positive and negative impact on standard of living in the short and long run.
E (1-2)	For an overall judgement of the impact on standard of living.

Question 3

a)	**Explain with the help of examples the concepts of price elasticity of demand and supply.**	**[10]**
b)	**Discuss the view that the best way for the Singapore government to respond to existence of positive externalities is to implement a subsidy.**	**[15]**

Part a)

Suggested Answer

Introduction

Define the concepts of price elasticity of demand (PED), price elasticity of supply (PES)

- [Definition] PED – measures the responsiveness of quantity demanded of a good to a change in its price, ceteris paribus.
- [Definition] PES - measures the responsiveness of quantity supplied of a good to a change in its price, ceteris paribus.

Body

Explain PED with the help of examples

- [Sign] PED is always negative because the law of demand states that the quantity demanded of a good or service is inversely related to its price. An increase in price will lead to a fall in the quantity demanded, ceteris paribus.
- [Magnitude] The magnitude of the coefficient of PED is dependent on factors like availability and closeness of substitutes and proportion of income spent on the good.
- [Factors affecting PED / Example] For goods with few or no close substitutes and take up a relatively small proportion of income, demand for salt / water is relatively price inelastic. Even when the price of water rises, consumers will not be able to switch to another alternative, hence the quantity demanded will fall less than proportionately.
- [Factors affecting PED / Example] Demand for cars is generally price elastic. As cars take up a large proportion of income and there is a low need for the good, if the price of a car increases by 50%, it is more likely to affect a consumer's spending ability by a large extent as the expenditure on car takes up a large proportion of their income spent. Thus, he will more likely respond to changes in price of cars as compared to salt.

Explain PES with the help of examples

- [Sign] PES is always positive because the law of supply states that the quantity supplied of a good or service is directly related to its price. An increase in price will lead to a rise in the quantity supplied, ceteris paribus.
- [Magnitude] The magnitude of the coefficient of PES is dependent on factors such as availability of spare capacity and factor mobility.
- [Factors affecting PES / Example] If producers of manufactured products such as tyres, canned food, frozen poultry and stationery are able to keep finished goods as unsold stocks (i.e. inventories in the warehouse), the quantity supplied will be more responsive to changes in price as the producers can draw down on the inventories to meet the increased demand. The greater the availability and durability of unsold stocks, the more price elastic the supply of the good will be.

- [Factors affecting PES / Example] Producer of goods which are not so durable in nature are unable and unwilling to keep too much unsold stocks in their warehouse and hence the supply is less price elastic. For example, fresh produce (e.g. vegetables turn yellow, fresh poultry turns bad after a few days) and computer chips or electronic gadgets (may become obsolete after a few months).

  Or
- [Factors affecting PES / Example] The greater the factor mobility or the ease of switching factors inputs away from producing alternative products, the more price elastic the supply of the good. This is because many producers usually produce a range of products and if they are able to switch factor inputs such as machines and labour from one type of production to another, the quantity supplied of the good will be more responsive to changes in price.
- For example, sewing machines and labour can switch from sewing clothes to sewing curtains.
- [Factors affecting PES / Example] However, if the factors inputs are not mobile, producers will not be able to transfer factors input (away from other production) to increase quantity supplied of the good (whose price has increased). For example, a factory plant producing steel cannot be used to produce copper.

Marking Scheme

L3	For a thorough and well-developed explanation on the concepts of price elasticity of demand AND price elasticity of supply with appropriate examples provided and explained. For full L3 marks, answer must have defined and explained, with the use of examples, the respective signs (positive / negative) and magnitudes of price elasticity of demand AND price elasticity of supply (i.e. explanation of PED<1, PED>1, PES<1 and PES>1).	7 – 10
L2	For an under-developed explanation on concepts of price elasticity of demand AND price elasticity of supply. May contain some conceptual errors but appropriate economic concepts used. Some examples provided but not well-elaborated, i.e. did not make use of the examples to explain the determinants / factors affecting the magnitude of price elasticity demand and / or supply. Or Well-developed explanation with the use of relevant examples of EITHER price elasticity of demand OR price elasticity of supply.	5 – 6
L1	Question requirements are interpreted inaccurately with inappropriate application of economic concepts, theories and principles. Economic analysis is inaccurate and diagrams used are inappropriate or wrong. There is no attempt to support analysis by illustration with examples or illustration with examples is inaccurate.	1 – 4

Part b)

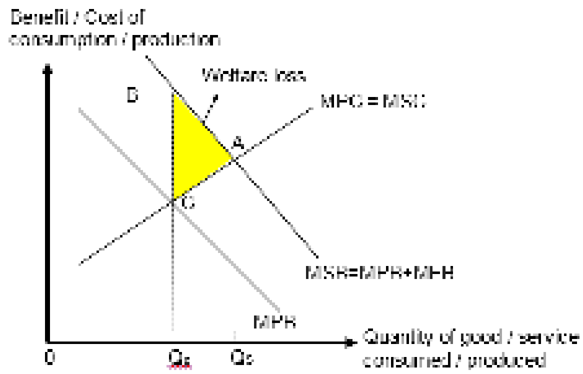
<u>Suggested Answer</u>

Introduction

Explain positive externalities and the need for government intervention in a market where positive externalities exist.

Body

Briefly explain how the existence of positive externalities arising from the consumption of medical services may lead to market failure



- Economic agents maximise their own self-interest. As consumers only take into consideration the MPB (i.e. the medical expenses saved, stronger health, etc.) and MPC (cost of the vaccination, etc.) when consuming medical services (e.g. vaccination against tuberculosis), consumption will be at the private optimum level 0Qp where MPB = MPC.
- However, when a person consumes medical services, in addition to the MPB, his / her consumption may bring benefits to others. Third parties like family members and neighbours staying with or near this consumer may enjoy benefits such as saved medical expenses or healthier community which may bring about economic growth as the vaccination may prevent them from contracting tuberculosis. Hence, the existence of MEB will result in a divergence between MPB and MSB.
- At the private optimum level of output 0Qp where MPB = MPC, society values an additional unit of the good consumed more than what it would cost the society to produce it. As such, more medical services should be consumed. The socially optimal level of output is at 0Qs where MSC = MSB, where net social benefit is maximized.
- Thus, if left to the free market, there will be an under-consumption of medical services, by QpQs. Between Qp and Qs, MSB is greater than MSC. Hence, the economy will reap additional benefit or welfare if it increases its consumption by QpQs. By summing the excess of MSB over MSC for the units QpQs, we arrive at a monetary measure of welfare loss of area ABC to the society. There is an under-allocation of resources in the market for medical services.

Discuss how subsidies (e.g. cash grants, vouchers, etc.) work to correct market failure due to the existence of positive externalities from the consumption of medical services

- How policy works
  - The government can implement a subsidy that is equal to the MEB at the socially optimal output level, 0Qs.

- The subsidy given will decrease the MPC of consumption of medical services which will lead to the consumers internalise the external benefits.
- The subsidy will shift the MPC curve parallel downwards by the full amount of the tax, until it coincides with MSC. The socially optimal output 0Qs is achieved.
- Examples: National Childhood Immunisation Programme (NCIP), Community Health Assist Scheme (CHAS) to help provide accessible and affordable medical care to Singapore Citizens

- Evaluation of policy
  - Advantages - Allow markets to operate according to market forces and allows for flexibility in that the level of subsidy can be changed according to the level of externalities. Certain vaccinations, e.g. tuberculosis, hepatitis B, etc. are fully subsidised while other vaccinations, e.g. influenza are only partially subsidised.
  - Disadvantages – (Lack of information) Many effects of the positive externalities are not measurable and hence it is difficult and impossible to find the 'right' amount of subsidy which will enable the market to consume the socially optimal output. Government intervention may distort market mechanism. Subsidies may allow inefficient firms to survive and regulation such as price floor or ceiling may lead to persistent shortages or surpluses.
  - Consequences / side effects - Providing subsidies translates into government expenditure, which may be a drain on government resources. By subsidising the consumption of medical services, the government has to direct resources away from other areas of concern.

Discuss how legislation / direct provision works to correct market failure due to the existence of positive externalities from the consumption of medical services

- How legislation works
  - The government can require citizens to consume medical services like vaccinations. If the legislation is passed such that consumption is at level 0Qs, then socially optimal level of output will be achieved.
  - The National Childhood Immunisation Programme (NCIP) in Singapore covers vaccination against tuberculosis; hepatitis B
- Evaluation of legislation
  - Advantages - Legislation are clear and easier to implement as well as easy to administer
  - Disadvantages – Administrative cost in the form of law enforcement and monitoring to ensure consumers abide by the legislation

- How direct provision works
  - The government may directly provide medical services to supplement the amount provided by the market. The government may provide at no charge (direct provision) or at subsidised rates (joint provision) to the consumers. The local community other than the consumers can benefit substantially. If a person decides to get a vaccination against tuberculosis, others benefit by not being infected. A free or affordable medical service provided by the government thus helps to combat the spread of diseases. If not, there may be an under-consumption of such healthcare services.
- Evaluation of direct provision
  - Advantages - This is a direct way of intervening and ensuring that consumption level will be increased to be at/closer to the socially optimum level, 0Qs. Direct provision by the government may also result in better quality of goods and services since the

government is able to closely monitor the service and production standards.

- Disadvantages - May result in inefficiency as the government may be subject to government failures as well. Government provision is often plagued by bureaucracy and red tapes, which cause them to be inflexible and inefficient. Furthermore, government provision may not be accountable to shareholders and hence tend to be less concerned with minimising cost and maximising efficiency. Once again, public provision which is financed by taxes may undermine efficiency.

Evaluative conclusion:

Implementation of a subsidy is / is not the best way for the Singapore government to respond to existence of positive externalities.

Possible evaluation points:

- **F**easibility of implementation of subsidy depends on the health of the government budget
- **E**ffectiveness of subsidies depends on the nature of the good / service, i.e. price elasticity of demand more / less than 1
- **S**ustainability of subsidising
- Other considerations: equity
- Possibility of government failure due to administrative costs, information gaps and time lags resulting from red tape and bureaucracies

Marking Scheme

L3	Developed analysis on how an implementation of subsidies can correct market failure due to the existence of positive externalities. Answer also adequately evaluated the advantages and disadvantages of subsidies, explained and evaluation one other policy (legislation / direct provision) that may be better in correcting the market failure due to the existence of positive externalities. For full L3 marks, answer must have: - Explained how subsidies work - Evaluated both the advantages and disadvantages of an implementation of subsidies - Explained how legislation / direct provision work - Evaluated both the advantages and disadvantages of legislation / direct provision	9 – 11
L2	For an answer that explained at least 2 policies and the advantages/disadvantages, with one being subsidies but lacking in depth of analysis (i.e. limited reference to the cost-benefit framework and no use of examples). OR For an answer that explains how subsidies work to correct market failure, including its advantages and disadvantages. For L2 - 8m, answer must have at least: - Explained subsidies and alternative policy as well as explained	6 – 8

	either at least 1 advantage / disadvantage for both policies or only the advantages and disadvantages of any one policy. OR - Explained subsidies and both advantages and disadvantages		
L1	Answer lacks depth / is descriptive, and/or contains too many errors. For an answer that only explains how the market fails with the existence of positive externalities.	1 – 5	
E2	Evaluative comments are well-explained and supported by economic analysis.	3 – 4	
E1	Evaluative comments are unexplained or not supported by economic analysis. E.g. superficial conclusion based on the analysis by merely repeating or summarising.	1 – 2	

Question 4

a)	**Explain why Singapore trades with both developed as well as developing countries.**	**[10]**
b)	**Comment on the impact of globalisation on developing and developed countries.**	**[15]**

Part a)

Suggested Answer

The Theory of Comparative Advantage

- Countries relatively rich in land and natural resources (usually the developing countries) have a lower opportunity cost in the production of goods and services that require such raw materials and thus, tend to specialise in the production of agricultural products for trade
- On the other hand, countries rich in capital and skilled labour (e.g. Singapore and the developed countries) have a lower opportunity cost in the production of goods and services that require such raw materials thus, tend to specialisation in industries that are capital intensive, such as as aeroplanes and industrial machinery
- Based on the theory of comparative advantage, if a country specialises in the production of a good where they have a lower opportunity cost, and export this in exchange for a good where they produce at a higher opportunity cost, then there will be an increase in economic welfare for both economies.
- This is because Singapore is a country with a relatively skilled workforce but scarce land resources, and thus the economy is largely centred on capital and knowledge intensive production.

Benefits that can be derived from economies of scale

- Production for a larger market would also allow producers to enjoy economies of scale (internal/external) leading to lower unit cost.
- Singapore trades with countries like China and the United States because of their larger population size, and hence we are better able to enjoy the benefits of economies of scale
- The result is lower prices and larger volume of goods for both local and foreign consumption.
- Signing of more FTAs – govt policies to open up the economy → enables more trade with both countries → developing countries have growing income, while developed countries are at a stronger income level and more able to purchase goods and services → stimulates X as an engine for growth

Variety

- Brand names and other forms of product differentiation with real or imagined differences in quality may prompt exchange of goods between countries.
- For example, Singapore may trade with countries like Japan and the United States for consumer electronics in order to increase the variety of goods available in Singapore.
- With trade, there is greater consumer choice and greater satisfaction of wants.

Marking Scheme

L1	Answer has many conceptual errors or is very brief	1-4
L2	A general explanation that does not link back to developing or developed countries	5-6
L3	A well-explained answer which differentiates between developing and developed countries, with good examples	7-10

Part b)

Suggested Answer

In goods and services

- globalisation encourages international specialisation based on comparative advantage and thus, a higher material SOL
- However, with globalization, the economies are now more vulnerable to external shocks e.g. a global recession affects the countries' level of net exports and hence, their economic growth
- Rapid growth may also lead to the lowering of environmental standards as there is more pollution accompanying the increased production → this may result in the fall of non-material SOL

International capital flows

- countries have benefited from the inflow of technology especially from developed countries.
- These foreign investors bring their technology and capital equipment with them when they decide to set up production plants in other countries
- this allowed the countries to speed up the pace of economic growth.
- They will eventually require labour to begin and sustain production, hence helping to increase the level of employment in these countries.
- However, should foreign investors decide to shift production over to another countries, there could be massive unemployment.

International movement of labour

- Exporters may have lost their competitive edge against many emerging countries where labour costs are substantially lower.
- Workers who are displaced from these industries may be unable to gain employment in industries with comparative advantage because of the lack of necessary skills.
- Hence, structural unemployment result.
- With international labour mobility, there is an increase in demand for skilled workers and increase in supply for lower skilled workers.
- The result is higher wages for those with relevant skills while lower wages for those who are displaced → leads to widening income gap.

Conclusion

- As a small and open economy, while Singapore may benefit from a larger external market to grow our economy, there are also associated problems such as the relocation of MNCs overseas

- As such, the government should implement supply-side policies to ensure that the benefits would outweigh the cost of globalisation

Marking Scheme

L1	Answer with many conceptual errors or is very brief, without explicit link to economic aims or economic framework.	1-5
L2	An explanation that addresses only one aspect of globalisation (goods and services, capital or labour) and is one-sided.	6-8
L3	An explanation that addresses at least two aspects of globalisation (goods and services, capital or labour) and is balanced.	9-11
E1	Some attempt to come to a judgement	1-2
E2	Judgment is well-explained e.g. discussion on the extent of impact on an SOE	3-4

ANDERSON JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2017

Higher 1

ECONOMICS 8819/01

Paper 1 **29 August 2017**

Additional Materials: Answer paper **3 hours**

READ THESE INSTRUCTIONS FIRST

Write your name, PDG and index number in the spaces provided on all the work you hand in.

Write in dark blue or black ink.

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.

Begin your answer to each question on a fresh sheet of writing paper.

Fasten your answer to each question **separately.**

Fasten **this cover page** in front of your answers **to Question 1.**

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

Name ______________________________ (   )

PDG ______/16

Question Number	Marks Awarded
1	/ 30
2	/ 30
3 / 4	/ 25
Total Marks	

This document consists of **8** printed pages and **1** blank page.

[Turn over]

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Section A

Answer **all** questions in this section.

Question 1

Challenging times ahead

Extract 1: UK economic growth has slowed dramatically, latest survey suggests

Britain's economy is losing momentum, knocked by weaker household spending and worries about the global outlook, according to the latest in a string of downbeat business surveys.

Business activity grew at the slowest pace for more than two years in Britain's dominant services sector last month, according to the closely watched Markit CIPS PMI report. "Weakness is spreading from the struggling manufacturing sector, hitting transport and other industrial-related services in particular. There are also signs that consumers have become more cautious and are pulling back on their leisure spending, such as on restaurants and hotels," said Chris Williamson, chief economist at survey compilers Markit.

"Wider business service sector confidence has meanwhile also been knocked by global economic worries and financial market jitters." The pound weakened against the euro and the dollar after the report, which economists saw as providing further reason for the Bank of England to hold off raising interest rates from 0.5%.

Source: The Guardian 5 October 2015

Table 1: Key Economic Indicators in 2015

Indicators	UK	China	Singapore
Nominal GDP growth (annual %)	2.2	6.9	1.9
Inflation rate	0.05	1.4	-0.5
Exports as a % of GDP	27.6%	21.9%	177.9%
Imports as a % of GDP	29.2%	18.4%	152%

Source: The World Bank Data

Table 2: UK's trade with selected countries in 2015

Countries	UK's exports to (£) (Rank)	UK's imports from (£) (Rank)
United States	96.4bn (1st)	59.3bn (2nd)
China	16.7bn (8th)	38.4bn (3rd)
Japan	10.5bn (11th)	9.6bn (14th)
Germany	48.5bn (2nd)	70.4bn (1st)
Singapore	7.1bn (17th)	3.9bn (27th)

Source: Office for National Statistics; www.visual.ons.gov.uk

Extract 2: China pledges policy support to economy, reform in 2016

China will make its monetary policy more flexible and expand its budget deficit in 2016 to support a slowing economy, state media said on Monday. It cited top leaders who wrapped up the annual Central Economic Work Conference, a meeting keenly watched by investors for clues on policy priorities and main economic targets for the year ahead.

The government will take steps to expand aggregate demand next year. The People's Bank of China has cut interest rates six times since November last year and reduced banks' reserve requirement ratios (RRR), or the amount of cash that banks must set aside as reserves. The government has also stepped up spending on infrastructure projects and eased restrictions on home buying to boost the sluggish property market. Top leaders also pledged to push forward "supply-side reform" to help generate new growth engines, while tackling factory overcapacity and property inventories.

Source: Reuters, 21 December 2015

Extract 3: Shedding light on slowing growth: What ails Singapore's economy?

Singapore's small, trade-dependent economy is under the weather. While the country has not yet sunk into a full-blown recession, its fortunes are tied closely to those of the world economy and the outlook there is far from cheery. The Sunday Times looks at four key contributors to slowing growth in Singapore.

1. Lacklustre Global Growth

The world economy has yet to completely shake off the vestiges of the global financial crisis and continues to lack a strong growth driver. Singapore's key trading partners have all been grappling with their own sets of challenges.

2. Protracted Oil Price Slump

World oil prices had been fairly stable from 2010 until mid-2014, at around US$110 a barrel. But they have almost halved since, plunging the oil and gas industry into a crippling slump. Companies in Singapore have not been spared the effects of this protracted downturn. More than two years of tumbling oil prices have wiped over US$24 billion (S$33.5 billion) from the market value of Keppel, Sembcorp Marine and other listed oil-services companies - or about two-thirds of their pre-July 2014 capitalisation.

Tens of thousands of jobs have been axed and some companies have defaulted on bond payments - sparking concerns over banks' exposure to the sector. The drag from this important sector is predicted to feed through to the rest of the economy.

3. Shifting Trade Flows

International trade has fallen to its lowest level since 2009, alongside lacklustre economic growth. But some economists say the slowdown is not merely cyclical, and lower levels of global trade might become the new normal.

This is because growth in developed economies like the United States is increasingly driven by services rather than the trade in goods. China is also becoming less exposed to international trade as it shifts away from an industrial-led growth model towards consumption and services. This means Chinese companies are increasingly sourcing from within the country, instead of importing. This trend could weigh on regional trade even in the long run - a gloomy prospect for Singapore, which depends not just on its own exports but which also does a bustling trade in re-exports.

4. Disruptive Change

Prime Minister Lee Hsien Loong said in his National Day Rally speech in August that disruptive change is the "defining challenge" facing Singapore's economy.

Technology has transformed almost every industry - from food delivery to manufacturing. These developments have left both challenges and opportunities in their wake, most obviously in the labour market. There are thousands of jobs waiting to be filled in growing sectors like IT, precision engineering, education and healthcare. But many workers who have been laid off lack the necessary specialised skills required in these roles.

There is no easy solution to this - the ever-increasing pace of technological change means that jobs will more or less be in a constant state of flux. There is help available for laid-off workers - including the option to upgrade their skills with SkillsFuture, or programmes which help mid-career workers move to industries with the potential to grow. But companies and workers also have a part to play - both in terms of skills upgrading and shifting mindsets.

Source: The Straits Times, 30 October 2016

Questions

(a) Using data from Table 1,

(i) Compare the balance of trade position of UK, China and Singapore. [2]

(ii) Comment on the view that the Chinese economy performed well in 2015. [3]

(b) Using data from Extract 1 and Table 2, explain and compare how 'weaker household spending and worries about the global outlook' in the UK may impact the balance of trade for China and Singapore. [4]

(c) **(i)** Explain what is meant by a budget deficit. [1]

(ii) Using the concept of the circular flow of income, explain how 'expanding its budget deficit' (Extract 2) will affect the equilibrium level of national income in China. [4]

(d) **(i)** Assess whether 'disruptive change' (Extract 3) is the most significant cause of unemployment in Singapore. [8]

(ii) Discuss the view that supply-side policy is the best way for the Singapore government to achieve low unemployment. [8]

[Total: 30]

Question 2

World Aluminium Market

Table 3: Global Production levels (thousand metric tons)

Year	Africa	Asia (Excluding China)	Gulf Cooperation Council	China	North and South America	Europe	OCEANIA	World Total
2010	1,742	2,500	2,724	16,131	6,994	8,053	2,277	40,421
2011	1,805	2,533	3,483	20,072	7,154	8,346	2,306	45,699
2012	1,639	2,535	3,662	23,534	6,903	7,928	2,186	48,387
2013	1,812	2,439	3,887	26,534	6,824	7,611	2,104	51,211
2014	1,746	2,429	4,832	28,317	6,128	7,360	2,035	52,847
2015	1,687	3,001	5,104	31,518	5,794	7,574	1,978	56,656

Source: The International Aluminium Institute

Extract 4: Consumption and Production of aluminium

The rapid increase in the production of aluminium was brought about by the improvement of production methods, and by the expansion of the scope of application of aluminium. The world's largest aluminium producers are, as a rule, vertically integrated holding companies comprising bauxite mines and aluminium refineries. The advantage of the vertical integration model for large companies is their independence from price fluctuations of factors of production as they can ensure the supply of raw materials in required volumes is secured for uninterrupted aluminium production. This leads to more flexibility in the production process and allows firms to be more responsive to changes in demand.

Demand for aluminium from carmakers is also expected to grow in 2015 as car sales combined with the aluminium content in cars rising significantly. Automakers consumed a record amount of aluminium last year as plummeting prices and technological breakthroughs made it a viable alternative to steel.

Source: adapted from www.aluminiumleader.com, accessed 28 July 2017

Extract 5: China's aluminium exports flood market

China's surging exports of aluminium are becoming a contentious issue as prices of the metal continue to hover just above their six-year low. China's aluminium exports are up 14.4% so far this year, as companies there take advantage of China's large labour force and lower wage cost than international rivals to seize market share. While major aluminium companies like US-based Alcoa have cut production this year, Chinese output has risen by 18% year to date, according to the International Aluminium Institute, a supply flood that has helped keep prices depressed.

Protests against China's aluminium export rise have been growing louder, with producers from the US to India demanding measures to protect employees in their domestic industries. "Due to a rise in imports from China, profits for domestic Indian producers are getting choked. The Chinese government has provided tremendous subsidies to aluminium production and India's import tax on aluminium should be increased to 10% on primary aluminium and aluminium scrap," said Abhijit Pati, chief executive officer of Vedanta Group's aluminium business.

China's Non-Ferrous Metals Industry Association has hit back at suggestions that companies there are dumping aluminium on international markets although analysts say that Chinese smelters can withstand low international prices in part because of the government support they receive. Chinese producers often benefit from "opaque" tax rebates, or cheap loans made to them by local governments.

Source: adapted from The Wall Street Journal, November 12, 2015

Extract 6: Aluminium import tariffs in India

The aluminium lobby in India has been pressing for an increase in import tariffs for aluminium in the face of low-priced aluminium from foreign countries making its way into the Indian market. According to industry data, total aluminium imports in India had grown by over 159% between 2015 and 2011, mainly from China and Middle-Eastern countries. This has led to imports accounting for 56% of the Indian aluminium consumption in 2014-15, while products of Indian producers accounted for only 44%.

Some local aluminium producers, unable to keep up, have even slipped into losses. Vedanta Resources, in August, initiated the process to shut down its 1 million metric ton per year alumina refinery in Odisha. Interestingly, while the Indian government has taken the step to hike tariffs to protect local industry, some experts have argued against the move.

The government's own report indicated that raising tariffs to quell imports of cheap aluminium would do harm to downstream producers such as carmakers and construction companies.

Source: adapted from www.agMetalMiner.com, accessed 28 July 2017

Extract 7: China's production of aluminium is poisoning southeast Asia

Soaring Chinese demand for natural resources to produce aluminium is wreaking environmental havoc throughout Southeast Asia. Both Vietnam and Malaysia are major producers of bauxite, the ore required to create aluminium.

Vietnam is home to the world's third largest natural deposit of bauxite, with 5.5 billion tons of crude ore reserves. However, the mining of these reserves has resulted in serious environmental issues. For instance, there has been reports of breakages and spills in waste management facilities, deforestation and river pollution.

Source: adapted from Asian Correspondent

Questions:

a) **i)** Compare the production levels of aluminium between China and the Gulf Cooperation Council between 2010 and 2015 shown in Table 3. [2]

ii) Using information from Extract 4, account for the change in world production levels for aluminium. [4]

b) **i)** Explain whether data from the extracts support the claim that 'Chinese companies are dumping aluminium on international markets' (Extract 5). [4]

ii) Assess the likely impacts of an increase in tax rebates given to Chinese aluminium producers on different producers in other countries like India. [8]

c) **i)** Explain **briefly** the reason for the Vietnamese government to intervene in the market for bauxite extraction. [2]

ii) Explain how changes in demand for aluminium may affect the market for bauxite. [2]

iii) Vietnam and India face different issues due to the increase in Chinese aluminium production.

Discuss whether increasing import tariffs on aluminium in India will address the issues faced by Vietnam and India respectively. [8]

[Total: 30]

Section B

Answer **one** question from this section.

3. Globalisation brings about increased trade and production activities, leading to a large increase in pollution in countries such as China.

(a) Explain why countries trade. [10]

(b) Discuss the extent to which globalisation is the main cause of market failure. [15]

4. **(a)** Explain what might cause a large and persistent deficit on a country's balance of payments. [10]

(b) Discuss the factors that a government should consider when depreciating its currency to reduce a balance of payments deficit. [15]

End of Paper

CSQ Question 1

(a)	**Using data from Table 1,**		
	(i)	**Compare the balance of trade position of UK, China and Singapore.** China and Singapore's balance of trade were in surplus while UK's balance of trade was in deficit. [1m] Balance of trade surplus **(as a % of GDP)** for Singapore was larger than for China. [1m]	**[2]**
	(ii)	**Comment on the view that the Chinese economy performed well in 2015.** Table 1 shows that China recorded real GDP growth rate of 5.5% in 2015, indicating that it experienced economic growth and increase in real national income. Inflation rate was low at 1.4%, indicating price stability. China recorded balance of trade surplus, which could indicate a favourable position on the balance of payments (assuming KFA account and other components of current account is already in a surplus) ***[Any 2 of the above]*** However, there is no information in Table 1 on unemployment and therefore no indication of the level of employment and efficiency in the usage of labour resource. There is also no information on the capital and financial account balance and therefore no information on overall balance of payments position. ***[Any 1 of the above]***	**[3]**
(b)		**Using data from Extract 1 and Table 2, explain and compare how "weaker household spending and worries about the global outlook" in the UK may impact the balance of trade for China and Singapore.** Weaker household spending means a fall in consumption expenditure. Worries about the global outlook could lead to lower confidence in the economy for households and firms and this would result in fall in consumption and investment spending. Aggregate demand falls as consumption and investment spending are components of AD. The fall in AD leads to a fall in production levels and decline in national income in the UK. **[1m]** As income falls, UK's demand for exports from its trading partners, including exports from China and Singapore also fall. **[1m]** From Table 2, China is UK's 3rd largest import partner while Singapore ranks 27th. **[1m]** This means that China exports more of its goods and services to UK than Singapore does and thus would suffer a larger fall in exports revenue, affecting its balance of trade more than the case for Singapore. **[1m]**	**[4]**
(c)	**i**	**Explain what is meant by a budget deficit**. A budget deficit occurs when government expenditure is larger than the tax revenue it collects.	**[1]**
	(ii)	**Using the concept of the circular flow of income, explain how "expanding its budget deficit" will affect the equilibrium level of national income.** The circular flow of income refers to an economic model which describes the flow of payments and receipts between domestic firms and domestic households. Income flows from firms to households in the form of factor payments, and back again from households to firms as consumer expenditure on domestically produced goods and services (C_d). This circular flow of income can be increased by injections while reduced by withdrawals. Injections comprise investment (I), government expenditure (G) and expenditure on exports (X) while withdrawals comprise savings (S), taxes (T) and import expenditure (M). National income is	**[4]**

in equilibrium when planned injections are equal to planned withdrawals and there is no tendency for it to change.

When the Chinese government ‘expands its budget deficit’, G will increase while T will decrease. This will result in injections exceeding withdrawals (J>W) **[1m]** which leads to a rise in national income as more goods and services are produced and more households are paid more factor income. With the increase in income, households not only increase their spending on domestic consumption, they also save more (S), pay more taxes (T) and buy more imports (M), which increases withdrawals. **[1m]**

There will be successive rounds of induced increase in national income, causing an increase domestic consumption, S, T and M until withdrawals have risen to equal the new level of injections in the economy. **[1m]** At that point, national income will stop rising and a new equilibrium is attained in the circular flow where there would be a multiplied increase in national income. **[1m]**

(d) (i) Assess whether the “disruptive change” explained in Extract 3 is the most significant cause of unemployment in Singapore. **[8]**

Unemployment refers to the number of people who are actively looking for work but are currently without a job.

- Define demand-deficient unemployment and structural unemployment.

<u>Perspective 1(Disruptive change is a significant cause of structural UnN)</u>

- Explain how “disruptive change” cause structural unemployment → technology changes and with no upgrading skills → demand for lower skilled workers fall while demand for higher skilled workers increase → Structural UnN due to mismatch of skills

- Accept any point that reasonably argues that disruptive changes causes dd-def UnN

<u>Perspective 2a :</u>

Disruptive change may not cause S.UnN due to the presence of government policies (Skillsfuture)

<u>Perspective 2b(Other factor can also cause UnN)</u>

- Shifting trade flows (China moving to own sources of FOPs)→ Loss of CA in re-export industries → Workers are retrenched and unable to find jobs in sunrise industries due to mismatch of skills → Structural UnN

- “Lacklustre global growth” and “shifting trade flows” → Fall in DDx → reduce net exports and → demand deficient UnN

- ‘Protracted oil price slump’ could also be a cause of workers in the shipping and marine industry lose their jobs and may not have the skills to take on jobs in other growing sectors → Structural. UnN

<u>Evaluation</u>

- Whether or not disruptive change is the most significant cause of UnN in Singapore depends on how SG government deals with these changes. Nonetheless, in the short run, it is still likely to be a significant cause of S.UnN as the labour force needs time to be trained to adapt to these challenges.

- In long run, disruptive change can also create employment opportunities in new sectors, thereby helping to create jobs and reduce UnN instead.

Mark Scheme		
L3	Balanced and well -developed answer on whether disruptive change is the most significant cause of UnN in Singapore. Good reference to extract evidence and Singapore’s context	5-6
L2	Balanced but under-developed answer on whether disruptive change is the most significant cause of UnN in	3-4

	Singapore. Limited reference to extract evidence and Singapore's context	
L1	Brief explanation or one-sided answer on whether disruptive change is the most significant cause of UnN in Singapore.. Many conceptual errors	1-2
E2	Evaluation based on economic analysis	2
E1	Mere statement with no economic analysis	1

(ii) **Discuss the view that supply-side policy is the best way for the Singapore government to achieve low unemployment.** **[8]**

<u>Perspective 1(SSP is the best way for the Singapore government to achieve low UnN)</u>

Skillsfuture/Workfare

- Improving the skills of workers -→ reduce mismatch of skills→ **reduce structural UnN**
- subsidies for skills upgrading for workers → improves productivity → lowers COP →increases SRAS → actual growth → **reduce DD-def UnN**
- Able to produce higher quality products → Increase demand for X → AD increases → actual growth→ **reduce DD-def UnN**

<u>Perspective 2a (Limitations of SSP)</u>

- May run into budget debt → increase in T in the LR → reduce C and I → reduce AD → **worsen DD-Def UnN** instead
- Difficult to change mindset of both companies and workers "shifting mindsets"
- No guarantee that training will translate to increased productivity

<u>Perspective 2b (Other policies may be better)</u>

- Exchange rate policy to reduce DD deficient UnN
  - Depreciate (zero-appreciation) of SGD → FPx falls, DPm increases → Increase in price competitiveness of exports and domestically produced goods → (X-M) increases → AD increase → increase DD for Labour → Fall in DD-Def UnN
  - (Will also be accepted) Modest and gradual appreciation policy to ensure price stability → attract FDI → link to AD/AS
  - Explore new export markets through more bilateral/regional trade agreements with new trading partners, in view that "Chinese companies are increasingly sourcing from within the country" (Extract 3) → link to AD/AS

<u>Evaluation</u>

- Depends on the root cause of the problem. If S.UnN (which is likely to be the most significant cause of UnN in SG) → SSP will be better as it addresses the root cause of the problem.
- But if UnN is both DD-def and structural, and noting the importance of mindset change and longer time frame for SSP to take effect, may need to combine with depreciation in the SR to boost exports competitiveness and increase AD to reduce UnN, while implement SSP to build improve labour mobility and build capacity for the SG economy to deal with disruptive changes and shifting trade flows.

Mark Scheme		
L3	Balanced and well-developed answer on whether supply-side policy is the best way for the Singapore government to achieve low unemployment. Good reference to Singapore's context	5-6
L2	Balanced but under-developed answer on whether disruptive change is the most significant cause of UnN in Singapore. Limited reference to extract evidence and Singapore's context	3-4

L1	Brief explanation or one-sided answer on whether supply-side policy is the best way for the Singapore government to achieve low unemployment. Many conceptual errors	1-2	
E2	Evaluation based on economic analysis	2	
E1	Mere statement with no economic analysis	1	

CSQ Question 2

(a) (i) Compare the production levels of aluminium between China and the Gulf Cooperation Council between 2010 and 2015 shown in Table 3. **[2]**

Production levels in both China and the Gulf Cooperation Council increased between 2010 and 2015.

Production levels in China increased by a greater extent compared to production levels in the Gulf Cooperation Council.

OR

Production levels in China were consistently higher in China than the Gulf Cooperation Council between 2010 and 2015.

(ii) Using information from the extract 4, account for the change in world production levels for aluminium. **[4]**

Demand Reason + Evidence
Increased demand for cars and the aluminium content in cars. Demand for aluminium is derived from the demand for cars. As the demand for cars increases, carmarkers will require more aluminium to produce cars and this leads to an increase in demand for aluminium and hence, an increase in production levels.

Supply Reason + Evidence
Improvement of production methods. With the improvement of production methods and higher levels of productivity, this will lead to a lower cost of production and an increase in profitability for firms to produce aluminium. Hence, this results in an increase in willingness and ability to produce aluminium and this is represented by an increase in supply. Hence, this leads to an increase in production levels.

(b) (i) Explain whether data from the extracts support the claim that "Chinese companies are dumping aluminium on international markets" (Extract 6). **[4]**

Dumping is the practice of selling exports at prices **below its marginal cost of production**.

To decide if "*Chinese companies are indeed dumping aluminium on international markets*" (Extract 6), it is necessary to find out if the low prices of aluminium sold in foreign markets are a result of deliberate government support or true comparative advantage.

Perspective 1: data from the extracts support the claim
Extract 6 mentions that the Chinese government has provided tremendous subsidies, "opaque" tax rebates and cheap loans to the companies. These allow them to price their aluminium at artificially low prices, **possibly at levels even below their marginal costs of production**. Hence, the data supports the claim that Chinese companies are dumping aluminium on international markets.

Perspective 2: data from the extracts does not support the claim
However, Extract 6 also mentions that Chinese companies have the advantage of low-cost labour over their international rivals. This suggests that Chinese companies do have a **comparative advantage** in producing aluminium and the low prices are due to lower input costs (such as wage) due to the abundance of resources (such as workers) in China. As such, these companies are not dumping aluminium.

(ii) Assess the likely impacts of an increase in tax rebates on Chinese exported aluminium products on different producers in other countries like India. **[8]**

With an increase in tax rebates, this will lead an increase in production levels by Chinese firms and an increase in the quantity of exported aluminium products to India.

	Positive impacts	Negative impacts
Impact on producers (profits or TR<TC)	If Chinese firms are dumping aluminium into the Indian market, this allows car producers to enjoy a lower cost of production (COP). Ceteris paribus, this will lead to a higher level of profits for the car manufacturers. OR With lower COP, rational producers will increase their supply of cars. Assuming that PED > 1 due to the large proportion of income normally spent on cars, this leads to an increase in TR (draw diagram), and ceteris paribus, profits. OR Derived demand for bauxite increases due to the increased production of Chinese aluminium. This leads to an increase in equilibrium price, quantity and thus total revenue for bauxite producers in Vietnam.	With a fall in demand of Indian aluminium due to how price of its substitute, Chinese aluminium is cheaper, Indian producers face a fall in equilibrium price and quantity and thus total revenue. In the long run, if the fall in revenue persists, producers of cars that depend on aluminium as a factor of production will now face a higher cost of production if Chinese firms start to raise prices. Suppose that the demand for cars is price elastic since there are usually public transport substitutes, then the rise in price may lead to a more than proportionate decrease in quantity demanded for cars and revenue earned by producers fall.

Evaluation:

Impact on the producers in India would largely depend on whether India is heavily dependent on imported aluminium from China. Since China is one of the world's largest producers of aluminium, it is likely that the impacts will be significant. However, the likelihood for the impacts to be negative would depend on the success of the Indian government in mitigating the level of imported aluminium from China.

Mark Scheme		
L3	Balanced and well developed answer on how different producers may be affected by the increase in tax rebates in China.	5-6
L2	Brief and under-developed explanation on how the economic agents may be affected by the increase in tax rebates in China. Impact on one or more economic agents may not have been analysed by the student.	3-4
L1	Answer makes some relevant explanations but without proper use of economic analysis/framework.	1-2
E	Evaluation based on economic analysis. Students should make a comment about how each economic agent may be affected on balance, based on the analysis provided.	1-2

(c) (i) Explain briefly the reason for the Vietnamese government to intervene in the market for bauxite extraction. **[2]**

The market for bauxite extraction results in the generation of negative externalities from production. There are external costs (negative externalities) on the environment such as instances of "breakages and spills in waste management facilities, deforestation and river pollution".

Hence, this results in an over-allocation of resources to bauxite extraction (market failure) and government intervention is required.

(ii) Explain how changes in demand for aluminium may affect the market for bauxite. **[2]**

Bauxite is a factor of production required in the production of aluminium. With an increase in demand for aluminium, this may have led to an increase in the derived demand for bauxite.

Ceteris paribus, this will lead to an increase in both the equilibrium price and equilibrium quantity of bauxite.

(iii) Vietnam and India face different issues due to the increase in production levels of aluminium.

Discuss whether imposing import tariffs on aluminium in India will address these issues faced by both countries. **[8]**

	Yes	No
Reduce unemployment in India	Since PES>1 for aluminium production due to the increase in flexibility in the production process (Extract 1), the higher prices due to the import tariff will lead to a more than proportionate increase in quantity supplied of domestic aluminium production. As Indian aluminium producers increase their production levels, this will lead to an increase in the derived demand for labour. Thus, the import tariffs will lead to a lower level of demand deficient unemployment in India.	Import tariffs may lead to higher unemployment in other sectors of the economy due to higher costs of aluminium (as a factor of production). Import tariffs may lead to retaliation and feedback effect on the Indian economy, thus worsening unemployment.
Address/Reduce negative externality due to the production of bauxite, which is a factor of production for aluminium	Due to the imposition of import tariffs, this will lead to a reduction in the quantity of aluminium imports as imported aluminium become less price competitive. Ceteris paribus, there will be a fall in the derived demand for bauxite. As production of bauxite falls, this leads to a lower level of negative externalities produced.	Imposition of import tariffs may not necessarily lead to a large fall in aluminium production in China. China may also be exporting aluminium to larger markets such as the USA. Hence, derived demand for bauxite may not fall significantly. Producers are not forced to internalise the external cost to the environment. Deadweight loss is still created due to the production of bauxite.

Evaluation:

It is more likely that the imposition of the import tariff will address unemployment in India than the negative externalities in Vietnam as externalities will only be eliminated if production is reduced to zero (which is unlikely). Furthermore, even if import tariffs may be effective in addressing unemployment in India, this may only be the case in the short run. In the long run, these import tariffs may be perceived to be protectionist and may invite retaliation from other countries, thus worsening unemployment in India.

Mark Scheme		
L3	Balanced and well developed answer on how the issues in both India and Vietnam may be addressed.	5-6
L2	Brief and under-developed explanation on how the issues in both India and Vietnam may be addressed. Issues are not identified correctly.	3-4
L1	Answer makes some relevant explanations but without proper use of economic analysis/framework.	1-2

	E	Evaluative comments are provided on how the issues of negative externalities in Vietnam and unemployment in India may be addressed by the import tariffs in India.	1-2	

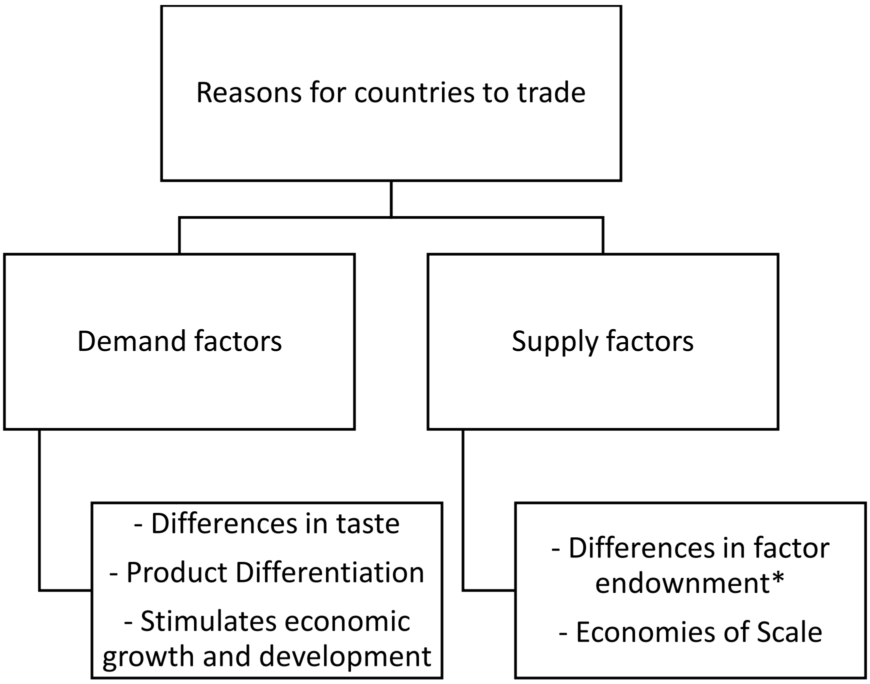
Question 3

Globalisation brings about increased trade and more production activities, leading to a large increase in pollution in countries such as China.

(a) Explain why countries trade. [10]

(b) Discuss the extent to which globalisation is the main cause of market failure. [15]

(a)



(a) Explain why countries trade.	**[10]**
Countries trade due to demand factors like differences in taste and preference and trade stimulates economic growth and development in an economy, and supply factor like differences in factor endowments.	*Introduction*
One of the main reason why countries will trade is due to the differences in factor endowments in different economies. Benefits that can arise from specialisation and exchange can be explained using the theory of Comparative Advantage. (CA) The theory of CA states that so long as a country has comparatively lower opportunity cost in the production of a good (ie. it has comparative advantage), specialisation and exchange can benefit itself and its trading partner. This is because resources are more efficiently allocated when each country specialises in production according to the CA it has than if it tries to be self-sufficient by producing every good it needs. Thus each country ends up with more output to consume with exchange than without exchange. The theory assumes that there are two countries, two commodities, no currency nor trade restrictions, no transport costs, perfect factor mobility and constant returns to scale (ie. constant opportunity costs). Suppose the two countries are China and USA and each has 10x resources. Prior to specialisation and exchange, given x amount of resources, China can produces either	*Linking to the theory of CA* *Assumptions*

20 units of cloth or 200 units of wheat, while USA can produce 10 units of cloth or 150 units of wheat. Hence, China's opportunity cost of producing 1 unit of cloth is 10 units of wheat. On the other hand, USA's opportunity cost of producing 1 unit of cloth is 15 units of wheat. In terms of output of wheat forgone, cloth is relatively cheaper in China than in USA. Hence, China has CA in cloth and USA has CA in wheat.

Illustrate through numerical eg
Note: Students can also choose to explain the theory of CA via the graphical method

Specialisation refers to the allocation of resources which focuses on the production of a particular good. Complete specialisation occurs when the country devotes all resources to the production of only one type good while partial specialisation is the allocation of resources to produce two or more types of goods. If each country were to devote half of their resources (i.e. 5x) to produce each of the two commodities, their respective production levels are as follow:

With 5x resources,	Cloth		Wheat
China can produce	100	and	1000
USA can produce	50	and	750
Total output	150	and	1750

Thus, the total output produced by the two countries is 150 units of cloth and 1750 units of wheat.

Suppose, let USA completely specialises in the commodity it has CA in (wheat) while China partially specialise in the commodity it has CA in (cloth). If China allocates 8x amount of resources to produce cloth and 2x amount of resources to produce wheat, given such specialisation, the production level by both countries is

	Cloth		Wheat
China produces	160	and	400
USA produces	0	and	1500
Total output	160	and	1900

The total output will then be 160 units of cloth and 1900 units of wheat, where there is an increase in 10 units of cloth and 150 units of wheat, as compared to the situation before specialisation. Specialisation therefore results in increase in world output.

Exchange refers to the trading of goods and services between countries. In order for both countries to benefit from exchange after specialisation, the terms of trade has to be acceptable to both countries, where 1 unit of cloth is to be exchanged for between 10 and 15 units of wheat. Suppose the terms of trade settles at 1 unit of cloth for 12 units of wheat and 55 units of cloth are exchanged for 660 units of wheat. China trades 55 units of cloth to USA in exchange for 660 units of wheat from USA. USA gets 55 units of cloth from China when it trades 660 units to wheat to it.

	Cloth		Wheat
China now has	105	and	1060
USA now has	55	and	840
Total output	160	and	1900

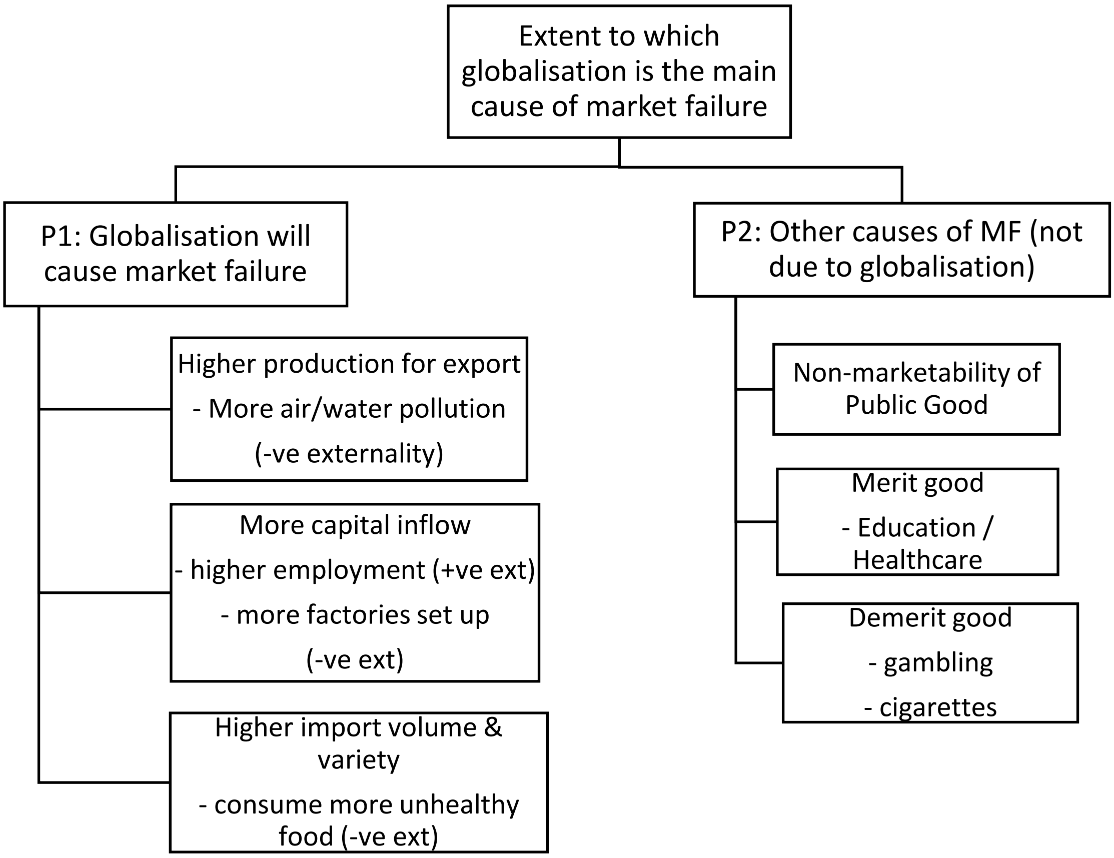
In comparison to the situation before specialisation and exchange, China has gained 5 units of cloth and 60 units of wheat and USA has gained 5 units of cloth and 90 units of wheat. In conclusion, the theory of CA explains that a country can gain from specialisation and exchange in terms of **higher world output and consumption.** Before trade, the countries could only consume along their production possibility curves (PPC); after exchange, they can consume beyond their PPC. In addition, two countries may have the same factor endowments and the same factor productivity; but if the **consumption pattern** is different, then the prices of the same goods will differ in the two countries. Ceteris paribus, the price of the coffee is lower in Vietnam due to lower demand for coffee, but higher in China due to higher demand for coffee. Hence, trade would benefit the trading countries as they are able to obtain goods at lower prices. In addition, with international trade, the size of the market gets larger, causing an increase in export revenue and import expenditure. Assuming export revenue increases more than import expenditure, (X-M) increases, as a component of AD, AD increases, causing multiplied increase in RNY through the multiplier process. Hence, trade is an engine of **growth** for many countries. At the same time, with trade, the competition from imports may generate **greater efficiency** in the domestic market. This will increase the productive capacity of the economy. Furthermore, domestic firms may have greater incentive to engage in research and development, possibly leading to lower prices, **better quality goods and a greater variety of goods**, causing standard of living to increase. *Other explanations on demand factor (product differentiation) and supply factor (economies of scale) are also acceptable.*	*Other reasons for trade*

Mark Scheme

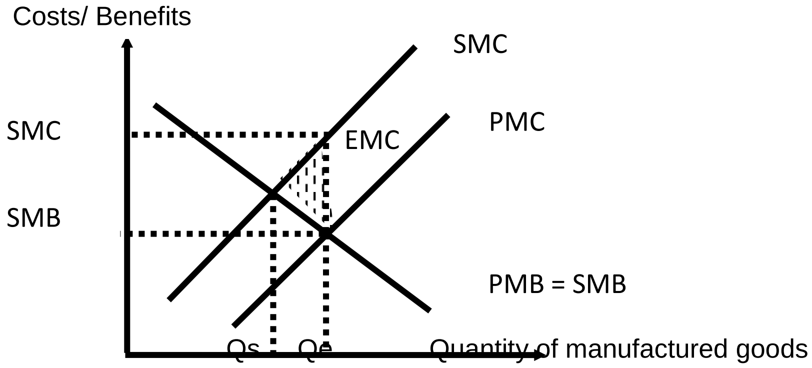
Knowledge, Application, Understanding, Analysis		
L3	For a well-developed explanation on reasons for trade (DD and SS factors), one of which is based on theory of comparative advantage.	**7-10**
L2	For an underdeveloped answer where there is **limited** reference to the theory of comparative advantage and on other reasons for trade.	**5-6**
L1	For an answer that is largely descriptive without economic analysis.	**1-4**

Question 4

(b) Discuss the extent to which globalisation is the main cause of market failure.	**[15]**



Globalisation is the increasing integration of the world economy and is characterised by greater international interdependence among economies. Market failure refers to circumstances in which the equilibrium in unregulated (or free) markets fails to achieve an efficient allocation of resources. In other words, the price mechanism is unable to allocate resources efficiently. The 4 main features of globalization are increase in freer trade and openness, increase in capital flow, increase in labour mobility and increase in competition, and these may result in market failure in an economy like China. However, there are other causes of market failure which may not be due to globalisation like non-provision of public good and consumption of merit good like education.	*Introduction*
With globalisation, there is increased trade flows: - Higher export volume for China - More production activities in production plants - Producers will only weigh their own PMB and PMC to maximise profits - PB: revenue earned from sale of manufactured goods to domestic and external markets - PC: cost of production like wages of labour	*Perspective 1: Globalisation → higher trade volume → higher production activities →*

- Generates negative externality: air pollution → higher healthcare cost to people living around the production plants - Due to presence of negative externality → SMC > PMC as SMC=PMC+EMC - Market Equilibrium at Qe where PMC=PMB - At Qe, SMC>PMC due to EMC - At Qe, SMC>SMB, society values one additional unit of manufactured good less than what it cost the society to product it. - Socially Optimal Level of output Qs is where SMC=SMB - As Qe is higher than Qs - Overproduction of manufactured goods - Over-allocation of resources to the production - DWL to society - Market failure  *Any other causes of market failure <u>due to globalisation</u> is acceptable*	*generates negative externality → Over allocation of resources to production of manufactured goods → MF*
However, there are other causes of market failure which may not be due to globalisation. For instance, the non-marketability of public good will result in complete market failure. **Public goods** are goods that are both non-excludable and non-rivalrous in consumption. E.g. Street lighting Non-rivalry in consumption - no opportunity cost of consumption once the good is produced; - consumption by one person does not reduce the amount of light available to other people that pass by the streetlight. - If the lights are provided, they shine as brightly when you walk pass them as when 1,000 people walk pass them. This essentially means that the *marginal cost* (i.e. additional cost) of providing street lighting to an additional consumer is zero. - condition for *allocative efficiency* is P = MC - since MC = 0 - then P = MC = 0 - inefficient to charge a price since extra users can benefit at no extra costs to society. - A good for which no price can be charged will not be supplied by the free market since there is *no incentive* for producers to produce it. - no supply of the good in the market. Non-excludable - provision of street lighting to one person automatically makes it available to others - technically impossible to restrict the use of street lighting to only those who pay for it	*P2: Other causes of market failure not due to globalisation*

- since once provided, it shines on anyone who walks past it, regardless of whether the consumers have paid. - free-rider problem: where each consumer will find it in his interest to share in the provision made by others without paying to cover for the costs of provision of the good. - no effective demand (i.e. consumers are "unwilling" to pay for the good) for the goods - producers are not given signals about what to produce and there is no one to whom they can sell. Public goods lead to complete market failure. *Complete* market failure occurs when the price mechanism does not allocate any resources to the production of the good. In a perfectly competitive market without government intervention, the good will not be produced. *Any other causes of market failure not due to globalisation is acceptable (consumption of merit good/demerit good/ imperfect information/ negative or positive externalities)*	
In conclusion, globalisation may be a cause of market failure but there are other factors contributing to market failure within an economy. To determine if globalisation is the main cause of market failure, it depends on the type of good that is mainly produced or consumed within an economy. For example, China's major industries are in mining and production of steel and aluminium, which are also its' main exports. The production of steel and aluminium are also used in the production of automobiles and other transportation equipment like rails and ships, which China also produces for trade. Hence, in China's case, the main cause of market failure is due to globalisation where the generation of negative externalities due to the production of its steel and aluminium is to a significant extent.	*Evaluation*

	Knowledge, Application, Understanding, Analysis	
L3	At least 2 well-explained different causes of market failure which are due to globalisation and other reasons.	**9 – 11**
L2	Under-developed explanation of the causes of market failure with limited application.	**6 – 8**
L1	Mostly irrelevant or undeveloped explanation without application to context. There may be basic errors in theory and/or listing of points.	**1 – 5**
	Evaluation	
E2	Evaluation supported by good economic analysis on whether the **globalisation is the main cause of market failure.**	**3 - 4**
E1	Some attempt at evaluating whether if the **globalisation is the main cause of market failure.**	**1 – 2**

Question 4

(a) Explain what might cause a large and persistent deficit on a country's balance of payments. [10]

(b) Discuss the factors that the government should consider when depreciating its currency to reduce a balance of payments deficit. [15]

Thinking Process	Essay
Intro: Causes of a large and persistent BOP deficit	A large and persistent deficit in the BOP can be caused by problems in the current account &/or capital account and can be due to the following factors. Many possible factors that can cause a large and persistent BOP deficit. If any of these factors are large and/or persistent, BOP would result. If the country is already experiencing a deficit, these factors explained below would make the deficit larger. If the deficit is long term or continues for a few years, likely to be persistent.
Deficit in the Current account	• **Loss of Comparative Advantage** – A country loses comparative advantage with respect to other competitors due to improved efficiency of competitors or a decrease of internal efficiency. As a result, exports are likely to fall leading to trade deficit (current account) E.g. due to higher labour cost, many developed countries lost their comparative advantage in labour-intensive manufactured goods (such as textile and toys) to the low-cost developing countries (e.g. China and Vietnam). Thus, these developed countries experienced a fall in export earnings and rise in import expenditure on these goods resulting in a current account deficit. • **An over-valued exchange rate** - Some economists argue that trade problems stem from the exchange rate being set at too high a level. They argue that the persistent deficit in the US BOP is caused by an overvaluation of the US dollars against the Asian currencies such as China and Japan. The strength of the US dollar has made it difficult for US exporters in overseas markets, while encouraging imports. Thus, a fall in export earnings and rise in import expenditure could result in a current account deficit. With the current weakening of the US dollar, demand for US exports increases. • **Rising domestic national income –** A rising income may lead to higher demand for imports. The extent of the rise in imports due to a rise in the level of domestic income depends on the ***marginal propensity to import***. • **Falling income of trading partners –** a slowdown in the national income of trading partners may reduce the demand for the country's exports. E.g. the recent economic downturn of the global economy caused Singapore's exports to decline from S$477b in 2008 to S$391b in 2009. A severe fall in export revenue may result in a current account deficit.

Deficit in Capital and Financial Account	• **Relative rates of inflation between trading partners** – consumers in a country with a higher domestic inflation **relative** to its trading partners will find its domestic goods relatively more expensive compared to imported goods. Thus, consumers will switch from domestic goods to imported goods. At the same time, its exported goods will be more expensive than its trading rivals and hence there will be a fall in quantity demanded for its exports. Assuming that the demand for its exports is price elastic, quantity demanded will fall more than proportionate to the price rise, thus causing its export revenue to fall. With a rise in imports expenditure and fall in exports revenue, the country's current account may be in deficit. For example, a country which has chronic inflation (which may be caused by rigid labour markets due to powerful labour unions) may lose international competitiveness in its exported goods resulting in a persistent bop deficit which is a permanent and serious problem. • **Large transfers** – large and long term transfers by the government in the forms of foreign aid and overseas military commitments, without monetary returns. • **Net income outflows –** profits and wages repatriated to their home country. For countries that are heavily dependent on FDI and foreign labour, the outflows are potentially large and possibly persistent if they do not reduce the reliance on FDI and/or foreign labour. • **Fall in expected returns on investment** – With a fall in expected returns on investment due to factors such as rising cost of capital, fall in national income and political instability, there will be a fall in FDI into a country and hence its capital account may worsen to a deficit. E.g. due to political instability in Indonesia triggered by the Asian currency crisis, many Indonesian firms left Indonesia and invested in Singapore and other countries. • **Level of interest rate** – if a country's interest rate is relatively lower than foreign countries' interest rate, this will lead to a capital outflow as foreigners will withdraw their funds from the domestic banks and park it in foreign banks with a relatively higher interest rate to earn a higher interest return. This will cause the capital account to go into deficit and ceteris paribus the overall BOP will deteriorate. • **Expected fall in external value of money** – A country's capital account may be in deficit due to hot money outflow caused by an expected fall in external value of money. E.g. during the Asian currency crisis in 1997, speculators expect the Asian currencies to depreciate hence leading to outflow of hot money from Asia. This caused the capital account and BOP of many Asian countries such as Thailand and Indonesia to fall into a deficit.
Conclusion	Many possible factors that can cause a persistent and large BOP deficit. If any of these factors are large and/or persistent, BOP would result. If the country is already experiencing a deficit, these factors explained above would make the deficit larger. If the deficit is long term or continues for a few years, likely to be persistent.

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	Well developed explanation of 3 causes of persistent deficits on the BOP due to both the current and capital & financial accounts. Examples are used well to elaborate on the causes with explicit attempts to address the keys words of ‘large and persistent’.	7-10
L2	Underdeveloped explanation of at least 2 causes of persistent deficits on the BOP due to deficits on the current account and/or capital & financial account. Limited use of examples.	5-6
L1	Smattering of relevant points. Errors in basic concepts. Listing causes without explanation or economic framework	1-4

(b) Discuss the factors that the government should consider when depreciating its currency to reduce a BOP deficit. [15]

Schematic Plan

Introduction: Brief explanation of what is a healthy BOP position

Exchange Rate Policy

How policy works

↓ ER (depreciation)

=> FPx↓ Qx ↑ & DPm ↑ Qm↓, c.p.

=> assuming that Marshall-Lerner condition satisfied,

Intermediate Evaluation:

- directly solves problem if the cause is overvalued exchange rate

Factors govt consider

- Elasticity concepts/ responsiveness to changes in exchange rates
- root causes
- potential policy conflicts
- creates loss of confidence in the economy and other macro problems
- nature and state of economy (eg: lack of spare capacity)
- retaliation by other countries

Some further elaboration on above points

- J curve effect => worsen BOP deficit in the SR

- does not address root cause if the deficit is caused by other factors eg. loss of CA

- Policy conflict: may increase dd pull inflation/increase imported inflation while reducing BOP deficit

- Proportion of net exports relative to GDP is v small, minimal impact of net exports and AD

Synthesis and conclusion

- Many factors need to be considered before a govt implements a policy to address a problem. Weigh which factor(s) is more pressing, before deciding an action.

- Other policies may be more appropriate in addressing the root cause of the BOP deficit

- If deficit is not persistent and large, the government might wish to utilize ER policy to achieve other macro aims instead of focusing it on BOP.

Thinking Process	Essay
Introduction What is a healthy BOP position	Healthy balance of payments position → slight balance of payments surplus is desirable → Prevents the country's foreign currency reserves from depleting + more stable exchange rate of the country's currency which is necessary to promote higher volume of trade and foreign investment in the country.
Body : Explain how depreciation works to correct BOP deficit Factors to consider: 1. **Responsiveness of quantity demanded for exports and imports to changes in e/r** J-curve effect **2. Root cause of BOP deficit** If root cause is inflation, use FP/MP instead If the root cause is due to loss of CA, use SS side policy **3. Potential policy conflicts**	Depreciation involves lowering the exchange rate with the aim of increasing receipts from abroad and reducing expenditures on imports. The success of this policy in removing a deficit therefore depends on the elasticities of demand for exports and imports. With a depreciation, foreign price of exports fall while domestic price of imports rise. Assuming that the demand for exports and imports are both price elastic, this results in a rise in export revenue and a fall in import expenditure, helping to reduce the BOP deficit. Hence the government needs to consider the importance of these elasticities of demand which is generalized in the Marshall-Lerner condition to determine the effectiveness of this exchange rate policy. This condition states that depreciation will lead to an improvement in the (X-M) and hence balance of payments if the sum of the price elasticities of demand for exports and imports exceed unity. However, elasticity conditions are unlikely to be favorable in the short run. It takes time for people to adjust their patterns of consumption and change their investment plans. The result is that depreciation initially leads to an increased balance of payments deficit. However, over time, demand for exports and imports is much more elastic as patterns of consumption and investment flows change in response to the price changes brought about by the depreciation. The government also needs to consider if the cause of the deficit is that of an overvalued currency. If it is, this policy may be more suitable as compared to if the root cause of the deficit is due to inflation. Thus, the government may not always adopt depreciation to deal with a BOP deficit. There are other policies which are more suitable and this should be tailored according to the needs of the economy. If the cause of the deficit is dd pull inflation, then Contractionary Monetary and Fiscal Policies may be adopted to deflate the economy. Deflating the level of aggregate demand works in two ways. First, as demand and output fall, the ability to buy imports falls. Secondly, and in the longer term, deflation reduces the domestic rate of inflation, and so increases the competitiveness of exports. The disadvantage is that it works by depressing domestic income, which lowers living standards and increases unemployment. Moreover, deflation does not offer a permanent means of removing a balance of payments deficit - unless the level of demand is permanently depressed. As soon as demand is expanded the deficit will reappear.

4. Loss of confidence in the economy and lead to other macro problems **5. Nature and state of economy**	If the cause of the BOP deficit is a loss of Comparative advantage, then supply side policies via increasing productivity is considered the least objectionable by other countries. It is effective in lowering costs, increasing the quality of goods and making exports more competitive abroad. The government can also boost exports by providing information on trade possibilities abroad to the export industries. However, this is a long term solution. Depreciation designed to reduce BOP deficit through increase in export competitiveness may lead to demand pull inflation. With a depreciation, foreign price of exports fall, domestic price of imports increase, leading to an increase in net exports and hence AD increases and possibly demand pull inflation, where there is no increase in LRAS. Thus, given the potential conflict that may arise, the government has to decide which macro issue is a more pressing problem that needs to be tackled first. Depreciation may create an impression of a “weak” currency, which could in turn be interpreted as an indicator that the economy is “unhealthy”. This may lead to a loss of confidence in the economy, triggering a fall in FDI, worsening capital account. Given poor investor outlook for the future and expectation, it may affect profitability and firm’s desire to invest more and hence affects economic growth. In addition, if the economy is dependent on foreign capital, it may worsen unemployment levels too. If a country’s proportion of net exports relative to GDP is very small, a depreciation may not have a significant impact on net exports and reduce current account deficit. If the economy is at a state where there is a lack of spare capacity, it will not be able to cater to an increased in export demand brought about by depreciation.
Conclusion	As explained above, there are many factors that need to be considered before a government implements a policy to address a problem. There may be certain factors that are more crucial to a country compared to another. In addition, other policies may be more appropriate in addressing the root cause of the BOP deficit. Hence the government should not always adopt exchange rate policy to deal with a BOP deficit and even if such a policy is adopted, its primary focus may change depending on the state of the economy and the relative severity of concurrent macroeconomic problems like inflation vs BOP deficit In addition, if the deficit is not persistent and large, the government might wish to utilize ER policy to achieve other macro aims instead of focusing it on BOP.

Level	Knowledge, Application, Understanding, Analysis	Marks

L3	Detailed and well elaborated explanation of at least 3 factors/ limitations of exchange rate policy in reducing BOP deficit and some implicit explanation on how the policy (depreciation) works.	9-11
L2	Under-developed explanation of the at least 2 factors/ limitations of exchange rate policy in reducing BOP deficit	6-8
L1	Mostly irrelevant or undeveloped explanation. There may be basic errors in theory and/or listing of points.	1-5
E2	Supported judgment based on sound economic analysis. Evaluation could consider which is the most important factor (Depending on nature of economy, state of economy, time period etc)	3-4
E1	Unsupported judgment not well supported by economic analysis	1-2

ANGLO-CHINESE JUNIOR COLLEGE

2017 JC2 PRELIMINARY EXAMINATIONS

ECONOMICS

8819/01

Higher 1

Paper 1

14 August 2017

3 hours

Additional materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Write your index number and name 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 / tape.

Section A
Answer **both** questions.
Begin each case study question on a **fresh** sheet of paper.

Section B
Answer **one** question.
Begin the essay question on a **fresh** sheet of paper.

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

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

This document consists of **7** printed pages.
Please check that your question paper is complete.

Section A

Answer **all** questions in this section.

Question 1

The Market for Higher Education

Table 1: Singapore government's expenditure per student (Singapore Dollars)

	2012	2013	2014	2015
Primary	7396	8549	9123	10,160
University	20,777	21,870	22,181	22,058

Source: Education Statistics Digest 2016, Ministry of Education

Extract 1: Singapore government's spending on higher education

There are compelling reasons to heavily subsidise higher education.

Firstly, there are private returns such as higher employability and wages as well as positive social returns to higher education, in terms of lowering poverty and crime rates. Societies that have better educated populations tend to have lower crime rates, enjoy greater social cohesion and a well-educated labour force that is needed for long-term economic development.

Secondly, there is a case for the government to intervene to ensure that there are equal opportunities. While it is generally feasible for individuals to fund their own tertiary education through loan schemes, the lower-income group may face credit constraints. Others may have heavy financial responsibilities that compel them to enter the labour market as soon as possible, rather than contemplate further education. Evidence also suggests that the lower-income group tend to underestimate the returns to education, due to lack of information and poor community role models. To encourage this group to take up higher education, the government provides financial assistance for higher education. There are also student and tuition fee loan schemes provided for the middle-income group at low interest rates.

The Singapore government has always invested heavily in education and will continue to do so in future, with greater emphasis on developing higher education. This requires a careful balancing between strategic considerations, equity, and efficiency.

Source: Singapore Budget, 2010

Extract 2: Reduction in subsidies for university education in the UK

A generation ago, students paid nothing for university education. In 2006, the fee cap for university education was £3,000. In 2012, the fee cap was raised further to £9,000. However, the vice-chancellor of Oxford University had recently expressed that the fee cap of £9,000 is insufficient to reflect the true cost of an Oxford degree at £16,000. Even with the raised fee cap, Oxford still faced an annual funding gap of £70 million. Moreover, Sir Christopher Snowden, president of Universities UK, says a £9,000 fee cap is still "not sustainable" for universities.

Universities UK will publish a report on the future of university financing. It will examine how universities will respond to rising birth rates, which means that the number of university places required will grow from 368,000 to 460,000. The cut in the level of government subsidies for universities will lead to students paying higher tuition fees but also eases the large government debt.

However, the government said these changes would put the higher education sector on a more sustainable footing. They believe the £9,000 fee allows universities to deliver high-quality teaching, with many institutions now planning to invest more in improved teaching facilities for students.

Adapted from BBC, 1 Nov 2013

Extract 3: Higher education benefits the UK economy

The higher education sector has significantly benefited the UK economy in many ways.

Firstly, international students studying in London bring in far more money than they use in public services. Students coming to study in UK universities from outside the EU pay an average of £12,000 a year for an undergraduate degree. A 2015 report from London First, an organisation representing London businesses, showed that international students in the capital used £540 million of public services such as the NHS (National Health Services), but brought in over £2.8 billion to the economy through tuition fees, spending and hosting family and friends coming to visit – a net contribution of £2.3 billion.

Secondly, four in ten young adults have a degree – and they can earn £9,000 more than those without a degree. The government's latest statistics show the employment rate for working-age graduates, aged 25-34, is 87.5% – the highest level since the end of 2007.

Thirdly, research collaborations between UK universities and business are worth more than £3.5 billion. There are currently 12,240 collaborative research projects between universities and businesses, including 368 in the arts and humanities, and 6,260 in engineering. The UK ranks fourth in the world for university-industry collaboration in research and development.

Source: The Guardian, 9 July 2015

Extract 4: Huge increase in number of graduates 'bad for UK economy'

The huge increase in number of graduates is bad for students and employers, suggests Chartered Institute of Personnel and Development (CIPD).

The government is being urged to end the political drive to get more people into university after research showed that the huge increase in the supply of graduates over the last 35 years has resulted in more occupations and professions being dominated by graduates. These include the banking, education, police and estate agency sectors in which jobs were mainly occupied by non-graduates in the past.

The CIPD said the notion of a tertiary education premium is being called into question by graduates' average debt of £44,000 and estimates that 45% of student loans would never be paid off. Noting that its research had shown more than half of the graduates take non-graduate jobs, the CIPD said the current system was not just bad for many of those who had been to university but also for non-graduates who were overlooked for jobs that did not require a degree.

Governments have been encouraging more and more students to pursue graduate qualifications. However, the research showed that for many graduates, the costs of university education outweigh its personal economic benefits. This is also undesirable for employers and the economy as mismatches, where graduates take up non-graduates' jobs, can be associated with lower levels of employee engagement and loyalty. Firms may then incur greater hiring and training costs. Lower levels of engagement will also undermine the government's attempts to boost productivity.

There is the need for a much stronger focus on creating more high-quality alternative pathways into the workplace, such as higher level apprenticeships. CIPD called on ministers to improve the quality of careers advice to ensure young people are better informed about their future careers; a shift in emphasis on apprenticeships to make quality of courses a higher priority.

Source: The Guardian, 11 October 2016

Questions

(a) With reference to Table 1, compare the government expenditure per student for primary and university education from 2012 to 2015. [2]

(b) With the aid of a diagram and using demand and supply analysis, explain two reasons for the expected increase in UK's university tuition fees. [4]

(c) **(i)** With the aid of a diagram and with reference to Extract 1, explain how social outcomes associated with higher levels of educational attainment can lead to market failure. [6]

(ii) Comment on whether Singapore should follow the UK's cut in subsidies for university education. [6]

(d) **(i)** With reference to Extract 4, explain how the increasing number of graduates is "bad for (graduate) students and employers". [4]

(ii) Discuss the view that the huge increase in number of graduates is undesirable for the UK economy. [8]

[Total: 30]

Question 2:

Imbalances in the United Kingdom and China economies

Table 2: GDP Composition breakdown by percentage in 2015

	China	UK
Consumption Expenditure	37%	65%
Government Expenditure	14%	19%
Gross Capital Formation	45%	17%
Export Revenue	22%	28%
Import Expenditure	18%	29%

Source: World Bank

Extract 5: Is the game up for China's much emulated growth model?

From the early 1990s, China adopted an export-led strategy that delivered continuously increasing shares of the world market, fed by relatively low wages and very high rates of investment, enabling massive increases in infrastructure. It led to big increases in inequality and even bigger environmental problems, but the strategy seemed to work – until 2008-09, when exports were hit by the global financial crisis.

Yet even then, China, India and other large emerging markets continued to grow. The talk at the time was that they were already dissociated from the west. In reality, China (and much of developing Asia) had simply shifted to a different engine of growth without abandoning the focus on exports. The Chinese authorities could have generated more domestic demand by stimulating consumption through rising wage shares of national income, but this would have threatened their export-driven model. Instead they put their faith in investments to keep growth rates buoyant.

So the "recovery package" in China essentially encouraged more investment, which was already nearly half of GDP. Provincial governments and public sector enterprises were encouraged to borrow heavily and invest in infrastructure, construction and more production capacity. To utilise the excess capacity, a real estate and construction boom was instigated, fed by lending from public sector banks. Total debt in China increased fourfold between 2007 and 2014, and the private debt-GDP ratio nearly doubled to more than over 280%.

All this comes in the midst of an overall slowdown in China's economy. Exports fell by around 8% in 2014. Stimulus measures such as interest rate cuts do not seem to be working. As such, the recent devaluation of the yuan is clearly intended to help revive the economy.

However, it will not really help. Demand from the advanced countries – still the driver of Chinese exports and indirectly of exports of other developing countries – will stay sluggish. Meanwhile, China's slowdown infects other emerging markets across the world as its imports fall even faster than its exports.

A weaker yuan is bad news for export-oriented economies like Singapore, Hong Kong, South Korea and Taiwan as their exports will be more expensive to Chinese buyers. Their exports to other countries will also have to compete against Chinese rivals who have the advantage of a weaker currency.

This is not the end of the emerging markets, but is – or should be – the end of this growth model. Relying only on exports or debt-driven bubbles to deliver rapid growth cannot work for long. For developing countries to truly "emerge", a more inclusive strategy is essential.

Sources: The Guardian, 23 August 2015 and The Straits Times, 7 January 2016

Extract 6: New economic crash fears as British families run £40 billion deficit.

British families are on course to spend £40 billion more than they earn this year, fuelling fears that the country's economic growth is based on soaring levels of debt and could easily collapse.

The forecast by the independent Office for Budget Responsibility (OBR) led to warnings that the UK could be heading towards a credit crunch similar to that of 2008 because of unsustainable levels of borrowing and household spending.

Five years ago, UK households were comfortably not in debt, running a surplus of £70 billion as Britons tightened their belts in the wake of the financial crash and put money aside to save.

But the new OBR figures show households are now deeply in debt, as growing economic confidence has led to a national spending spree. There is a real risk that millions of families will face serious hardship if interest rates start to rise.

A Bank of England study found that the average mortgage debt in Britain rose from £83,000 in 2014 to £85,000 this year. Unsecured debt, which includes credit card charges, personal loans, student loans and utility bills, stands at around £8,000 per household.

Source: The Independent, 21 December 2015

Extract 7: UK trade deficit widens to four-year high.

UK's trade deficit last year was the widest since the alliance of political parties came to power, dealing a blow to the government's drive to rebalance the economy away from consumer spending.

Forecasting the outlook for this year, economists said exports would come under pressure from a stronger pound and a slowdown in important markets, especially the UK's main trading partner, the Eurozone.

The Eurozone remains unlikely to see much of an acceleration in growth in 2015, particularly given the uncertainty being generated by the prospect of a Greek exit from the single currency area. In addition, economic expansion is expected to continue cooling in China over the medium term, weighing down on export prospects there.

Chris Leslie, the shadow chancellor, said: "Britain needs a serious strategy to help exporters – this means redoubling efforts to boost productivity, tackling infrastructure obstacles, addressing the skills deficit and ensuring innovators can access the funds they need."

Source: The Guardian, 6 February 2015

Table 3: UK Government debt (percentage of GDP)

Year	2010	2011	2012	2013	2014	2015
Government debt (% GDP)	76.0	81.6	85.1	86.2	88.1	89.0

Source: IMF

Questions

(a) **(i)** With reference to Table 2, which component of GDP contributed the most for UK and for China in 2015? [2]

(ii) With reference to Extract 5 and 6, account for your answer in a(i). [4]

(b) Explain what determines the impact of a devaluation in Yuan on a Chinese exporting firm's revenue. [4]

(c) With reference to Extract 5, explain how an interest rate cut could have helped to revive China's economy and suggest one possible reason why it did not work. [4]

(d) With the help of an AD/AS diagram, explain why attempting to increase consumption in China would "threaten their export-driven model". [6]

(e) With reference to Extract 6, explain how households' standard of living in the UK may be affected if interest rates were to rise. [2]

(f) Assess the effectiveness of the UK government's proposed strategy of boosting exports to reduce the trade deficit. [8]

[Total: 30]

Section B

Answer **one** question from this section.

Begin this section on a **fresh** sheet of paper.

3 **(a)** Explain the demand and supply factors that affects the price of alcohol. [10]

(b) Discuss the view that governments should ban the consumption of alcohol. [15]

4 **(a)** Explain the main causes of high inflation rates in Singapore. [10]

(b) Discuss whether fiscal policy is the best policy for the Singapore government to achieve low and stable inflation rates. [15]

H1 Economics 8819 Paper 1 Question 1: Suggested Markscheme

Question 1: The Market for Higher Education

(a) With reference to Table 1, compare the government expenditure per student for primary and university education from 2012 to 2015. [2]

- *Both government expenditure per student for primary level and university have generally increased from 2012 to 2015. [1]*
- *Government expenditure per primary school student is always lower than university expenditure per student. [1]*

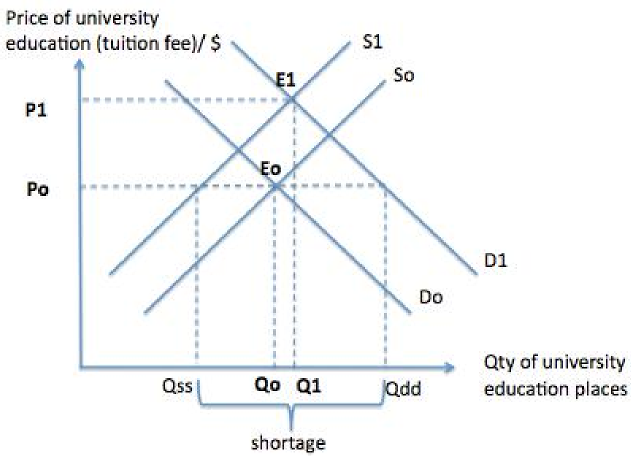
OR

- *Both government expenditure per student for primary level and university have generally increased from 2012 to 2014 but for 2015, university expenditure per student has fallen while expenditure per primary school student continued to increase. [1]*

(b) With the aid of a diagram and using demand and supply analysis, explain two reasons for the expected increase in UK's university tuition fees. [4]

With references to Extract 2,

- *The increase in birth rates in UK → leads to the rise in demand for university education → increase in DD (shift right from DDo to DD1) [1]*
- *Cut in government subsidies for universities leading to higher COP for universities. → Decrease in SS (shift left from SSo to SS1) [1]*
- *A shortage (of (QssQdd amount at initial price level of Po) will occur in the market [1] → lead to an increase in price of university education (from Po to P1)*
- *Diagram [1]*



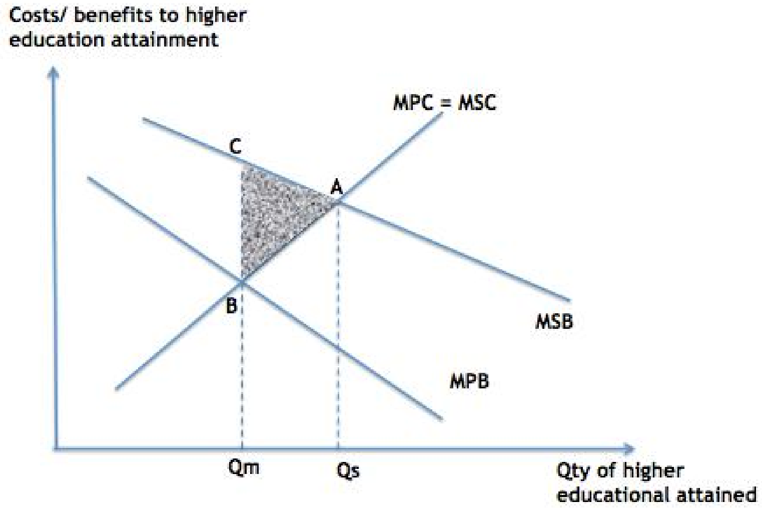
1m – DD factor
1m – SS factor
1m – price mechanism linking to shortage
1m – diagram

(c) (i) With the aid of a diagram and with reference to Extract 1, explain how social outcomes associated with higher levels of educational attainment can lead to market failure. [6]

- ***Diagram to show how positive externalities associated with higher***

educational attainment can lead to under consumption and market failure

(assume: no negative externality, thus MPC = MSC)



- ***With reference to the extract, explain the positive external benefits that arise from higher educational attainment and relate it to the third parties.***
    - *According to Extract 1, higher level of educational attainment can lower poverty and crime rates, creating a society that is more cohesive and safer for households. It also improves the quality of the labour force that is beneficial for economy long-term economic development, improving the standard of living of the future generations as well. These are some of the external benefits to the third parties.*
- ***Explanation of the market equilibrium***
    - *Individuals who seek to attain higher level of education only take into account their private benefits (such as the higher employability and wages earned) and private costs (such as the tuition fee for higher level education, time needed to graduate from higher educational etc.)*
    - *Thus the market equilibrium is at MPC = MPB, where level of university places taken up/ number of university students is at Q_m*

- ***Explanation of the socially optimal equilibrium***
    - *However, these individuals do not account the external benefits related to higher level of education attained*
    - *Due to the external benefit incurred, MSB > MPB*
    - *The socially optimal equilibrium is at MSC = MSB, where level of university places taken up/ number of university students is Q_s*
- ***Under-consumption and welfare loss***
    - *However, at Q_M, MSB>MSC. This implies that the society's welfare is not maximised at Q_M. Hence, there will be a deadweight loss of the shaded areaABC. The increase in the number of students beyond Q_m up to Q_s will increase the net society's welfare.*
    - *Thus if left to the market, the number of university students will remain at $0Q_m$. There will be an under-consumption of higher education of Q_mQ_s and the market fails.*

Level	***Descriptors***	***Marks***
L3	• *A well-developed answer with good reasoning.* • *Clear and accurate economic analysis* • *Good use of relevant examples from the case study to support the explanation.*	*5 – 6*
L2	• *Under-developed answer. Points are stated but lack coherent reasoning* • *Economic analysis contains some conceptual errors* • *Some attempt to use examples from case study and relate to the context.*	*3 – 4*
L1	• *Descriptive answer with no economic analysis* • *Many conceptual errors.*	*1 – 2*

(ii) Comment on whether Singapore should follow the UK's cut in subsidies for university education. [6]

Approach: Students should consider the reasons for the subsidies made by the Singapore govt. Based on extract 1, subsidies on higher education sector require a careful balancing between strategic considerations, equity, and efficiency. These considerations could differ from what the UK govt based their decision to cut their subsidies on, however. Thus, on evaluation, cutting the subsidies would also entail a review of these considerations in the Singapore context.

<u>Argument for:</u> Singapore should cut subsidies

1 ***Extent of private returns to higher education, as compared to external benefits:***
Considering that there are private returns of higher employability and wages (Extract 3) to higher education, it may be ***possible that current subsidy levels are too high.*** *If students are to gain from higher education, then they should be willing to pay a larger proportion of the fees. →* ***The govt may have overestimated the size of external benefits of higher education****. A cut in subsidies would lower the quantity of places available in universities, and possibly lead to a better allocation of resources.*
[Students to insert diagram to illustrate possible over-subsidy of higher education]

2 ***High subsidies may lead to an overconsumption of higher education places****, which would then lead to an over-supply of graduates. This could mean that the Singapore economy would have to be able to absorb the increase in graduate workers with sufficient capacity and opportunities for graduate-level jobs. If not, it could result in under-employment or, in an economic crisis, high unemployment. Thus to prevent this, a cut in subsidies would reduce the number of university places and reduce the rate of increase in graduates.*

3 ***Improved range of courses by universities:*** *Reducing subsidies would mean that universities would have to increase their fees for some consumers, or be more strategic in their offering of courses.*
a. Higher fees are viable as higher income consumers now have better ability to pay and thus do not need to be subsidised at the same level as those with lower income

b. Consumers are more knowledgeable about higher education courses, and are more discerning about their choice of university courses to attain their dream career.

Thus, universities can be allocatively more efficient with the reduced subsidies if they offer courses that consumers are willing and able to pay for.

4 Similar to the UK economy, the opportunity cost of subsidizing higher education could be high, considering that there are other priorities in the economy, for example caring for the aging population, improving public infrastructure on healthcare and transportation, and budgeting for industry transformation programmes.

***Counter- Argument:* Singapore should not cut subsidies**

1 Consideration of efficiency and equity: Extent of market failure caused by positive externalities and the income gap

As expressed in extract 3, market failure exists in the market for higher education. Thus, there is a case for government to subsidize.

- *The extent of subsidies so far has generated a large pool of skilled and educated workforce, which has contributed immensely towards the economic progress of the country. This shows that the external benefit are large and continues to be enjoyed by the economy*
- *The govt has to also consider the need to support the aspirations of the lower income group through subsidizing their participation in higher education.*

2 Strategic consideration of economic progress and competitiveness:

Expenditure figures in Table 1 show that the amount spent by the govt per university student is more than double that of expenditure on primary school students.

- *Considering that universities have to deliver high quality education to prepare the people for the future economy, a cut in subsidies could place them in danger of having to cut corners, employ low quality teaching staff and reduce intake of students.*
- *There could also be a reduction in the range of courses that students can choose from. As an education hub, this would make the sector less attractive to investors and potential private institutions.*
- *Considering the need for labor to continue to be highly skilled for the future economy, subsidizing higher education should continue*

3 Strategic consideration of fiscal capacity:

From Extract 1, UK govt decided to cut subsidies in order to ease their debt. This might not be the case for the Singapore govt. Unlike the UK govt, the govt of Singapore does not have a large debt and historically have a healthy budget balance through the govt prudent spending. This provides them with a strong ability to continue subsidizing higher education, even at its present level to achieve its social and macroeconomic goals.

Evaluative judgement

Overall, the level of subsidies that the government gives to universities should be high enough to sustain their quality of education. While it can be argued that the private benefits gained by consumers are high and thus should be *privately financed, the economic benefits to the economy of a highly educated and skilled workforce far outweigh the economic costs of the subsidies given. The Singapore government does have that fiscal ability to continue subsidizing higher education.*

Level	***Descriptors***	***Marks***
L3	• *Reasons for the subsidies are well analyzed, and placed within the context of the Singapore economy.* • *Answers draw from the data as well as from their knowledge of the Singapore economy.* • *Answers have a balanced view regarding whether the Singapore govt should reduce subsidies or continue with the current level.* • *Answer provides judgement that is based on analysis.*	*5-6*
L2	• *There is a lack of depth of analysis regarding the reasons to implement subsidies in education.* • *Use of data is sporadic and inconsistent.* • *Answer has some inaccurate concepts.* • *Answer provides some judgement but is sporadic and brief, at times with no justification and economic analysis.*	*3-4*
L1	• *Descriptive answer with no economic analysis* • *Many conceptual errors*	*1-2*

(d) (i) With reference to Extract 4, explain how the increasing number of graduates is "bad for (graduate) students and employers". [4]

***Students**:*

- *Rise in SS of graduates entering the non-graduates labour market → leads to fall in wages for the graduates and non-graduates→ this can adversely affect their standard of living. [1]*
- *Evidence: Extract 4 mentioned that the graduates have to take up jobs that do not require a degree. [1]*

OR

- *Students might not be able to pay off their education loans → due to these students taking on non-graduate jobs which offer lower wages → lead to reduction in ability to consume and may also be under financial stress → fall in standard of living. [1]*
- *Evidence: Extract 4 mentioned that more than half of the graduates actually took on non-graduate jobs, the graduates' average debt is around £44,000 and it is estimated that 45% of the student loans would never be paid off. [1]*

***Employers**:*

- *Graduates taking on mismatching jobs relative to their qualification may be less committed at work and may not remain loyal to the company → more likely to leave company/ job-hop → firms may incur higher cost of training worker, which may lower its profit margin [1]*
- *Evidence: Extract 4 mentioned that firms may incur greater hiring and training costs. [1]*

2m each for students and employers
– for identification of the reason
– for explanation of the reason

(ii) Discuss the view that the huge increase in number of graduates is undesirable for the UK economy. [8]

Approach: Answer should explain the two views of how the increase in graduates can be both undesirable and desirable to UK economy before providing an explained judgement of the likely outcome for UK economy.

Argument: Increase in graduates can be undesirable to UK economy

1. Rise in number of graduates may worsen UK's unemployment (unN) rate

- *There are insufficient jobs to absorb the huge increase in SS of graduates into the labour market → resulting in some graduates taking on jobs that do not require a degree (under-utilisation of labour resources) →and putting some non-graduates out of jobs → creating the issue of under-employment as graduates are over-qualified for the non-graduate jobs as well as structural unemployment given that there are insufficient matching jobs (both higher-skilled and lower-skilled jobs to absorb all labour) in the economy.*
- *The rise in unemployment can also result in greater strain on UK's government budget as more welfare spending such as unemployment benefits would be needed. Thus, less government spending can be allocated for other projects such as spending on healthcare, education or infrastructure-based development that could improve UK's future EG.*
- *Evidence: Extract 4- Research showed that the huge increase in the supply of graduates over the last 35 years has resulted in more occupations and professions being dominated by graduates. These include the banking, education, police and estate agency sectors in which jobs were mainly occupied by non-graduates in the past.*

2. Rise in number of graduates may worsen UK's inequity issue

- *Increase in SS of labour in non-graduate job market due to graduates seeking for non-graduate jobs → result in falling wages in the lower-skilled job markets → lead to widening of income gap between the labours in the high-skilled and lower-skilled job markets.*
- *In addition, the fall in household disposable income for labours in non-graduate jobs → fall in purchasing power → fall in C → fall in AD → fall in real national income → resulting in material SOL of unemployed graduates and non-graduates worsening and compromising macroeconomic goals; causing negative EG and increase in demand-deficient unemployment.*

3. Rise in number of graduates may slowdown future EG

- *Increase in graduates taking non-graduate jobs → lead to these graduates being discouraged as there is lack in opportunities to develop and master higher level skills that will enable them to become expertise in their fields → slowdown in productivity growth → slowdown increase in LRAS → hinder UK's potential EG.*
- *In addition, the issue of brain drain may occur as the unemployed graduates may move out of UK in search of better jobs → fall in labour force size → fall in production capacity → fall in LRAS → hinder UK's*

potential EG.

- *Evidence: Extract 4- Lower levels of engagement will also undermine the government's attempts to boost productivity*

***Counter- Argument*: Increase in graduates can be desirable to UK economy**

1. Rise in number of graduates can increase X- revenue

- *Number of international students in higher education may increase too → increase spending by foreigners in many UK's sectors, including tourism, healthcare and education sectors → rise in X → rise in AD → increase in real national income → actual EG and lower demand-deficient unemployment due to more labour hired for increase in production of goods and services.*
- *Evidence: Extract 3- Tuition fees, spending and hosting family and friends coming to visit – a net contribution of £2.3bn.*

2. Rise in number of graduates can increase in I

- *Higher education sector provides greater opportunities for firms to carry out research projects with universities → create more job opportunities for graduates → not only prevent the issue of under-employment (where graduates take on non-graduate jobs) and thus alleviate inequity issue, it also encourages the growth in productivity and innovation → higher I → rise in AD and LRAS → increase in real national income and economy maximum production capacity respectively → actual EG and potential EG → sustained EG as well as lower demand-deficient unemployment due to more labour hired for increase in production of goods and services.*
- *Evidence: Extract 3 - research collaborations between UK universities and business are worth more than £3.5 billion*

3. Rise in number of graduates can increase in C

- *Graduate jobs provide higher income → higher disposable income → higher purchasing power → hence increase C → rise in AD → increase in real national income → improve SOL and achieve macroeconomic goals, such as actual EG and lower demand-deficient unemployment due to more labour hired for increase in production of goods and services.*
- *Evidence: Extract 3 - Young adults with degree can earn £9,000 more than those without a degree.*

***Evaluative judgement*:**

- *In general, having increase in graduates can be beneficial to UK economy. However, if the increase in graduates is not matched with sufficient graduate jobs created, it would be undesirable for UK economy.*
- *Thus, in order for the higher education sector to stimulate UK economy in the long run, UK would need to ensure that the job market offers sufficient matching jobs for the graduates while also ensuring that the graduates are equipped with the relevant skills required by firms.*
    - *This means, more communication need to be established between the schools and the firms. Perhaps, universities need to encourage greater partnership between universities and firms → enabling graduates to develop soft skills and possess higher level of apprenticeships (extract 4).*
- *Looking into the future, UK universities should also start to explore ways to balance its rise in COP while continuously aim to provide high-quality*

teaching. The increase in fee cap excessively may eventually lead to UK being a less popular location for some international students in the future. If so, it may dampen X- earnings contributed by the international students → slowdown future actual EG.

Level	**Descriptors**	**Marks**
L3	• A well-developed answer with good AD/AS reasoning linking to macroeconomic aims. • Clear and accurate economic analysis • Good use of relevant examples from the case study to support the explanation.	5 – 6
L2	• Under-developed answer. Points are stated but lack coherent AD/AS reasoning linking to macroeconomic aims. • Economic analysis contains some conceptual errors • Some attempt to use examples from case study and relate to the context.	3 – 4
L1	• Descriptive answer with no economic analysis • Many conceptual errors.	1 – 2
E2	• Judgement provided is supported with reasoning. For instance, answer may explain the circumstances that the rise in graduates from higher education institutions can be desirable to UK economy.	2
E1	• Judgement provided is unsupported.	1

[Total: 30]

H1 Economics 8819 Paper 1 Question 2: Suggested Mark Scheme

(a) (i) With reference to Table 2, which component of GDP contributed the most for UK and for China in 2015? [2]

- Consumer expenditure contributed the most to GDP for UK. [1]
- Investment expenditure contributed the most to GDP for China. [1]

(ii) With reference to Extract 5 and 6, account for your answer in a(i). [4]

- Extract 6: Growing economic confidence in the UK economy [1] →
- Causes a "national spending spree" because consumers have higher expectations of future income [1]
- OR higher household income leading to greater purchasing power OR low interest rates leading to lower cost of borrowing to purchase consumer goods

- Extract 5: Chinese government decided to encourage more investments to sustain economic growth rates [1] →
- Increase accessibility to loans → Increase in lending → large increase in investment expenditure [1]
- OR low interest rate / ease of credit for firms

2 marks each for identifying and explaining for each country

(b) Explain what determines the impact of a devaluation in Yuan on a Chinese exporting firm's revenue. [4]

- Impact is determined by the price elasticity of demand for the goods [1]
- Devaluation of Yuan causes Chinese goods to be cheaper in terms of other currencies [1]
- If PED>1 such as for goods with many substitutes, a fall in price causes a greater than proportionate increase in quantity demanded, thus total revenue increases. Opposite is true for goods with PED<1 such as necessities [2]

1 mark for identifying the determinant
1 mark to explain change in price of goods
2 marks to explain how changes in price and quantity affect revenue

(c) With reference to Extract 5, explain how an interest rate cut could have helped to revive China's economy and suggest one possible reason why it did not work. [4]

Explain interest rate cut
- Decrease in i/r → lower cost of borrowing and increase returns to savings [1]
- Increase C and I [1]
- Increase AD → economic growth [1]

Possible reasons why it did not work [1 mark for any one reason well explained]
- Poor confidence in the economy → increase in I will not encourage C and I as consumers and firms are more cautious in their spending
- Saving culture in China → consumers unwilling to spend even with lower interest rate.
- Private firms already have a high level of debt from past investments → may not want to borrow and further increase debt even if interest rates are low.

(d) With the help of an AD/AS diagram, explain why attempting to increase consumption in China would "threaten their export-driven model". [6]

- To encourage increase in C, government would have to raise wage shares of national income, so that consumers would have greater ability to consumer goods.
- However, rising wages would result in increase in cost of production for firms. There would be a fall in SRAS resulting in cost push inflation and increase in price of exports.
- As price of exports increases, there is a loss in export competitiveness. China may experience a fall in export revenue.
- As exports fall, AD will fall. Overall, there would be slower economic growth. *(Note: students need not shift AD to the left. With same AD curve, students can still show rise in GPL and fall in real GDP.*

Level		Marks
L3	• Well-developed explanation of how increase in wages will increase cost of production and decrease AD and AS	**5-6**
L2	• Some analysis on how rising wages may affect export revenue • May have missing links or incomplete explanations	**3-4**
L1	• Wrong analysis • No application to Extract 5: ○ *Students who explain that increase C will cause demand pull inflation and reduce X competitiveness*	**1-2**

(e) With reference to Extract 6, explain how households' standard of living in the UK may be affected if interest rates were to rise. [2]

- Rise in interest rate → debt burden rise or need to repay a greater debt [1]
- Increase in amount needed to service debt → purchasing power fall, less ability to consume goods → SOL fall [1]

(f) Assess the effectiveness of the UK government's proposed strategy of boosting exports to reduce the trade deficit. [8]

Students can introduce answer by briefly explaining meaning of trade deficit.

<u>Analysis of UK's proposed strategy boost exports:</u>
Students must identify the various strategies from the Extract

- (Evidence: boosting productivity, addressing skills deficit, tackling infrastructure obstacles)
  → reduce unit labour cost → lowers price of exports →improve price competitiveness of UK exports → UK export revenue rise (assuming price elastic demand) → reduce UK trade deficit
- (Evidence: innovators access to capital)
  → government's financial support for innovation → product or process innovation → reduction in unit production costs or new products → could lead to lower price or quality products → reduce PED → (non-pricing, branding strategy, niche-marketing) → increase demand of UK exports → rise in export revenue → reduce UK trade deficit

<u>Counterargument:</u>
Possible constraints that could cause UK proposed strategy to be ineffective

- (Extract 7) Stronger pound (appreciation) will make UK exports more expensive in foreign currency → price competitiveness due to the lower unit labour production cost may be eroded (assuming demand is price elastic)
- (Extract 7) Slowdown in economic growth in UK's major trading partners (Eurozone, China) → falling household income, lower consumption (including imports) → UK exports to these countries may fall.
- Skills training to raise labour productivity may encounter resistance from both employees and employers. Impact on labour productivity can also be seen only in the LT
- Financial support for Innovation requires long incubation period → unpredictable outcome even in LT
- (Table 3) Given UK's debt increasing to almost 90% of GDP, UK govt may not be able to provide adequate financial support for innovation (sustainability of this strategy is questionable)

Possible Judgement

- Proposed strategy seems to be ineffective in the ST as intended outcomes can only be seen in the LT
- Unintended consequences likely to arise → rendering it ineffective
  - High UK import expenditure (% of GDP)
    Unless the high UK Consumption and import expenditure (% of GDP) can be reduced, any rise in export revenue may not lead to fall in trade deficit. Rise in export revenue may lead to rise in AD, ec growth, spurring rise in import demand. Hence UK govt needs to consider reducing import expenditure as well.
  - Lack of public support
    Public support for Skills training to upgrade labour productivity would only be politically acceptable provided govt provides subsidy for such training to both workers (cost of training + loss of income during training) and employers (loss of labour service) → requires heavy govt funding.
  - Increased Govt debt
    High UK govt debt made it difficult for govt to sustain support for innovation and skills training
  - Trade policies of trading partners
    UK trading partners likely to undertake trade policies (protectionism) or exchange rate policies (depreciation) → erode competitiveness of UK exports.

- Possible complementary measures to increase effectiveness of proposed measures: Expenditure reducing measures or depreciation of currency.
  (Note: these other measures are only relevant after students have analysed UK proposed strategies identified in the extract).

Level		Marks
L2	• Well-developed explanation of how UK's proposed strategy could correct the trade deficit AND the constraints that will limit its effectiveness. A balanced answer with supporting evidence.	5 - 6
L2	• Balanced answer but superficial explanation of how strategy works to correct the trade deficit and constraints. • No / Inadequate evidences cited incidentally. • One-sided answer.	3 - 4
L1	• Brief statements of effectiveness / ineffectiveness of UK proposed strategies • Many conceptual errors	1 - 2

	• No reference to extracts / context	
E	• Make a reasoned judgment on whether UK strategy is likely to be effective	**1 - 2**

3 **(a)** Explain the demand and supply factors that affect the price of alcohol. **[10]**

(b) Discuss the view that governments should ban the consumption of alcohol. **[15]**

a) Explain the demand and supply factors that affect the price of alcohol. [10]

<u>Suggested Approach</u>

Introduction

- Acknowledge that prices are determined by forces of demand and supply
- Identify the possible demand and supply factors that could affect the price of alcohol
- Different types of alcohol i.e wine, beer, hard liquor

Body

(STUDENTS SHOULD SELECT THE MORE APPROPRIATE FACTORS WHICH ARE APPLICABLE TO ALCOHOL)

Demand factors

a) <u>Taste & preferences</u>

- Due to strong marketing efforts and innovative marketing campaigns to promote the consumption of various alcoholic drinks, this has resulted in an increase in demand for alcohol.
- For e.g in 2016, leading players such as Asia Pacific Breweries Ltd launched innovative marketing campaigns to create excitement amongst consumers, tapping into the use of culture and food pairing. For instance, Tiger beer conducted a marketing campaign entitled uncagestreetfood to celebrate the local street food culture. Through a series of hawker dining events, consumers were able to pair their local food with the brand. This has resulted in an increase in demand for alcohol.

b) <u>Household income</u>

- Due to growing affluence, more people are willing and able to spend more on luxury items such as wine, thus resulting in an increase in demand for alcohol. However, for alcoholic drinks such as beer could be seen as an inferior good. Hence when there is an increase in income, there will be a fall in demand for beer.
- Likewise, when there is poor economic outlook, consumers show more discretion in their spending and cut down on their demand for alcohol such as wine.
- For e.g there is a slowdown in growth in total volume of alcoholic drinks sold in Singapore 2016 due to pessimistic consumer sentiments.

Supply factors

a) <u>Government policy</u>

- Due to government policy such as taxes on alcohol producers, this has increased their cost of production thus causing supply to decrease. This is seen in Singapore where it raised excise duties on alcohol by 25%.

b) <u>Increase in number of producers</u>

- Due to lower barriers to entry into the market for alcohol due to new distribution channels such as online shopping, this has led to an increase in supply of alcohol as these products are becoming more readily accessible to consumers. For instance, the number of internet wine retailers such as Vinomofo is increasing due to the lower set-up and operating cost. Moreover, internet retailers are importing a wider range of wine brands, thus increasing supply of alcohol.

Putting supply and demand factors together

- In terms of supply, the implementation of a large amount of taxes is likely to outweigh the entry of new producers, causing supply for alcohol to decrease.
- Hence the increase in demand and decrease in supply is likely to lead to an increase in prices. This will lead to a shortage of alcohol. This shortage will put an upward pressure on the price of alcohol, causing price of alcohol to increase.

	Level Descriptors for Essay Question 3(a)	**Marks**
L3	• Well-developed explanation of both demand **<u>and</u>** supply factors affecting price of alcohol • Use of adjustment process to explain the change in price. • Answer supported by examples and well-contextulised to market for alcohol	**8-10**
L2	• Undeveloped explanation of demand **<u>and</u>** supply factors that affected price of alcohol • <u>OR</u> • Developed explanation of demand **<u>or</u>** supply factors affecting price of alcohol • Limited use of examples.	**5-7**
L1	• Mostly irrelevant • Theoretical answer without contextualising to market for alcohol • Conceptual inaccuracies. • Mere listing of factors	**1-4**

b) Discuss the view that governments should ban the consumption of alcohol. [15]

<u>Suggested Approach</u>

Candidates are required to explain why there is a need for governments to intervene through the imposition of a ban by explaining the market failure due to presence of negative externalities in the market for alcohol. Candidates are then required to explain how the ban of consumption of alcohol can help to reduce the market failure and evaluate its effectiveness and if the government should implement other measures instead.

Development of ideas

<u>Thesis: Governments should consider banning consumption of alcohol.</u>

- **Explain reasons for government intervention in the market for alcohol**

Consumers of alcohol will only consider their marginal private cost (MPC) and marginal private benefit (MPB) in consuming alcohol. The private cost of alcohol consumption includes the price of alcohol while the private benefit includes the satisfaction from consuming alcohol, such as being able to de- stress. If left to the free market, consumers would be consuming up to the quantity where their MPB equates MPC at Qe, as shown in Fig 1 below.

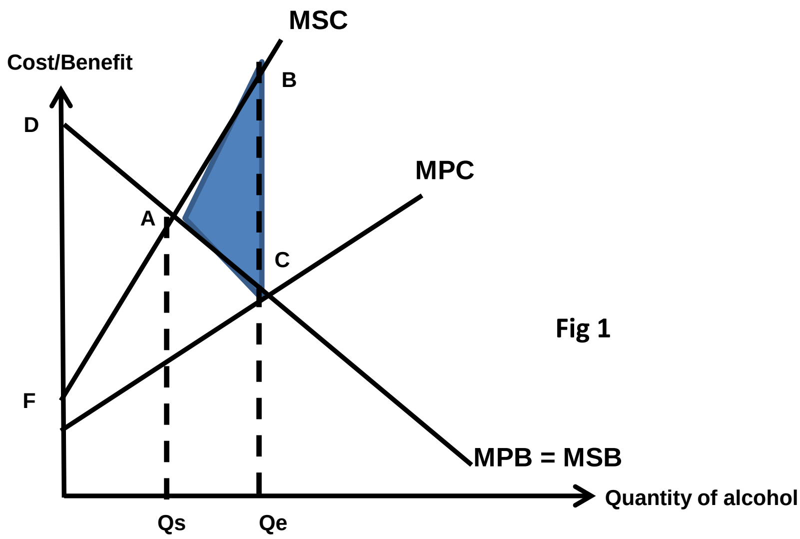


Fig 1

In addition, there are also negative externalities associated with alcohol consumption. Examples of the external cost are the harm/violence towards the surrounding members of the public as the drinkers become easily aggravated and lost control of themselves. The surrounding members of the public may need to bear treatment cost as a result of the assault. In addition, when those who drink drive, their negligence may result in accidents; even fatal ones, as stated in the preamble. The cost inflicted on other road users or pedestrians are the treatment cost or even cost associated with loss of lives.

Due to the presence of external costs, there is a divergence between marginal social cost (MSC) and marginal private cost (MPC). At the level of consumption in the free market, the marginal social cost is greater than MSB. Society values an additional unit of alcohol less than what it costs society to consume it. The socially optimum level of consumption is at Qs, where MSB=MSC. There's therefore a situation of over-consumption, resulting in a deadweight loss as shown by the shaded area. Society's welfare is not maximised at Qe. There's a need to allocate less resource to the consumption of alcohol until the socially optimum level of consumption could be attained at Qs. There's a need for the government to intervene to ensure this outcome.

Transition: One form of regulation is to ban alcohol consumption. This, however, should be considered for implementation only if it improves societal welfare.

- **Explain how a ban on consumption of alcohol will lead to an efficient allocation of resources**

A complete ban on consumption of alcohol will reduce consumption of alcohol to zero. This will lead to an efficient allocation of resources if the socially optimal quantity of consumption is at zero as well. This will directly restrict the access of alcohol to consumers and reduces the external cost on members of the public. An example is seen in a prohibition law in Bihar, one of India's poorest, most agrarian states. The law imposes a maximum sentences of seven years for drinking alcohol and life in prison for making it. This has resulted in crime rates to have fallen sharply, reducing the negative externalities. In addition, if the extent of external cost is large, it is administratively easier to just ban the activity to reduce market failure.

Anti-thesis: Government should not completely ban the consumption of alcohol.

- **Argument 1: Explain why a complete ban on consumption of alcohol may not lead to an efficient allocation of resources**

(i) Underconsumption in the market for alcohol

- With reference to Fig 1, the welfare loss as a result of the decision of consumer is given by area ABC. Banning alcohol consumption will reduce the level of consumption to zero. However, for units up to Qs, the marginal social benefit is higher than the marginal social cost. Not allowing the consumption of these units implies a welfare loss given by the area FDA. Hence, banning alcohol consumption totally can lead to a bigger welfare loss.
- In fact, when the extent of the costs is not yet known like the case of production of toxic chemicals, banning the production or consumption is usually not rational from the perspective of the society and hence is usually not implemented.

EV: Having said that, it may still be recommended to ban alcohol consumption to some degree up to socially optimal quantity of consumption, Qs. For instance, a ban can be implemented for those below a certain age. For example, in Singapore, the legal minimum age is 18. Another form of banning alcohol consumption could be in the form of restricting the hours for which alcohol can be purchased. For example, with effect from 1st April 2016, between 10.30pm to 7am, drinking is prohibited in public places and retailers are prohibited to sell alcohol in Singapore, since most of the external cost to third parties are inflicted during the stated hours, the external cost such as disturbances on members of the public is directly curbed with certainty; given proper enforcement of the law.

Other form of banning alcohol consumption can be in terms of designated areas in a country. In Singapore, Liquor Control Zones, places associated with excessive drinking and hence higher risk of having public disorder, have been drawn to ban alcohol consumption.

(ii) Other reasons

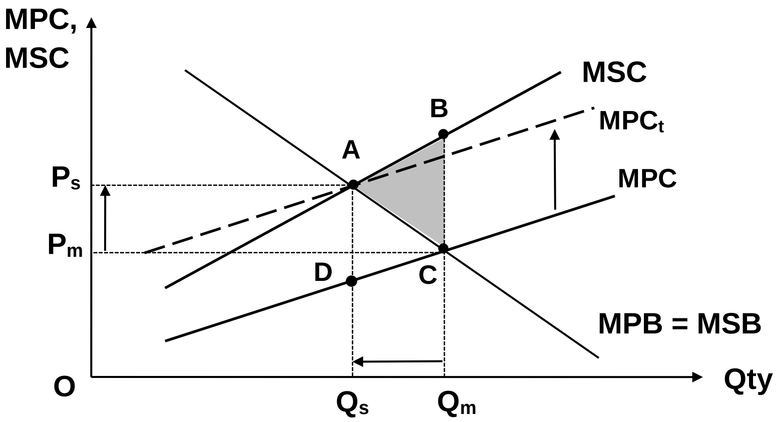
Besides the consideration of welfare loss, there are other reasons for regulator not to ban the product. Banning a product that is habitually consumed good may cause public outcry. It can also further tarnish the country's reputation to be a country with little rights. But more importantly, it can result in an important source of government revenue as high taxes tend to be associated with demerit goods. In addition, banning the consumption requires strict enforcement for it to be successful, which may require a lot of resources to be channeled into it.

Transition: A ban on alcohol consumption should only be considered for implementation only if it improves societal welfare. Otherwise, less drastic measures such as taxes and other forms of legislation should be recommended.

- **Argument 2: Explain alternative measures which governments can adopt in the market for alcohol and discuss why there might be no need for such a drastic measure such as a ban of consumption of alcohol.**

(i) Taxes: The government can also impose on producers a tax equal to level of MEC at the socially optimal level. Because of the imposition of this tax, producers will reduce supply and pass on part of this increase in costs to consumers, which will result in a higher price of alcohol. This will shift the MPC upwards, causing the external cost to be internalized as price of alcohol will increase from Pm to Ps. This would reduce the consumption of alcohol to the socially efficient level and remove the deadweight loss indicated in the figure below. If the taxes is able to correct the market failure, the government should not impose a total ban on alcohol consumption.

The revenue collected from taxes could also be used to fund public projects to create more awareness of the harm from excessive consumption of alcohol. This would be necessary to continue to curb the issue in the long run. On the other hand, legislations like a ban is costly in its enforcement. There's a need to mobilise resource such as police patrols to monitor and ensure that the legislation is adhered to. This would put a strain on the government budget instead, and perhaps the resource could have been better channelled elsewhere.



(ii) Moral Suasion: Government can take on the role of an information provider to persuade people to change their drinking habits. For example, posters and advertisements seek to inform and heighten consumers' awareness on the costs of drink-driving in Singapore and to advise the population to stay away from alcohol if they are driving.

Hence if current measures such as taxes and moral suasion are working, there is no need for government to implement such a drastic measure such as a ban on consumption of alcohol.

Conclusion

- In conclusion, some degree of banning can be helpful in reducing external costs and removing consumers who would grossly underestimate their private costs from the market. These measures, however, should be supplemented with both moral suasion and indirect tax to better deal with market failure problem especially given that there is no one measure that is most superior.

EV: Taxation and legislation could be 'blunt' tools as they do not discriminate between responsible and irresponsible drinkers (social & binge drinking). The ban or higher prices of alcohol applies to all drinkers whether they generate external costs or not.

EV: In the long run, the government may need to reduce its extent of regulation and taxation and rely on provision of information to change drinking habits of the population. Improvement in provision of information to the public through campaigns, enables drinkers to factor in the true costs of consumption to themselves, their family members and society and would hence be a more sustainable way to curb this problem in the long run, instead of continuing to drain the government resource on enforcement of legislation such as a ban.

	Level Descriptors for Essay Question 3(b)	**Marks**
L3	• Well-developed and balanced analysis which covers the following: o Reason for government intervention: correct identification of source of market failure in the consumption of alcohol o Intervention in consumption of alcohol is necessary but may not be necessary to ban it completely o Evaluation of alternative methods of intervention • Well-supported with relevant examples which are contextualised to the market for alcohol	**9-11**
L2	• Undeveloped OR one-sided analysis on: o Source of market failure in the consumption of alcohol o How a ban in consumption of alcohol may lead to an efficient allocation of resources • Lack application to the context of market for alcohol	**5-8**
L1	• Answer is mostly irrelevant and contains only a few valid points made incidentally to the ban of alcohol consumption • Answer not supported by economic reasoning • Conceptual inaccuracies	**1-4**
	Evaluation	
E2	For an answer that arrives at an analytically well- reasoned summative conclusion assessing the effectiveness of a ban on consumption of alcohol Relevant criteria/conditions identified for evaluation. Students can consider: **Feasibility** and **practicality** of banning consumption of alcohol Sustainability of a ban on alcohol consumption • Benefits and costs of imposing a ban on alcohol consumption	**3-4**
E1	Some attempt at evaluation or making a summative conclusion but not consistently using economic analysis.	**1-2**

4 (a) **Explain the main causes of high inflation rates in Singapore.** **[10]**

(b) **Discuss whether fiscal policy is the best policy for the Singapore government to achieve low and stable inflation rates.** **[15]**

a) Explain the main causes of high inflation rates in Singapore. [10]

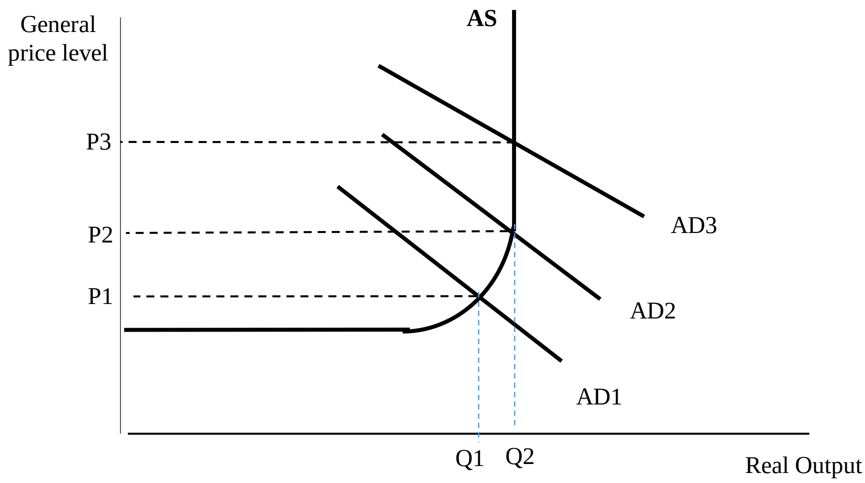
Suggested Approach

Introduction

- Define Inflation and identify the types of inflation – cost-push and demand-pull
- Explain causes of cost-push and demand-pull inflation in Singapore which could be due to both domestic and external factors.
- Context of Singapore:
    - Prone to demand-pull inflation as the economy is operating close to full employment.
    - As Singapore is a small open economy, external demand is likely to be larger than domestic demand, so demand-pull inflation is more likely to be externally driven rather than domestically driven.
    - With no natural resources and a limited land area, Singapore is highly reliant on imports of food and fuel, so cost push pressures are more likely to come with higher prices of such goods.
    - In general, given Singapore's high dependence on imports of food and fuel, Singapore is arguably more susceptible to cost-push inflation rather than demand-pull inflation

Body

(1) Demand-pull inflation



Causes of demand-pull inflation

Rising exports due to growing affluence of trading partners

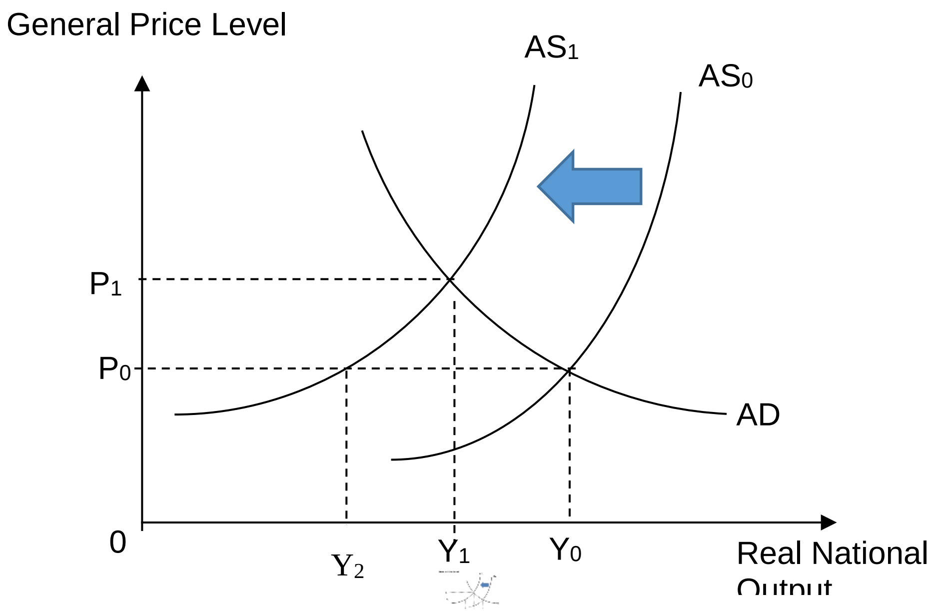
- In an export-oriented economy like Singapore, demand pull inflation is very likely due to strong external demand.
  This could be due to rising global growth or high global expectations and consumer confidence in the global market. High global growth → higher income and hence stronger purchasing power. Also boost business confidence→ boost export revenue and foreign investments into the country → drive up AD and hence GPL.

Government budget deficit (implies expansionary fiscal policy)
i.e. the government's increasing its spending and imposing tax cuts and subsidies, perhaps to stimulate the economy during economic slowdown or to achieve higher economic growth

- Expansionary DD-management policies to increase growth will lead to inflation in the face of structural rigidities in the country. When direct taxes are reduced, consumers have more disposable income, causing consumer expenditure to increase. Lower corporate taxes will attract more investments, thus the increase in consumer expenditure and investment → AD rises, hence this will lead to higher general price levels.

Thus, there is a rise in aggregate demand shown by a rightward shift of AD curve from AD_1 to AD_2. Assuming Singapore is operating near full employment, there will be a shortage of final goods and services which exerts upward pressure on GPL. GPL continues to rise until shortage is eliminated. The persistent increase in the general price level services from P_0 to P_1 depicts demand-pull inflation.

(2) Cost-push inflation



Causes of cost-push inflation

Tight domestic labour market

- Singapore is facing ageing population and falling fertility rates which has led to falling labour force participation. To supplement labour shortages, Singapore has been relying on foreign workers especially for the low-end industries. However, the government has raised foreign worker levies and reduced foreign worker quotas in recent years as one of its productivity-raising strategies.
- Since productivity-raising measures take several years to bring about an overall reduction in production cost, competition for scarce workers in the tight labour market has caused wages and labour costs to rise. Rising unit labour cost in recent years has been caused by wage levels rising more than productivity. Productivity level in Singapore in general has been stagnant.
- Diagram below illustrates the fall in SRAS (leftward shift) due to the rise in wages. As a result, GPL has increased from P_1 to P_2 due to businesses passing on cost pressures to consumers in order to protect profit margins.

Domestic government policies

- Singapore's rising labour costs are mainly due to government policies – higher levy on foreign workers and higher employers' contribution to workers' CPF accounts
- E.g., Singapore tightened foreign worker policies in recent years
- Increase in foreign worker levies + reduction in Dependency Ratio Ceiling (DRC) → higher cost of labour → higher COP → Singapore's falling birth rate and increasing reliance on foreign workers → significant impact expected for increase in COP → passed on in the form of higher prices of g/s → increase GPL significantly
- Heightened restrictions in entry requirement for foreigners → fall in SS of workers in Singapore → drive up wages → higher COP → passed on in the form of higher prices of g/s → increase GPL significantly

(3) Imported inflation

For countries with an open economy like Singapore, inflation is most likely due to external reasons, for example a sudden rise in the cost of crude oil or other imported commodities, foodstuffs and beverages.

- The high inflation in Singapore in 2008 was mainly due to rising oil and food prices, which are mainly imported. The oil and food prices caused global inflation → imported inflation in Singapore as most of the imported goods prices rises due to the rising inflation in the countries they were produced.
- Depreciation of currency → rising import prices in domestic currency → in an open economy heavily dependent on imports, leads to an increase in the prices of imported products such as essential raw materials, components and finished products → rising inflation

Conclusion

The causes of inflation in a country may come from both the demand and the supply-side of an economy and may even arise from internal and external events. The main causes of inflation in different countries may differ from one another depending on factors such as the openness of the economy, the size of its domestic market, the level of dependence on external market and domestic market and even the objectives of the government.

Level Descriptors for Essay Question 4 (a)		Marks
L3	• Conceptually accurate and well-developed explanation on at least 2 causes, how demand and supply-side factors lead to rising inflation in Singapore. • ~~Causes encompasses both domestic and external causes and should consider both demand-pull and cost-push inflation.~~ • Good use and explanation of AD/AS diagrams as conceptual framework • Well-contextualised to Singapore	8-10
L2	• Well-developed analysis of factors contributing to either demand-pull or cost-push inflation **OR** • Undeveloped analysis of factors contributing to both demand-pull and cost-push inflation • Very limited reference to Singapore context	5-7
L1	• Major conceptual errors in analysis • Absence of conceptual analysis	1-4

b) Discuss whether fiscal policy is the best policy for the Singapore government to achieve low and stable inflation rates. [15]

<u>Suggested Approach</u>

Candidates are required to explain how fiscal policy can help Singapore to achieve low and stable inflation rates in Singapore. Even though it can help to mitigate demand-pull inflation. It does not address various source of inflation in Singapore such as imported inflation and persistent labour shortages. Candidates are required to compare the policies in evaluating which is the best policy in achieving low and stable inflation rates in Singapore.

Introduction

- Objective of government: achieve low and stable inflation rates –inflation rates about 1-3%
- Price stability is important to Singapore's economy as it is the basis for maintaining export competitiveness and providing a positive business environment to achieve healthy and sustained economic growth.
- Identify key characteristics of Singapore's economy – highly reliant on exports, capital inflow and foreign talents to sustain economic growth.
- "best policy" –Most effective/Most appropriate for Singapore?

Body

Thesis: Fiscal Policy is an important policy that Singapore can adopt to achieve low and stable inflation rates.

- Contractionary fiscal policy involves dampening AD directly by cutting government spending or indirectly by raising direct taxes to reduce investment and consumption
  - Higher corporate taxes reduce post-tax profit, which lowers investments.
  - Higher personal income taxes reduce disposable income, which lowers consumption.
  - Fall in AD → Fall in domestically-led DD-pull inflation
- For e.g In order to prevent further price escalation in public housing in 2009, a series of measures such as higher property taxes have been introduced to dampen speculative housing demand which would then help to curb rising prices in public housing market.
- However, Contractionary fiscal policy is not useful for Singapore because of a very small multiplier. This is due to a high marginal propensity to save caused by high compulsory social security savings. (i.e. CPF) Singapore also has a high marginal propensity to import resulting from a lack of natural resources. Thus large tax hikes and/or large cuts in public spending are required to achieve a significant impact. Hence such measures are probably too politically unpopular to implement in reality.
- Also, a budget surplus (G<T) causes a net withdrawal from the circular flow of income, AD falls hence depressing economic growth.

Transition: While contractionary fiscal policy is able to curb domestic sources of DD-pull inflation, it does not address external sources of inflation.

Anti-thesis: Fiscal policy may not be the best policy but there are other policies which are effective in helping Singapore to achieve low and stable rate of inflation.

- **Alternative policy 1: Exchange rate policy**

For many years, exchange-rate centred monetary policy has been the standing policy used by the Singapore government to alleviate inflationary pressures. it has been highly effective in curbing imported inflation and externally-led demand-pull inflation.

- With appreciation of Sing dollar, export prices in foreign currency would have increased (since PED for the sum of imports and exports > 1), causing net exports (X-M) to fall. As a result of Singapore relying heavily on external demand due to her small domestic market size, her composition of AD shows that X is one of the key AD components contributing to inflation. Therefore by reducing X and hence AD, externally-led demand-pull inflation can be curbed.
- An appreciation of the exchange rate causes the prices of imported consumer goods to fall, thus households benefit directly from being able to buy such goods at lower prices
- Appreciating the Sing dollar will help to lower firms' cost of importing global commodities and hence reduce their cost of production → stabilizes domestic prices → maintains Singapore's attractiveness to FDI and foreign talents.
- For example, there was a global rise in rice prices in 2011 due to flooding of rice crops in Thailand, one of the world's largest rice producing country. The MAS responded by maintaining a strong Sing dollar and this was effective in keeping rice prices stable in Singapore.

- Nevertheless, as Singapore's export competitiveness will be lowered, appreciation of Sing dollar cannot be overly relied on, especially when there is a need to adopt substantial appreciation of the Sing dollar to address strong externally-led demand-pull inflation.

- *Transition: However, exchange rate appreciation does not address supply-side constraints. In addition, with Singapore moving toward a service-driven economy, exchange rate appreciation becomes less useful. Therefore, supply-side measures should be adopted to increase LRAS at a faster rate so as to accommodate rising AD.*

- **Alternative policy 2: SS-side policies**

The government can increase the productive capacity of the country through encouraging investment, privatization, education and R&D → by improving the skills and knowledge of the workers, rising wage costs due to a tight labour market become less of a concern since there will be an expected increase in productivity in the long term.

- In addition, the government can consider encouraging more women to continue to stay in the workforce or re-enter the workforce even after marriage and child birth → by preventing a further reduction in the size of the labour force, rising wage costs can be restrained → e.g. of such policies: companies providing part-time or flexible working arrangements.
- Productive capacity can be increased through encouraging private investment, skills upgrading, education and R&D. By doing so, rising wages due to a tight labour market becomes less of a concern since there will be an expected increase in productivity in the long run which will help ease rising unit labour cost experienced currently.

EV: However, productivity growth has remained negative despite the implementation of these measures.

- Therefore, perhaps a modification of current supply-side measures is needed rather than constant rolling out of new measures. E.g. The government can increase the Skills Future Credit given to each Singaporean since training cost is often more than the $500 subsidy provided. Measures can also be better targeted at SMEs which need help in raising productivity.

Synthesis

- Fiscal policy is still necessary to put in place to ensure that domestic factors contributing to inflation are kept in check but it cannot be the sole policy instrument used (much less the best policy instrument).
- **The tightness of domestic labour market and greater competition call for a greater emphasis on a range of supply-side measures** to improve productive capacity and quality of domestic production.
- Ultimately, the choice of policy tool for addressing inflation in Singapore is dependent on
  - The dominant root cause of inflation at that point in time → if the bulk of inflation stems from domestic factors, greater focus should be placed on other measures apart from appreciating the Sing dollar.
  - Given that labour shortages and negative productivity growth have persisted for some time, the government should give greater emphasis on supply-side policies and less on the appreciation exchange rate policy.

	Level Descriptors for Essay Question 4(b)	**Marks**
L3	• Balanced and developed analysis in examining whether fiscal policy should be the most important policy in comparison with two other policies, such as exchange rate and supply-side policies so as to address inflation caused by both domestic and external factors • Appropriate use of relevant examples and application to context of Singapore	**9-11**
L2	• Balanced but undeveloped analysis on alternative policies working alongside fiscal policy **OR** • One-sided but developed explanation on the use of fiscal policy in addressing domestically-led demand-pull inflation • Not fully addressing "best" policy • Limited or no use of examples and application to the context	**5-8**
L1	• Answer is mostly irrelevant • Answer not supported by economic reasoning • Conceptual inaccuracies	**1 – 4**
	Evaluation	
E2	• A well-substantiated judgment on the need to combine fiscal policy with alternative policies, although the importance placed on each type of policy may differ, depending on the dominant root cause of inflation in Singapore at that point in time. **E.g. I**f the bulk of inflation stems from external factors, greater focus must be placed on other measures apart from fiscal policy.	**3-4**
E1	• Some attempt at evaluation or making a summative conclusion but not consistently using economic analysis.	**1-2**