

**H2 Economics 9732**  
**2015 JC2 Preliminary Exam**  
**Answer Package**  
**Case Study Questions & Essay**



cjc

**Paper 1: CSQ 1**

**Answers**

- (a) (i) **Describe the trend in sugar prices between 2010 and 2015.** [2]

Overall [1m]

The trend of sugar prices is generally decreasing.

Refinement [1m]

There is an increase in sugar price in 2011. OR Sugar price is highest in 2011.

- (ii) **Account for the above overall trend in (ai)** [4]

The favourable seasonal weather condition for sugar leads to an increase in the supply of sugar from  $S_1$  to  $S_2$ . [Evidence & Knowledge]

It is stated in extract 1 that there is “rising population, rising levels of incomes – real income and shift in emerging markets toward urbanization”. Hence this leads to an increase in demand from  $D_1$  to  $D_2$ . [Evidence & Knowledge]

The above explanation will get a maximum of [3m].

When the increase in supply is more than the increase in demand, price will fall from  $P_1$  to  $P_2$ , thus accounting for the decrease in sugar prices. [1m]

- (a) (iii) **What does the ‘nutritional recession’ suggest about the income elasticity of demand for processed food?** [2]

- Definition: Income elasticity of demand (YED) measures the degree of responsiveness of the change in demand due to a change in income, ceteris paribus.
- Evidence: Consumers facing “shrinking income” and “consumption of high-fat and processed foods increasing” → implies that processed food is an inferior good where  $YED < 0$  (YED is negative). [1m]
- This means that a decrease in income will generally lead to an increase in demand for inferior goods, like processed foods. [1m]

- (b) **Using a diagram, explain the economic case for the imposition of a sugar tax to curb obesity.** [4]

Market Failure due to Negative Externalities

1. Divergence (MEC associated with obesity e.g. burden on healthcare system)
2. Evidence from extract 4: “Burden of diabetes and heart disease”
3. Overproduction/overconsumption of unhealthy food and drinks (QsQf from the diagram)
4. Deadweight loss, as seen in shaded area from diagram
5. Diagram (answer must refer to the diagram)

*Points 1 to 4 will gain a maximum of 3m and point 5 will be allocated 1m.*

Market Failure due to Imperfect Information

1. Divergence (perceived MPC vs actual MPC associated with obesity)

- e.g. burden on healthcare)
2. Evidence from extract 4: "Burden of diabetes and heart disease"
  3. Overproduction/overconsumption of unhealthy food and drinks (QsQfperceived from the diagram)
  4. Deadweight loss, as seen in shaded area from diagram
  5. Diagram (answer must refer to the diagram)
- Points 1 to 4 will gain a maximum of 3m and point 5 will be allocated 1m.*

(c) **Discuss if tax is the most appropriate policy to tackle the ills of obesity.** [8]

### Question Analysis

<b>Command</b>	Discuss - to provide at least 2 different perspectives of the issue.
<b>Content</b>	Market Failure and Government Intervention - Policies to rectify negative externalities
<b>Context</b>	Obesity due to high sugar intake in various countries such as the UK
<b>Approach</b>	<p>Students need to discuss whether the sugar tax is the most appropriate policy to tackle the ills of obesity.</p> <p>TAS Structure</p> <ul style="list-style-type: none"> <li>▪ Thesis: Sugar tax is an appropriate policy to tackle the ills of obesity – explain how the sugar tax works and weigh the pros and cons.</li> <li>▪ Anti-Thesis: There are other appropriate policies (regulation, ban, moral suasion...etc.) that can tackle the ills of obesity.</li> </ul> <p>Synthesis: Weigh all 3 policies and come to a justified conclusion, with linkage back to the question.</p>

### Essay Outline

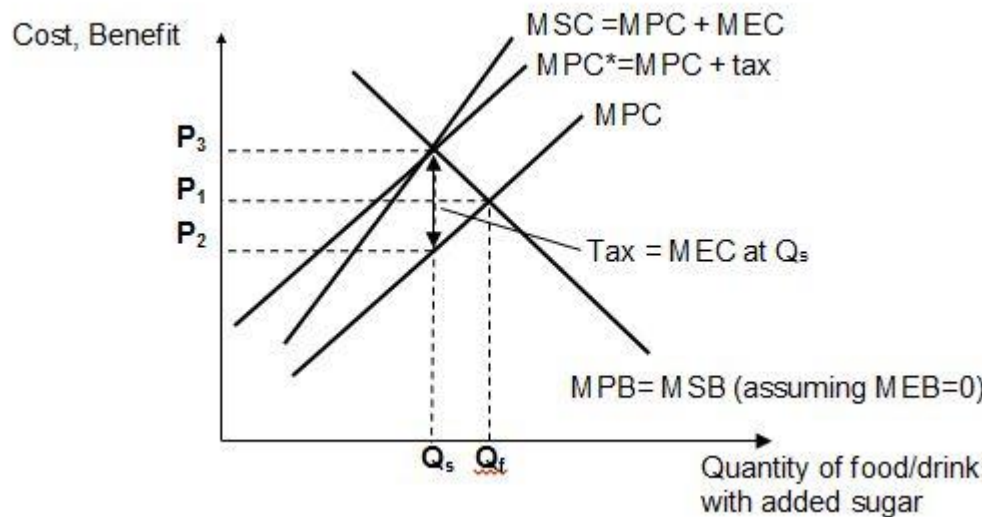
<b>Introduction</b>	<ul style="list-style-type: none"> <li>▪ Define market failure</li> <li>▪ Context of the essay – Sugar tax as a policy to tackle obesity in various countries e.g. UK</li> <li>▪ Overview of the essay</li> </ul>
<b>Body</b>	<p>Thesis</p> <ul style="list-style-type: none"> <li>▪ Tax and how it works in increasing the MPC (effective in solving negative externalities/imperfect information)</li> <li>▪ Limitations of a tax</li> </ul> <p>Anti-Thesis</p> <ul style="list-style-type: none"> <li>▪ Other policies (refer to extract 3 &amp; 4) – Regulation (restrict the added sugar in food) and moral suasion (increase information)</li> </ul>

	<ul style="list-style-type: none"> <li>▪ Limitations of each relevant policy</li> </ul>
<b>Conclusion</b>	<p>Synthesis</p> <ul style="list-style-type: none"> <li>▪ Make and justify a stand – Tax can be or not be the most appropriate policy depending on the scenario – SR vs LR, different countries etc.</li> <li>▪ A combination of policies works better – explain how the policies complement each other when used together.</li> </ul>

### Suggested Answer

In this question, from extract 3, we see that a country like UK wants to implement a sugar tax policy to tackle the ills of obesity as aforementioned in part (b), due to the presence of negative externalities which is a source of market failure. In this answer, I will discuss as to whether such a tax is the most appropriate policy in tackling the ills of obesity.

When the government implements a policy of sugar taxes to tackle the ills of obesity, the MPC increases to  $MPC^*$ , where  $MPC^* = MPC + \text{tax}$  and the tax per unit = MEC at  $Q_s$ . This is shown in figure 1, where the MPC curve shifts to the left to  $MPC^*$ . The new equilibrium will then be at  $MPC^* = MPB$ , where  $Q_s$ , the socially optimal output level, is achieved, hence the overconsumption of food high in sugar is reduced, and deadweight loss is eliminated, thus tackling the ills of obesity. The policy of taxation is beneficial to the government as it will obtain greater government revenue where it can spend on improving infrastructure...etc. Taxes are also easy to implemented and still allow free market forces to operate – consumers who can afford to pay the taxes will still continue to consumer such processed food, whereas those who can no longer afford to pay the taxes to stop consuming the processed food. Unfortunately in reality, it is very hard for the government to identify the MEC at  $Q_s$ , hence under-taxation would still present the problem of overconsumption and deadweight loss will still exist. Over-taxation might lead to under-consumption and a whole new deadweight loss will be present. Moreover, such processed food with high sugar content might be very addictive and hence the demand for such foods will be relatively more price inelastic. Thus, a very large amount of taxes need to be implemented in order for the quantity demanded to drastically be reduced. As such, the policy of taxes might not be the most appropriate policy to tackle the ills of obesity.



**Figure 1: Tax on Sugar**

An implementation of a regulation, such as limiting the availability of ultra-processed foods and sweetened soft drinks, would also be appropriate in tackling the ills of obesity. By reducing availability of unhealthy processed foods, this will help to reduce the overconsumption problem mentioned in part b, thus achieving  $Q_s$ , the social optimal output level and hence the deadweight loss will be eliminated. A regulation can be easy to implement, however such a regulation could be seen as a blunt tool, as compared to taxation or moral suasion, and the cost of monitoring and enforcing will be high. Such a regulation could also lead to people 'smuggling' into the country/creation of black markets to solve possible shortages.

Moral suasion could also be an appropriate policy to help tackle the ills of obesity. Educational campaigns will help to correct consumers' imperfect information with regards to the actual MPC of consuming processed foods with high sugar levels/educate them about the external costs, MEC. As such, through moral suasion, the negative externalities will be internalised, and  $Q_s$  the social optimal output level will be achieved with the elimination of the deadweight loss. In the long run, this policy is very appropriate as the people willingly reduce their consumption of such processed food, thus tackling the ills of obesity. On the other hand, such a policy will take a long time to come into effect, as compared to taxes or regulation, as it takes time to change people's perspectives and change their eating habits. Moreover, such a policy does not guarantee results as it depends on consumers' initiatives to change their dietary habits, rather than an enforcement of policy like taxation or regulation.

To conclude, a tax alone is definitely not the most appropriate policy to tackle the ills of obesity. For best and most appropriate results, it is recommended that the government implements the tax for short-run effectiveness due to the immediacy of the policy implementation. The government can then channel the tax revenue collected into educational campaigns to educate the society about the ills of obesity in hopes that the external costs will be internalised/the imperfect information will be corrected for long-run effectiveness. Should the PED of such foods be relatively price inelastic, regulations as mentioned in the seven-point plan,

such as limiting the availability of ultra-processed foods and sweetened soft drinks or reducing added sugars in food by 40% can also be implemented alongside the tax and moral suasion for guaranteed best results. This will then ensure that the ills of obesity will best be tackled most appropriately both in the short run and long run.

#### Marks Scheme

Level	Description	Marks
2	Provided a well-balanced 2-sided answer with sufficient elaboration and use of analytical framework, with evidence.	4—6
1	Only considered a one-sided effect of taxes OR A two-sided descriptive answer that merely listed and lacked economic analysis, with little or no use of evidence.	1—3
E	Overall stand on the issue with/without justifications based on economic analysis.	1—2

- (d) **Discuss impacts of the ‘reform of the EU Common Agricultural Policy (CAP)’ on developing and developed countries. [8]**

#### Question Analysis

<b>Command</b>	Discuss – to provide at least 2 different perspectives of the issue.
<b>Content</b>	‘Impacts of... on developing and developed countries’ – something to do with interconnected nature of economy → quite open.
<b>Context</b>	‘Reform for EU CAP’ – EU cap is a quota imposed on domestic producers (Extract 5) and a ‘push for reform of EU CAP’ is the end of the quota. (Extract 5).
<b>Approach</b>	<p>Students need to discuss the impacts of the reform on CAP. Since context specifies developing and developed countries, you will need to discuss impacts on both developed (EU) and developing (ACP). And since the word discuss appears, the TAS will also need to be included.</p> <p>As it is a [8m] question and not a 15m essay, answer will need to show 3 points out of the following 4 to give you a TAS structure:</p> <ul style="list-style-type: none"> <li>• Positive impact on LDC</li> <li>• Positive impact on DC</li> <li>• Negative impact on LDC</li> <li>• Negative impact on DC</li> </ul>

*Note that EU will represent the DC while ACP or any other reference to developing countries in extract will represent the LDC.*

#### Some Possible Impacts

EU (DC)	ACP (LDC)
With the removal of EU CAP → increase in domestic production of	With the removal of EU CAP → less demand for land in

sugar → increase in domestic supply of sugar → fall in price of sugar → increase in consumer surplus (+) → increase in quantity of sugar → increase sugar consumption → worsening obesity and market failure (-)	developing countries → reduce land grabs → allowing small scale producers to survive (+) BUT can erode of livelihood as dependent on the sugar trade (-)
With the removal of EU CAP → EU becomes a net exporter → increase in export earnings → increase in (X-M) → increase in AD → increase in GDP → increase in actual economic growth (+) → increase in employment (+) → improve in BOT/BOP (+) → increase in inflation (-)	With the removal of EU CAP → lose preferential access to EU → decrease in exports earnings → decrease in (X-M) → decrease in AD → decrease in GDP → decrease in actual economic growth (-) → decrease in employment (-) → worsen in BOT/BOP (-) → lower inflation (+)

F

### Suggested Answer

#### Introduction

Currently, there is a quota on EU domestic sugar production. The shortfall in local demand is met by developing countries. A reform of the Common Agricultural Policy (CAP) will lead to an end of the quota. According to Extract 6, large sugar producers in EU are the most competitive producers. Thus, a reform of CAP is likely to lead to many changes in the world market for sugar. This essay serves to discuss the impacts of the reform on developing and developed countries.

#### Body

EU stands to gain from the reform of CAP. Because of the reforms, EU domestic sugar producers will now be able to increase production of sugar. As they are the most competitive sugar producers, they will likely move from being a net sugar importer to a net sugar exporter, as reported in Extract 5. As a result, this will increase their net exports, a component of aggregate demand (AD), and increase the AD as well. Through the multiplier process, the increase in net exports will lead to an increase in incomes, as seen in the graph below.

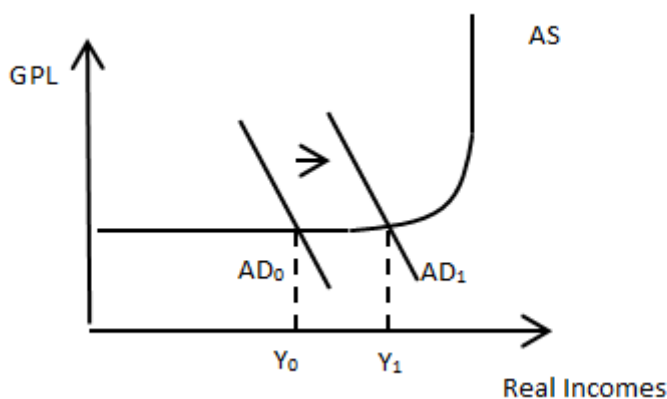


Figure 1



As a result, EU will see higher incomes due to the reform of CAP.

However, this might not be entirely good for EU. According to extract 6, EU sugar prices will fall and conform to the world prices. This will lead to increase consumption of sugar and sugar related foods. In UK for example, the consumption of sugar has risen and obesity and other sugar related issues have risen due to rising sugar consumption. Hence, a fall in sugar price will actually lead to a worsening of the market failure associated with the consumption of sugar. (for H2, I would probably add the market failure graph here).

For developing countries, this reform of the CAP might not be a bad thing. Although this will mean that it will lose export revenue and affect the livelihood of many people, there could be some positive outcomes. Because of the CAP, there has been an increase in large scale deals in developing countries. These deals often occur at the expense of smaller farms, as seen in extract 6. Large firms will end up exploiting the land, small producers and create problems for domestic producers. A reform of the CAP will see a fall in demand for sugar production in developing countries, leading to a fall in demand for land and less exploitation of workers and land in developing nations.

### Conclusion

Overall, a reform in CAP will likely be positive for EU as a developed country with better sugar production, and while CAP can have positive effects on developing countries, it is likely that its overall effects on developing countries will be negative. However, the effects are only temporary. With the removal of protectionist measures, the market can then work to reallocate resources efficiently. In the long run, the developing countries could develop comparative advantage in sugar production as they continue to mechanise and develop. This might mean a reversal of the effects.

### **Marks Scheme for H2**

<b>Level</b>	<b>Description</b>	<b>Marks</b>
3	Well-developed answer that provides sufficient economic elaboration on the issue.  Well-developed means 3 points out of the following 4: <ul style="list-style-type: none"><li>• Positive impact on LDC</li><li>• Positive impact on DC</li><li>• Negative impact on LDC</li><li>• Negative impact on DC</li></ul> To achieve top marks, answers must also use an economic framework (DDSS, market failure or ADAS).	7-8
2	Some development of answer that deals with the different impacts on developed and developing countries, but limited in scope (such as only positive or negative).	4-6



	Answer lacks economic framework.	
1	1 sided discussion, either in terms of analysing impacts on developed or developing countries ONLY.	1-3

#### Evaluation

Level	Description	Marks
1	Overall stand on the issue. For 2m, an economic justification is needed.  Stands can include: magnitude of impact, outcomes of impacts, the reform's relative importance to each country etc.	1-2

#### Paper 1: CSQ 2 Answers

- (a) (i) **Using Table 2, compare the real GDP growth rates of India and China from 2013 to 2015.** [2]

##### Suggested Answer:

Real GDP growth rates of both India and China is positive [1]  
but India's real GDP growth rate is rising while China's real GDP growth rate is declining. [1]

- (ii) **Using Extract 8, account for India's growth rate.** [4]

##### Suggested Answer:

Observation: India's growth rate is rising and projected to rise further in the future.

Any 2 Reasons behind India's faster growth rate

- Lower commodity prices (evidence), (India may be importing more commodities), lower COP AS shifts right, higher GDP (knowledge)
- Lower interest rates (evidence); sparking faster AD growth, higher GDP (knowledge),
- Steady inflow of foreign investment (evidence); higher AD, higher GDP (knowledge)
- Prevent Rupee from rising (evidence) to maintain/increase export competitiveness, hence higher AD, higher GDP (knowledge)

2m for each point: knowledge & evidence needed for full credit.

- (b) **Using Tables 3 and 4, explain one possible reason for the change in the ranking of India.** [2]

##### Suggested Answer:

Observation: India's ranking rose from 5<sup>th</sup> position in table 2 to 4<sup>th</sup> position in table 3. [1]

OR India & Vietnam swapped places.

Reason: This may be due to lower cost of living in India. After accounting for PPP, Indian citizens would be able to enjoy a larger basket of goods and services. [1]

(c) **Explain why China should look into ‘boosting social safety nets’.** [4]

Suggested Answer:

- Consumers need to feel that they are taken care of by the state and be more inclined to spend rather than save.
- This will help to fuel consumption and drive economic growth as AD rises (knowledge) rather than have the economy be over-reliant on an ‘investment binge’ (evidence)
- Lower savings as opposed to high savings rate (evidence) is preferred as there will be lesser withdrawals from China’s circular flow of income.
- Given that MPS is part of the multiplier, if MPS becomes smaller, then the multiplier value can grow and any rises in AD will bring about a larger increase to China’s national income. (knowledge)

(d) **Discuss the impacts of China’s ‘growth-at-all-costs strategy’ on her economy.** [6]

Suggested Answer:

**Thesis: Positive impacts of China’s ‘growth-at-all-costs strategy’ on the economy.**

- Evidence: Table 2 on China’s growth rate. Knowledge: This strategy has been propelling China’s growth in national income well so far. (AD rising via export led growth), providing jobs for China’s population (reduction in unemployment)
- Evidence: It has put China on the world map for being it low cost, cheap labour advantages. Knowledge: China possessing CA in manufacturing, AS shifts right, falling prices
- Helps bolster Chinese firms to better compete with MNCs in their own domestic markets as well as international ones.

**Anti-thesis: Negative impacts of China’s ‘growth-at-all-costs strategy’ on the economy.**

- Evidence: Extract 8 “wrought damage on the environment”. Knowledge: higher growth will lead to market failure without government intervention as firms strive to up production increase profits without care for environment. Also lead to fall in non-material SOL and lower quality of life.
- Evidence: Growth was ‘propped by surge in investment in infrastructure and real estate that led to dangerous debt levels’. Knowledge: Such growth was overheating the economy and is fuelled by credit. This will lead to demand pull inflation.
- Evidence: Imbalance of economy fuelled more by investment. Knowledge: Not sustainable with ‘issues of wasteful spending and mountain of debt’. Growth was not channelled into proper areas (quality of growth/composition of GDP growth argument)

Level	Description	Marks
1	For identification and explanation of only positive or negative impacts on China’s economy. Did not bring in any macroeconomic objectives or standard of living.	1 – 3
2	For identification and explanation of both positive and negative impacts on China’s macroeconomic objectives. Reasoned stand as to the overall impact on China.	4 – 6

- (e) **Explain Singapore's stance of maintaining a strong dollar to retain price stability.** [4]

Suggested Answer:

- To correct imported inflation: a strong dollar helps to maintain the prices of imported goods and services and counter imported food inflation (evidence) which is helpful to Singapore, a resource poor country.
- To correct demand pull inflation: a strong dollar would raise the relative price of exports from Singapore, and lower the relative price of imports. This would result in a fall in net exports, leading to a fall in AD which can help to resolve demand pull inflation evident in the rise to MAS core inflation (evidence), in Singapore.
- To correct cost push inflation: a strong dollar helps to lower prices of imported inputs, lower costs of production and result in production of cheaper final goods and services in Singapore.

- (f) **Assess the view that an 'almighty lift from non-electronic exports' is needed for Singapore's economy.** [8]

Suggested Answer:

**Current Challenges faced by Singapore:**

Evidence: Extract 9: Slower than expected export demand hence export revenue expected to dip by 1.1%. (Knowledge) With export revenue falling, Singapore's economic growth is likely to slow or fall, AD falling.

Evidence: Extract 9: Economic restructuring and tighter foreign worker policies expected to drive up costs of production, AS may fall (knowledge).

Challenges: Sustained Economic Growth

**Thesis: An almighty lift from non-electronic exports is needed for Singapore's economy.**

- A rise in non-electronics exports will help fill the gap left by the fall in manufacturing exports, this will help to maintain AD and national income. (AD rising back to normal position)

**Anti-thesis 1: An almighty lift from non-electronic exports is insufficient for Singapore's economy.**

- However, evidence show that this area is also not performing well, 'pharmaceutical exports' have also been poor.
- Furthermore, the main issue is that export demand is not picking up as it should as recovery in US is 'less import intensive'.

**Anti-thesis 2: Other factors is needed for Singapore's economy**

- Singapore management of her policies may be crucial in driving sustained economic growth, such as the stricter foreign worker policies. It can improve labour productivity in the long run but may lead to firms suffering losses in the short term. Hence government may need to offer subsidies to firms and retraining for the workers.

**Synthesis: Arrive at a reasoned conclusion as to whether such a method will indeed benefit Singapore.**

- An almighty lift in non-electronic exports may be needed to provide that push in AD for Singapore's economy but needs to be supported by sound government policies as well.

Level	Description	Marks
1	For superficially explaining how an almighty lift from non-electronic exports will help Singapore's economy without bringing in macroeconomic objectives and/or standard of living.	1 – 3
2	For a thorough explanation and evaluation of how an almighty lift from non-electronic exports will help the Singapore's achieve her macroeconomic objectives. A reasoned judgement of whether the above will benefit Singapore or not.	4 – 8



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## Paper 2: Essay 1

In 2013, Singapore's population grew by 1.6% to 5.4 million. The Downtown Line's first phase consisting of 6 MRT stations is set to complete in 2014, while the price of crude oil recorded a 50% fall.

Discuss the likely impacts these events have on various public transport markets in Singapore. [25]

**Command:** Discuss the likely impacts on different forms of public transport markets. The discussion revolves around the growth in population numbers, expansion of public transport infrastructure as well as a fall in price of crude oil.

**Content:** Demand and Supply, PED, XED, PES

**Context:** Various forms of public transportation in Singapore, such as MRT, public buses, taxi

### How to attempt this question:

Firstly we need to establish:

1. How will the increase in population will affect the dd of various types of public transport
2. How the increase in MRT stations along downtown line affect the dd/ss of various types of public transport
3. How the fall in price of crude oil will affect the ss of various types of public transport
4. How will all 3 changes affect a public transport market individually as well as inter-related impact.
5. How the above 4 points affect the PRICE and QUANTITY of various forms of public transport.

Meaningful discussion of extent of change for price and quantity for various products require the use of the various elasticity concepts.

### Quick Outline:

Introduction:

- Overview of essay – explaining scope of discussion for content (Dd , Ss ,PED ,PES XED) and context (MRT, Public Bus and/or Taxi)

MRT rides	Public Buses	Taxis
<ul style="list-style-type: none"><li>• ↑pop <u>size</u> → ↑DD</li><li>• ↑MRT stations → change in <u>tastes &amp; pref</u> → ↑DD</li><li>• ↓oil prices → <u>↓COP</u> → ↑SS</li></ul> <p><b>Simultaneous Changes in both DD &amp; SS</b></p>	<ul style="list-style-type: none"><li>• ↑pop <u>size</u> → ↑DD</li><li>• ↑MRT stations → <u>subst r'ship</u> w MRT → ↓DD (↑DD also accepted)</li><li>• ↓oil prices → <u>↓COP</u> → ↑SS</li></ul> <p><b>Simultaneous Changes in both DD &amp; SS</b></p>	<ul style="list-style-type: none"><li>• ↑pop <u>size</u> → ↑DD</li><li>• ↑MRT stations → <u>subst r'ship</u> w MRT → ↓DD (↑DD also accepted)</li><li>• ↓oil prices → <u>↓COP</u> → ↑SS</li></ul> <p><b>Simultaneous Changes in both DD &amp; SS</b></p>
<p><b>Mini synthesis:</b> ↑SS outweigh ↑DD</p>	<p><b>Mini synthesis:</b> Overall, DD may still ↑ ↑SS outweigh ↑DD</p>	<p><b>Mini synthesis:</b> Overall, DD may ↓, ↑SS outweigh ↓DD</p>

MRT rides	Public Buses	Taxis
<ul style="list-style-type: none"> <li>Given a <math>\uparrow</math>SS, use PED to explain nature of good</li> <li><math>PED &lt;  1 </math></li> </ul>	<ul style="list-style-type: none"> <li>Given a <math>\uparrow</math>SS, use PED to explain nature of good</li> <li><math>PED &gt;  1 </math></li> </ul>	<ul style="list-style-type: none"> <li>Given a <math>\uparrow</math>SS, use PED to explain nature of good</li> <li><math>PED &gt;  1 </math></li> </ul>
<ul style="list-style-type: none"> <li>Given a <math>\uparrow</math>DD, use PES to explain nature of good</li> <li><math>PES &lt; 1</math></li> </ul>	<ul style="list-style-type: none"> <li>Given a <math>\uparrow</math>DD, use PES to explain nature of good</li> <li><math>PES &lt; 1</math></li> </ul>	<ul style="list-style-type: none"> <li>Given a <math>\uparrow</math>DD, use PES to explain nature of good</li> <li><math>PES &lt; 1</math></li> </ul>
<p><b>Overall Conclusion:</b>  Arrive at a reasoned conclusion on the most like impact for each market, focusing at the <b><u>P &amp; Q in each market</u></b>  Question <b><u>ceteris paribus assumption</u></b>.  Use of <b><u>time &amp; space</u></b> to evaluate</p>		

### Marker's Comments

- Many candidates overly focused on simultaneous shifts, hence relegating to a low level 2 answer, and not in depth analysis for different markets with the support of elasticities concepts.
- Missing mini-syntheses ( mini outcomes) for each market, hence scoring low for giving perspectives to the argument
- Weak overall conclusion, with most that do so focusing on summarising their points instead of evaluation or making a stand of definitive outcomes verses relative outcomes due to possible difference in interpretation of PED/PES/XED etc.
- Bare requirements require students to explain the impact of P & Q for each market explained, which most candidates have done well, but with the option of looking at TE/TR/CS/PS which are lacking in significant number of scripts.
- Poor structuring of answer leading to repetition/duplication of points and thus breath of essay is compromised. Some candidates are confused on some economic concepts (demand vs qty demanded) and without a clear structure, proved to be even more confusing for the marker.

### Detailed Answer

#### Intro:

In economics, the market for a particular good can be analysed using the concept of demand & supply. A market is defined as a convenient arrangement whereby buyers and sellers can negotiate in order to exchange (buy and sell) goods, services, or factors of production at an agreed price.

Demand is defined as the amount of a good or service that consumers are both willing and able to buy at each possible price during a given period of time, ceteris paribus Supply is defined as the amount of a good or service that producers are both willing and able to sell at each possible price during a given period of time, ceteris paribus

The price elasticity of demand (PED) measures the degree of responsiveness of quantity demanded of a good to a change in its price, ceteris paribus.

The cross elasticity of demand (XED) measures the degree of responsiveness of demand of one good to a change in the price of another good, *ceteris paribus*.

The elasticity of supply (PES) measures the degree of responsiveness of quantity supplied of a commodity to a change in its price, *ceteris paribus*.

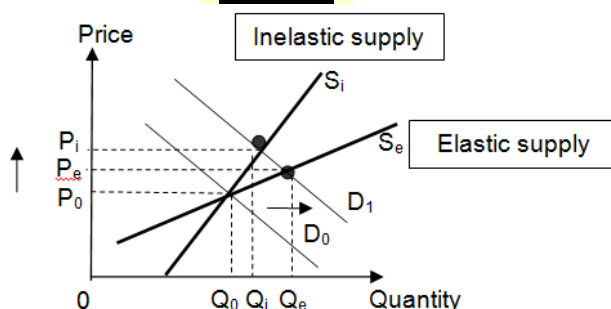
With an increase in population numbers, it will increase demand in normal goods and even more luxury good as oppose to a fall in demand for inferior products. The fall in price of crude oil will increase the supply of public transport as it will decrease the cost of production. Finally the increase in the number of MRT stations along the downtown line will have both demand and supply impacts of the various markets within the public transport sector. Thus, using the concept of demand, supply & elasticities this essay will determine how the price & quantity traded for various products (namely MRT, Buses and Taxi) will be affected.

## Body:

### Paragraph 1

The population growth in Singapore will increase the demand for all public transport markets (namely MRT, Buses and Taxi). This is due the change in size of population which is a non-price determinant of demand and will result in a rightward shift of the demand curve from  $D_0$  to  $D_1$  as seen in figure 1. The extent of change of the price and quantity will ultimately depend on the PES of the various market. The PES of Buses and Taxi will be more price elastic as compared to MRT due the cost of production where it is cheaper to run more services of Buses as opposed to Taxi but definitely cheaper to run than MRTs where it is not just the cost of running the trains but all the stations that has to be in operation.

**Figure 1**

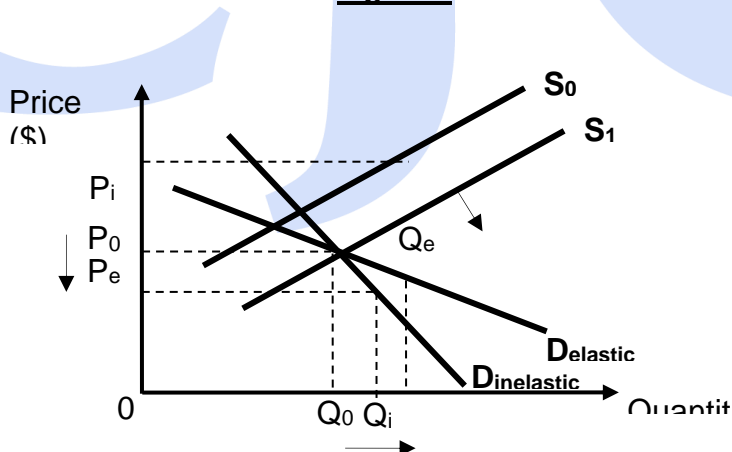


As seen in Figure 1, the Price of MRT will increase by more ( $P_0$  to  $P_i$ ) as compared to Buses and Taxis ( $P_0$  to  $P_e$ ), will the quantity will increase by less ( $Q_0$  to  $Q_i$ ) as compared to ( $Q_0$  to  $Q_e$ ).

### Paragraph 2

The fall in price of crude oil in Singapore will increase the supply for all public transport markets (namely MRT, Buses and Taxi). This is due the change in cost of production which is a non-price determinant of supply and will result in a rightward shift of the supply curve from  $S_0$  to  $S_1$  as seen in figure 2. The extent of change of the price and quantity will ultimately depend on the PED of the various market. The PED of Taxi will be more price elastic as compared to MRT and Buses due the proportion of income spent on a ride, where it is definitely cheaper to ride on the MRT and/or Buses as compared to a trip on the Taxi.

**Figure 2**





As seen in Figure 2, the Price of MRT will fall by more ( $P_0$  to  $P_i$ ) as compared to Buses and Taxis ( $P_0$  to  $P_e$ ), will the quantity will increase by less ( $Q_0$  to  $Q_i$ ) as compared to ( $Q_0$  to  $Q_e$ ).

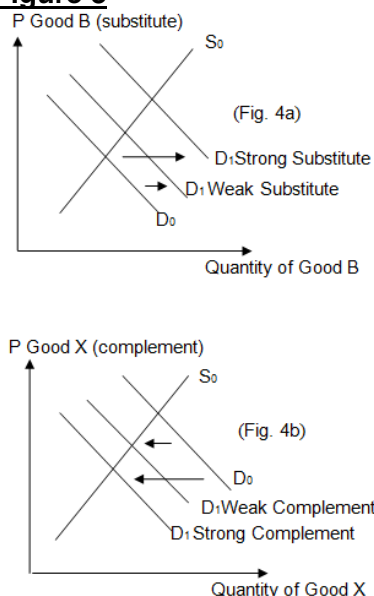
### Paragraph 3

The completion of the 6 Downtown line stations in Singapore will increase the demand for MRT but may increase or decrease the demand for Buses and Taxis. This is due to the taste and preference of consumers towards the various mode of public transportation which is a non-price determinant of demand and will result in a shift of the demand curve. For the demand for MRT will definitely increase due to the added convenience and accessibility of the MRT system and thus more consumers are willing to ride the MRT thus will result in a rightward shift of the demand curve from  $D_0$  to  $D_1$  as seen in figure 1. As discussed in Paragraph 1, the PES of MRT is relatively inelastic due to the cost of production incurred in running the system, thus price will increase from  $P_0$  to  $P_i$  and quantity will increase from  $Q_0$  to  $Q_i$ .

For the bus market, it will on the XED of the buses and MRT prices. Buses can be deemed as complimentary goods as MRT stations will only bring riders to the general locations (town centres) and thus the need for Feeder buses to get to the ultimate destination. So if there was an increase/decrease in the Price of MRT, the demand for buses will decrease/increase respectively given that in this case they are close compliments the shifts in demand will be by a larger magnitude (As seen in Figure 4) . However, buses and MRT could be substitutes as well if they were to ply similar routes (this is highly unlikely as routes are regulated by the LTA and duplications will be kept to a minimal for the efficiency of the entire transportation network system) or for consumers whose route of travel can be serviced by both buses and MRT. So if there was an increase/decrease in the Price of MRT, the demand for buses will increase/decrease respectively given that in this case they are weak substitutes as MRT are likely to face traffic congestions and thus a faster ride to the destination, thus the shifts in demand will be by a smaller magnitude (As seen in Figure 3).

For the Taxi market, it will be deemed as a substitute and a weak substitute at that as the taxi is a premium mode of public transport bringing passengers from pick up location right to the destination. There is also the comfort where passengers need not squeeze with other commuters while travelling. Thus if there was an increase/decrease in the Price of MRT, the demand for Taxi will increase/decrease respectively but to a very minimal extent (As seen in Figure 3).

**Figure 3**



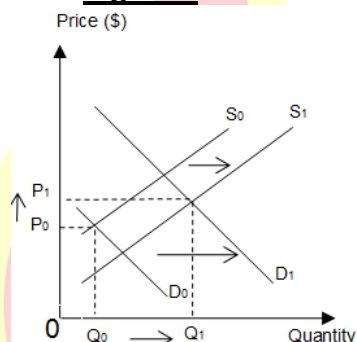
**Figure 4**

The final price changes will also have to take into account the PES of the respective mode of transport as a more price elastic supply will bring about a smaller variation in prices but a larger variation in quantity.

#### Paragraph 4

The final impact on the MRT market due the 3 different influences mentioned in the extract will be that of demand increasing more due to the increased accessibility of the entire transport network as well as population changes (assuming it is due to the influx of foreign workers whom will be using the public transport system to go about their daily lives) as compare to the increase in supply as MRT is run on electricity and the cost of crude oil decreasing will have an impact but albeit an indirect one. Thus the likely outcome can be seen in Figure 5, where price will ultimately increase from  $P_0$  to  $P_1$  and quantity increase from  $Q_0$  to  $Q_1$ .

**Figure 5**

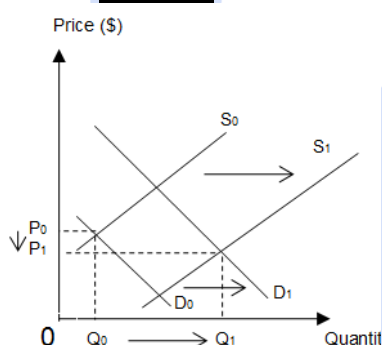


We can also conclude that within the market from MRT as seen in figure 5, the total expenditure by consumers as well as total revenue received by producers will increase. Both consumers and producers will also have a high amount of consumer surplus and producer surplus.

#### Paragraph 5

The final impact on the Bus market due the 3 different influences mentioned in the extract will be that of demand increasing less due to the population changes (assuming it is due to the influx of foreign workers whom will be using the public transport system to go about their daily lives) and due to demand for buses falling with the increase in MRT prices ( buses and MRT as more likely to be complimentary goods ) as compare to the increase in supply as Buses run on petroleum which is derived from crude oil thus it accounts for a large portion of the cost of production for bus companies. Thus the likely outcome can be seen in Figure 6, where price will ultimately fall from  $P_0$  to  $P_1$  and quantity increase from  $Q_0$  to  $Q_1$ .

**Figure 6**



We can also conclude that within the market from Buses as seen in figure 6, the total expenditure by consumers as well as total revenue received by producers will increase. Both consumers and producers will also have a high amount of consumer surplus and producer surplus.

#### Paragraph 6

The final impact on the Taxi market due the 3 different influences mentioned in the extract will be that of demand increasing less due to the population changes (assuming it is due to the influx of foreign workers whom will be using the cheaper modes public transport to go about their daily lives) and due to demand for taxi increasing with the increase in MRT prices ( Taxi and MRT as more likely to be substitutes though minimally) as compare to the increase in supply as Taxi run on petroleum which is derived from crude oil thus it accounts for a large portion of the cost of

production for bus companies. Thus the likely outcome can be seen in Figure 6, where price will ultimately fall from  $P_0$  to  $P_1$  and quantity increase from  $Q_0$  to  $Q_1$ . We can also conclude that within the market from Buses as seen in figure 6, the total expenditure by consumers as well as total revenue received by producers will increase. Both consumers and producers will also have a high amount of consumer surplus and producer surplus.

### Conclusion:

To conclude, the impact of the 3 situations stated would definitely lead to an increase in quantity generically. However it depends on the PED, PES and XED to determine the final increase in both price and quantity. This will further in turn affect the TR received by firms or TE spent by the commuters as well as influences on producer and consumer surpluses respectively. This is purely based on the Short Run analysis where consumers may not have sufficient information of the new route and timing of the impact of the 6 new MRT stations. In the long run, the impact on buses may vary when the MRT network's reliability and timing is taken into consideration by consumers. Taxi on its own should not be very different in the long run as those whom rely on Taxi as a mode of transport will not switch away from it to other forms of public transport and those who move away from MRT and buses to Taxi will be very minimal and only undertaken by those whom are in a rush or prefer some form of comfort/indulgence for the day.

Level 1	Low	The answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context.	1-5 marks
	High	The answer shows some knowledge e.g. understanding and explanation of the various causes of demand and supply, but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory and/or and inadequate development of analysis may be evident. Answers that are not answered in context to Singapore and no use of examples of ANY form of public transport will fall into this category	6-9 marks  *simultaneous change w/o mention DTL max 9m
Level 2	Low	The answer shows the ability to identify facts, some ability at graphs, fair ability to apply theory to the situations. E.g. Ability to explain various outcomes/shifts for various forms of public transport markets	10-11 marks  *simultaneous change , 2 mkts and possible scenarios
	High	The answer has a more thorough relevance to the question but the theory is incompletely explained. Lack of use of elasticity concepts within the answer will fall into this category.	12-14 marks  *as per L2L + compare between 2 markets
Level 3	Low	A good knowledge of facts and theory of the question, clear evidence of the ability to use facts and theory with accurate reference to the question that may have presented the candidate E.g. Students are able to explain in depth the various shifts in DD and SS as well as identification of use of elasticity concepts. Candidate are also able to comment on the size/magnitude/depth of impact on the various	15-17 marks  *simultaneous change , 3 mkts and possible scenarios with comparison

		stakeholders	but may not have complete links in explanation
	High	A thorough knowledge of facts and theory with an excellent ability to describe and explain this in a precise, logical and reasoned manner. The ability to query some of the assumptions is present. Illustrations and examples appropriate to the material discussed are introduced as further evidence of the ability to recognise the principles of the question and their application to relevant current situations.	18-21 marks
Evaluation	E1	Mainly unexplained judgements	1-2 marks
	E2	Justified and well explained statements	3-4 marks

cjc

## Paper 2: Essay 2

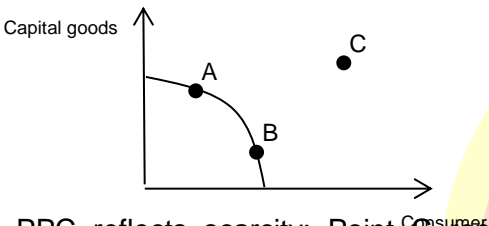
a) Explain the economic problem that all rational individual, firms and governments face. [8]

Part a

Command words:	'Explain' - Give clear reasons for an idea/circumstances, describing it in detail and using relevant economic facts.
Content:	'Economic problem ... ALL rational ... face' – , scarcity
Context:	'rational individuals, firms and governments' – no fixed context
Approach	Students need to explain clearly and fully the economic problem, scarcity, and its impacts.

Outline of essay:	
Introduction	Overview: the economic problem that all firms and government will have to solve scarcity. Essay serves to explain the problem fully.
Paragraph 1	Impacts of scarcity – Choice and opportunity cost
Paragraph 2	Explanation of opportunity cost arises → explanation of opportunity cost as the sacrifice rather than the cost
Paragraph 3	Using PPC to explain the situation
Conclusion	This is a problem that all rational individuals will need to solve. Most of the time, solved by market forces but there are times that it is solved by government intervention.

<u>Introduction:</u>  The economic problem faced by all rational individuals, firms and government is known as scarcity. Scarcity is the inherent problem faced by every individual. This essay serves to explain what scarcity is and the impacts of scarcity.	
<u>Body: Paragraph 1</u>  Scarcity is a situation where unlimited wants cannot be met by limited resources. This is a case where every individual, firm and government wants more but is unable to get more due to constraints of resources. For an individual, he could be constrained by financial limits. For a firm, it could be constraint by the amount of profit it can make. For a government, the budget could be the constraint. Hence, they will need to make a choice in order to maximize outcomes. Choices need to be made as individuals, firms and governments are unable to have everything they desire. In the process of choice making, other options have to be surrendered, This sacrifice is known as opportunity cost, explained in the next paragraph.	P: to explain what scarcity is  E: Explanation of idea and its impacts.  E: In this question, I have left examples till later.  L: Link to next paragraph
<u>Body: Paragraph 2</u>  Opportunity cost is the next best alternative forgone when a choice is made. For example, in deciding between buying an iPhone and a Samsung Galaxy, the opportunity cost of buying the iPhone is the sacrifice of the Galaxy. The opportunity cost is the sacrifice one makes in order to make the decision.	P: to explain the idea of opportunity costs clearer.

All these concepts can best be illustrated in the PPC below.	
<p><u>Body: Paragraph 3</u></p> <p>The PPC reflects the total production possible by a country under the following assumptions.</p> <ol style="list-style-type: none"> <li>1. All resources are dedicated to the production of these two goods</li> <li>2. The quantity and quality of resources remains constant</li> <li>3. There is no change in level of technology</li> </ol>  <p>The PPC reflects scarcity: Point C represents a level of output that is desired but unattainable. The country cannot consume beyond the PPC as the economy cannot produce that level of output. However, it is desirable to achieve that as it means more capital and consumer goods.</p> <p>The PPC reflects choice: the country can be anywhere within or on the PPC, but it can be only on one point at one time. This reflects the problem of choice; it can have more consumer goods or more capital goods, but not more of both. So it could choose to be either point A or point B, but not both at the same time.</p> <p>The PPC reflects opportunity cost: if the country is choosing between point A and B, and decides to go with A, this means the opportunity cost, the next best alternative forgone, is B. To get to point A, the country needed to sacrifice the alternative, which was point B.</p> <p>Hence, PPC can be used to illustrate the idea of scarcity, choice and opportunity cost.</p>	P: using a graph, illustrate the key ideas associated with scarcity
<p><u>Conclusion:</u></p> <p>The problem that all rational individual, firms and governments face is that of scarcity. This central problem of economics is the thesis of economics and countries do their best to manage it as best as possible.</p>	

Knowledge, Understanding, Application and Analysis		
L3	Answer shows clear understanding of the question and reflected in the selection of relevant points. Answer explains clearly and correctly the economic problem fully, including impacts of choice and opportunity cost, with the use of good economic analysis. Answer uses examples to illustrate the ideas well.	6-8 Marks
L2	Answer shows some understanding of the question and reflected in the selection of few relevant points. Answer explains to some extent the economic problem with limited use of economic analysis. Answer uses examples to illustrate the ideas to a limited extent.	4-5 Marks
L1	Answer shows poor understanding of the question. Answer weakly explains the economic problem with no use of economic analysis. Answer lacks examples, or examples are merely stated.	1-3 Marks



- b) The economic problem is best left to the free market to manage. However, governments are often seen to intervene in some markets with the use of taxes and moral suasion.

Discuss whether governments should intervene with the use of taxes and moral suasion in the free market. [15]

Part b

Command words:	<p>'Discuss' - Provide relevant arguments for and against an issue. Generally, the issues raised have some normative aspect, or have unspoken assumptions that can be challenged. Come to a judgment after reviewing the issues.</p> <p>'Discuss whether' – the TAS structure (yes/no) is set in qn. It limits the scope of discussion.</p>
Content:	<p>'governments... intervene' – government intervention (when? – market failure, macroeconomic problems)</p> <p>'Intervene in some markets' – more likely to be microeconomic (market failure)</p>
Context:	<p>Situation: Government intervenes in the market</p> <p>Who – not mentioned</p>
Approach	<p>Discussion revolves around:</p> <ul style="list-style-type: none"> <li>When the government ought to intervene in the market using taxes and moral suasion</li> <li>When the government ought <b>not</b> to intervene in the market using taxes and moral suasion (government failure)</li> </ul> <p>And one of the following:</p> <ul style="list-style-type: none"> <li>When the government ought <b>not</b> to intervene in the market using taxes and moral suasion (no market failure)</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>When the government ought to intervene in the market, but NOT using taxes and moral suasion (Using other policies which work better, OR in cases where public goods involved, use direct provision)</li> </ul> <p>Stand</p> <p>Whether the government ought to intervene in the market using taxes and moral suasion. You need to decide.</p>

Outline of essay:	
Introduction	<p>Context: Link to part a as recognizing that the issue of scarcity needs to be managed at some level. Note that the market is normally the tool to be used to manage scarcity. Highlight that the government does from time to time intervene</p> <p>Overview: to provide a discussion into whether the government ought to intervene using taxes and moral suasion.</p>
Paragraph 1	<p>Explain when the government ought to intervene using taxes and moral suasion – Market failure (demerit good/ negative externalities)</p> <ul style="list-style-type: none"> <li>Explain why in this case the government needs to intervene</li> <li>Explain how taxes and moral suasion will work.</li> </ul> <p>Because the question is set with taxes and moral suasion, it is strongly recommended that you use demerit goods or goods with negative externality as the context. You cannot solve the market failure of public goods or factor immobility using a tax so those should not be used.</p>



Paragraph 2	Discussion about whether the government ought to intervene using taxes and moral suasion – benefits and costs of using taxes and moral suasion
Paragraph 3	When the government ought not to intervene using taxes and moral suasion – when there are other policies that work better.
Conclusion	Conclude summarising the issues raised and make your own stand as to whether governments ought to intervene or otherwise.

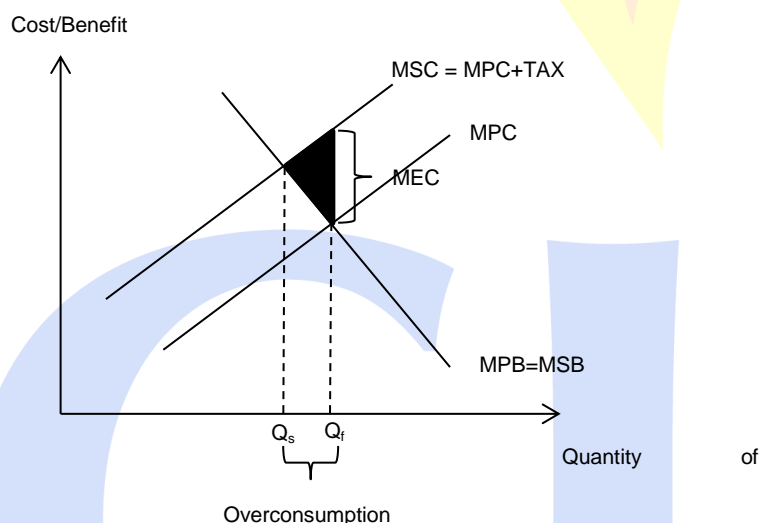
### Introduction:

In part a, I explained the economic problem all rational individuals, firms and governments face. In light of the problem, most countries allow the market to manage the issue. However, governments will from time to time intervene in the market to ensure that the problem is best managed. This essay serves to discuss whether government should intervene in the market using taxes and moral suasion.

### Body: Paragraph 1

Governments should intervene in the market using taxes and moral suasion. They do so when the market fails to allocate resources, such as in the case of demerit goods. Demerit goods are good where the government deems the good to be overconsumed. These are good that normally possess some negative externalities and some form of imperfect information. Cigarettes is an example of a demerit good.

The graph below shows the market for cigarettes and the impact of negative externalities



The free market market will only consider the private costs and benefits of smoking, and consume where  $MPC = MSC$  at  $Q_f$  output. The private costs include the price of the cigarettes and the risk of cancer, while the private benefits of smoking include the comfort they get from smoking.

However, there is an external cost, shown by the divergence between the MPC and the MSC. This external cost, known as the externality, is an external cost borne by a third part for which no compensation is made. In the case of cigarettes, bystanders breathe in the second hand smoke which case them discomfort and the risk of cancer, and these costs are not compensated for.

P: Why government need to intervene – market failure

E: Explanation of market failure. Take note that you should use an example to anchor the explanation. It is also a good idea to use a market failure that can use taxes and moral suasion to solve so that you need not repeat this part.

<p>Hence, the MSC is higher than MPC due to the MEC, and if smokers considered these costs, the consumption would be at <math>Q_S</math>, where <math>MSC=MSB</math>. There is an overconsumption of cigarettes by the free market, which leads to a deadweight loss as shown by the shaded triangle. This deadweight loss is because between the <math>Q_s</math> and <math>Q_f</math> output, the MSC exceeds the MSB and society suffers a loss.</p> <p>Imperfect information will cause consumers to underestimate the cost of smoking. Some might not be aware of the true risk of smoking and believe that they will not get cancer no matter what. As such, they will smoke more than they should, leading to overconsumption of cigarettes.</p> <p>A tax can help in solving the issue. A tax would internalize the externality by increasing the cost of production. The government can impose a tax equal to the MEC which will then shift the MPC upwards. This causes the market to take into account the external costs and reduce their consumption, achieving social optimal output. In Singapore, we impose a tax of about 70% of the selling price on every pack of cigarette. This will help the market internalize the cost of smoking.</p> <p>Moral suasion can work to solve the market failure. By educating the public on the true dangers of smoking, they will recognize the true cost of smoking, increase their MPC and hence, reduce their own consumption to achieve the social optimal output. In Singapore, every box of cigarette must have a graphic picture detailing the true harm of smoking. This will make smokers realise every time they pick up the cigarette the harm they are causing themselves, thus potentially decreasing their consumption.</p>	<p>P: Taxes and moral suasion will work to solve the market failure</p> <p>E: explain how they work. It is important to note why we need both; to explain why tax is necessary, you will need to first show what the problem is and then how tax solves it.</p>
<p><u>Body: Paragraph 2</u></p> <p>Taxes have the advantage of collecting tax revenue for the government. This allows the government to devote the funds for other areas such as defense, or for healthcare in order to fix the harm caused by smoking.</p> <p>The advantage of moral suasion is that once consumption patterns are set, consumers will continue to consume at social optimal output without need for government intervention. This means that moral suasion has a permanent effect on consumption levels, thus freeing up resources for the government to do other things.</p> <p>However, taxes and moral suasion might not be the best solution. One of the problems of taxation is that the government will need to calculate the MEC accurately in order to implement the right tax level. If the government miscalculated the MEC, and imposed a tax that is too low, this will continue to be an over consumption as the new <math>MPC + Tax</math> is too still too low. As the social optimal output is not achieved, but government has intervene, there could be a belief that the market has achieved optimal output and left to operate on its own. This will mean that the deadweight loss will continue.</p> <p>Moral suasion relies on influencing the individual's decision. In the context of smoking, this means to get smokers to recognize the true cost of smoking. However, as it is an addictive good, coupled with no incentive to change behaviors, moral suasion's impact on cigarette demand is indeterminate, and in the short run at least, unlikely to work.</p>	

Overall, while taxes and moral suasion has its merits and demerits, I feel that they are still necessary policies to be used in conjunction to solve the market failure. The government needs to be careful and continually tweak the tax level to ensure the right level of taxation is achieved.	
<p><u>Paragraph 3</u></p> <p>However, the government should not intervene using taxes and moral suasion as there are other, better solutions that exist. One of the solutions recommended is regulation. Regulation can help ensure that the social optimal output is achieved. Singapore uses regulation effectively by targeting the MEC, reducing it as far as possible. One of the rules is the prohibition of smoking in all public areas, including void decks, covered walkways and pedestrian bridges. The purpose of the rule is to prevent second hand smokers from having to incur the externality. As a result, this will effectively reduce MEC, narrowing the divergence between MPC and MSC. The advantage of this policy is that the root of the problem, MEC, can be dealt with fairly easily in this context. It is easy to determine the external impact of second hand smoke and to deal with it.</p> <p>One problem of regulation is the cost of monitoring. National Environment Agency is tasked to monitor and carry out checks to ensure people adhere to the rules. This might be costly and inefficient use of resources, as consumers need to be forced to behave in a certain manner.</p>	
<p><u>Conclusion: Stand and justification</u></p> <p>Due to scarce resources, society should strive to ensure that resources are allocated efficiently. In markets of demerit goods, Governments are able to intervene in the market using taxes and moral suasion in order to correct the market failure. Because the objective is to ensure social optimal output is achieve, governments should not just intervene using taxes and moral suasion. They can also consider alternatives such as regulation. By complementing the policies, the government has been able to achieve just that. Taxation force consumers to internalize the external cost while providing the incentive to reduce consumption immediately through higher prices. Revenues earned from taxation can go into funding moral suasion and regulation efforts. Moral suasion helps consumers understand the reason for the tax and makes acceptance of higher prices more palatable, as well as encourage consumers to reduce consumption voluntarily, such that the long term impact will be to achieve social optimal. And regulation can help by reducing the MEC, thus reducing the divergence. This will also help in case the government were to implement a tax that is too low, regulation can still help by reducing the shortfall, thus resulting in an optimal output.</p>	

Knowledge, Understanding, Application and Analysis		
L3	Answers good understanding of the qn and provides a good discussion on the issues of resource allocation. Content is well developed through the good use of economic analysis of the issues, for example, reasons for market failure and government failure. Example use clearly illustrates the key points. Argument is well developed and coherent, covering whether governments should intervene or otherwise.	10 -13 Marks
L2	Answers shows some understanding of the qn and provides a fair discussion on the issues of resource allocation. Content is	7 - 9 Marks

	somewhat developed through the use of economic analysis of the issues, but limited in breadth or depth. Example use illustrates the key points, but inconsistently so. Argument is present but lacking coherence as to whether government should intervene or otherwise.	
L1	Answers missed the point of the qn, by raising irrelevant points. Content is poorly developed due to erroneous understanding or failure to use economic tools. Lack of example use. Poorly constructed argument or missing altogether.	1 - 6 Marks

<b>Evaluation</b>		
E2	Stand with sound economic justification	3-4
E1	Stand without justification.	1-2

## Paper 2: Essay 3

- a) Explain the reasons for government intervention in the case of market dominance. [10]
- b) Discuss if barriers to entry is the only determinant of a firm's profitability. [15]

### a) Explain the reasons for government intervention in the case of market dominance.[10]

#### Question Analysis:

Command	Explain – give clear reasons for an idea/circumstances, describing it in detail and using relevant economic facts.
Content	Firms and how they operate – why market dominance as a source of market failure and hence government intervention is necessary
Context	No specific context – use relevant context for relevant market structures
Approach	Students need to give reasons why market dominance is a source of market failure and hence government intervention is necessary

#### Outline of an Essay:

Introduction	Definition of market dominance and market failure. Overview and context of the essay
Body	<p><u>Paragraph 1:</u> Explain how market dominance lead to allocative inefficiency and hence market failure → requires government intervention.</p> <p><u>Paragraph 2:</u> Explain how market dominance lead to productive inefficiency and hence market failure → requires government intervention.</p> <p><u>Paragraph 3:</u> Explain how market dominance lead to X-inefficiency OR dynamic inefficiency and hence market failure → requires government intervention.</p>
Conclusion	Summary of the points mentioned above.

#### Suggested Answer:

##### Introduction

Market dominance occurs when a firm holds significant market power, which refers to the ability of a firm to set prices or quantity. Market failure occurs when the free market fails to allocate resources that would maximize society's welfare

As a dominant firm will be allocative inefficient, productive inefficient and most probably X-inefficient and dynamic inefficient, this will lead to market failure. Hence government intervention is required.

##### Body

Allocative efficiency is achieved when the level of output produced correspond to  $P=MC$ . This implies that the consumers valuation of consuming the good is equal to the cost of producing it. Market dominance leads to allocative inefficiency.

A market dominant firm has downward sloping AR & MR that has relatively price inelastic demand. A firm's profit maximizing equilibrium is at where  $MC=MR$ , with price  $P_M$  and quantity  $Q_M$ . The outcome is allocative inefficient as  $P > MC$ .

E.g. the massive fall in subscription fees and large surge in subscription to mobile services after the entry of M1, this implies that the SingTel was allocative inefficient as  $P > MC$  when it was a monopoly. Hence there is a need for government intervention in the case of market dominance due to allocative inefficiency.

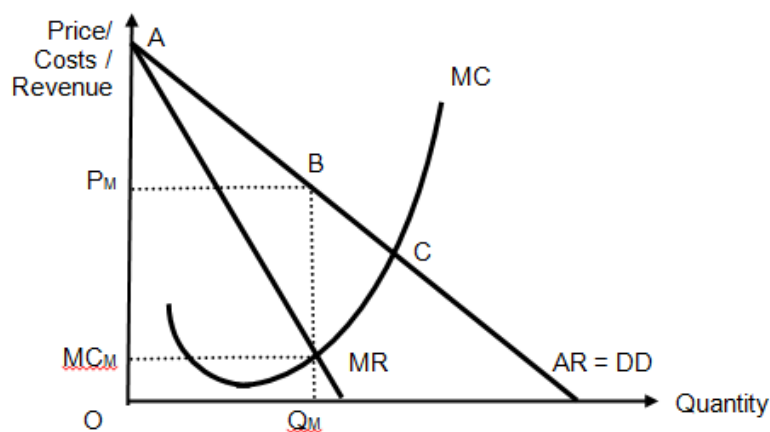


Figure 1: Allocative Efficiency

Productive efficiency from the firm's point of view is achieved when the firms produce along the LRAC, which is the minimum cost of producing that particular level of output. Productive efficiency from the society's point of view is achieved when the firms produce at the minimum LRAC, which all economies of scale has been exploited.

Market dominance leads to productive inefficiency. At  $Q_M$ , a market dominant firm will be producing along the LRAC at point A and hence is productive efficient from the firm's point of view. However, it is not producing at the lowest LRAC at point B and hence productive inefficiency from the society's point of view.

E.g. due to SingTel's dominant position before liberalisation, SingTel not operating at lowest LRAC, hence enables it to charge too high price and too low quantity. Hence there is a need for government intervention in the case of market dominance due to productive inefficiency.



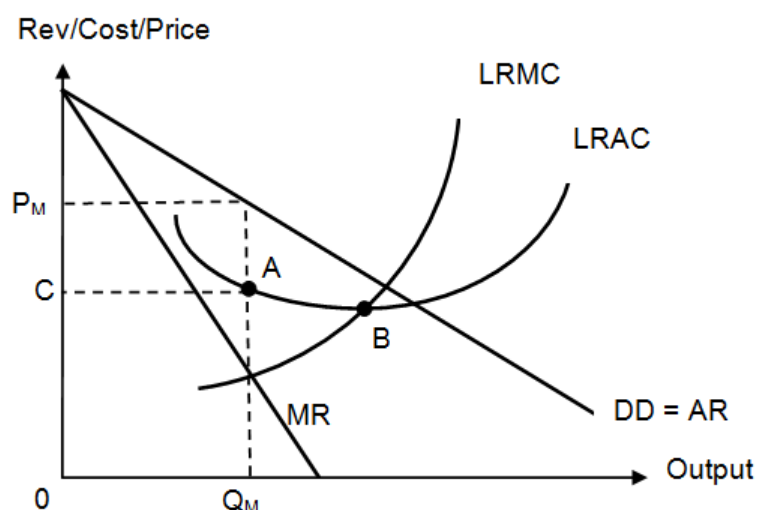


Figure: Productive Efficiency

Dynamic efficiency is achieved when firms engage in R&D on creating or making changes to a new product; or new production methods.

Market dominance tends to lead to dynamic inefficiency. A market dominant firm may become complacent and do not have the incentive to engage in R&D. Thus dynamic inefficiency occurs and there will be a lack of product variety and consumers' choices and probably an increase in cost of production.

E.g. dynamic inefficiency - Microsoft monopolised computer operating system and office productivity software in the 1990s to mid-2000, many perceive the improvements in various versions to be marginal and unnecessary and arguably there was insufficient R&D.

X-inefficiency occurs when a market dominant firm may become complacent and lacks the incentive to keep its costs to the lowest. Thus x-inefficiency occurs and the firm will be operating at an AC above the LRAC. Therefore, x-inefficiency can lead to productive inefficiency.

E.g. x-inefficiency - proposed opulent Apple headquarters coined by media as the 'spaceship'

### Conclusion

Market dominance leads to allocative, productive and probable dynamic and x-inefficiencies. As such government intervention is required.

### Mark Scheme:

Knowledge, Understanding, Application and Analysis		
Level	Descriptors	Marks
L3	The answer shows excellent ability to explain the reasons government intervention in the case of market dominance. Explanations of reasons are accurate, logical and well-developed. The chosen context is of relevance to the question.	7 – 10
L2	The answer shows ability to explain the reasons government intervention in the case of market dominance. Explanations of reasons are accurate but underdeveloped. The chosen context is of relevance to the question.	5 – 6
L1	The answer contains only a few points lacking depth and detail in answering the question. There is no effort made to provide a context	1 – 4



	and gross conceptual errors are evident throughout the essay. The answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context.	
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cjc

b) Discuss if barriers to entry is the only determinant of a firm's profitability. [15]

### Question Analysis:

Command	Discuss - to provide relevant arguments for and against an issue and arrive at a judgment after reviewing the issues. Generally, the issues raised have some normative aspect, or have unspoken assumptions that can be challenged.
Content	<ul style="list-style-type: none"> <li>▪ Characteristics of firms</li> <li>▪ Behaviour of firms (profit maximisation → pricing and output decisions)</li> </ul>
Context	No specific context – use relevant context for relevant market structures.
Approach	Students are required to provide arguments for and against the issue as to whether barriers to entry are the only determinant of a firm's profitability.

### Examiners' Comments:

- Used the other 3 characteristics of the firms as other determinants of profitability – which is either a resultant of BTE or not a valid argument.
- A change in price will not necessarily lead to an increase in TR. Students need to use PED analysis to determine the change in TR. Student also did not link it to profits explicitly.
- Did not assume TC constant when explaining change in TR and hence change in profits.
- Most students illustrated the adjustment of SR supernormal profits to LR supernormal profits poorly.
- Students argued that many types BTE e.g. product differentiation and brand loyalty as an anti-thesis and hence render the argument one-sided.
- Only a handful of students had clear anti thesis argument.
- Some students illustrated kinked demand curve and explained price rigidity poorly.
- Some students illustrated explained price discrimination poorly.

### Outline of an Essay:

Introduction	<p>Definition of BTE</p> <p>Overview and context of the essay</p>
Body	<p><b>Thesis</b></p> <p><u>Paragraph 1:</u> An analysis of how BTE affects price and output (TR) decisions and hence profitability.</p> <p>Low/no BTE → large number of small firms → low/no market power → price taker → makes supernormal profit in the SR → attracts new firms to enter the industry → increase in supply → decrease in price → decrease in <math>AR = DD = MR</math> → incumbent firms make normal profits in the LR.</p> <p><i>Note: vice versa argument for high BTE</i></p>

Paragraph 2: An analysis of how BTE affects TR and hence profitability.  
Natural BTE - ownership or control over key inputs → high BTE  
→ one large firm/small number of large firms → high market power → price setter → relative price inelastic demand → increase price → increase TR and hence increase profits e.g. De Beers in the fine diamond industry.

Artificial BTE – legal protection (patents, copyrights, licenses, franchises) and production differentiation and brand loyalty follow the same argument as above. *But note that high costs are also involved in the legal and R&D process.*

Paragraph 3: An analysis of how BTE affect TC and hence profitability.  
Natural BTE – EOS + Large MES → high BTE → one large firm/small number of large firms → high market power → reap EOS → decrease in TC and hence increase in profits e.g. natural monopoly such as Singapore Powers.

### **Anti-Thesis**

Paragraph 4: Explain why behaviour of competitors is a determinant of a firm's profitability.

#### Price Competition

Competitive oligopoly → interdependency of firms → price rigidity → firms are unable to set P & Q to profit maximise without depending the behaviour of competitors hence affect profits.

Monopolistic Competitive → independency of firms → firms are able to set P & Q to profit maximise without depending the behaviour of competitors hence affect profits.

*Note: Other methods of price competition such as predatory pricing and price discrimination only occur in market structure with high BTE and hence are thesis arguments.*

#### Non-price Competition

Advertising and product differentiation → more price inelastic demand → increase in P → increase in TR and hence profits.

*Note: The non-price competition here must not involve high costs and becomes deterrence for new firms to enter the industry. Otherwise will be considered as thesis argument.*

Paragraph 5: Explain why alternative objectives of firms e.g. revenue maximization is a determinant of a firm's profitability.  
Alternative objectives of firms → revenue maximisation  $MR = 0$  → affect P & Q decisions (TR) and hence profits.

	<p><u>Paragraph 6:</u> Explain why presence of potential contestable markets is a determinant of a firm's profitability. Contestable markets → potential of contestable markets → 0 entry and exit costs → firms with high market power may not charge at a P above MC → affect P &amp; Q decisions (TR) and hence profits</p> <p><u>Paragraph 7:</u> Explain why government intervention e.g. price controls, nationalization is a determinant of a firm's profitability. Government intervention → government may influence the P &amp;/or Q decisions of firms to ensure public interest. E.g. implement AC and MC pricing to ensure reasonable price are charged or ensure that the social optimal level of output is produced → affect P &amp; Q decisions (TR) and hence profits</p>
Conclusion	Stand and justification

### Suggested Answer:

#### Introduction

Barriers to entry (BTE) impede the entry and exit of new firms and can be natural or artificial. In this essay, an analysis of how a firm's profitability is determined by BTE and other factors.

#### Body

A firm's profitability depends on BTE. BTE determines the type of market structure a firm is in. The absence of BTE leads to Perfect Competition while high BTE leads to Monopoly. This will in turn affect the long run profits.

Firms in Perfect Competition profit maximise and produce  $Q_{PC}$  at market price  $P_{PC}$ . The firms will make supernormal profits and new firms attracted by it can enter the industry due to absence of BTE. This increases the industry supply curve and hence the market price will fall. Supply will continue to increase from  $S$  to  $S_1$ , until  $AR = AC$  i.e. where all the firms are making normal profits in the long run.

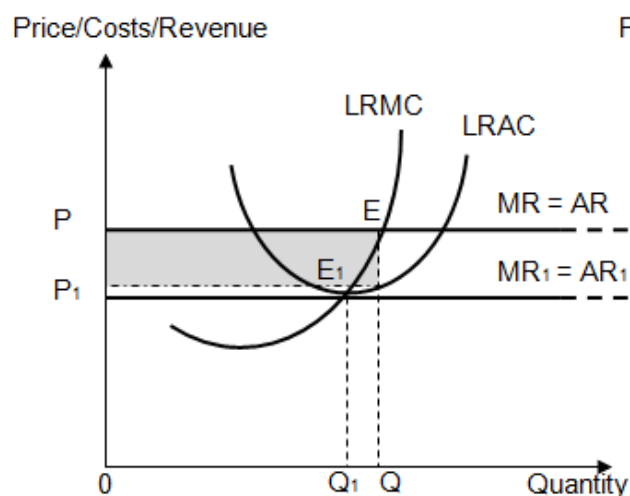


Figure 1: Perfectly Competitive Firm

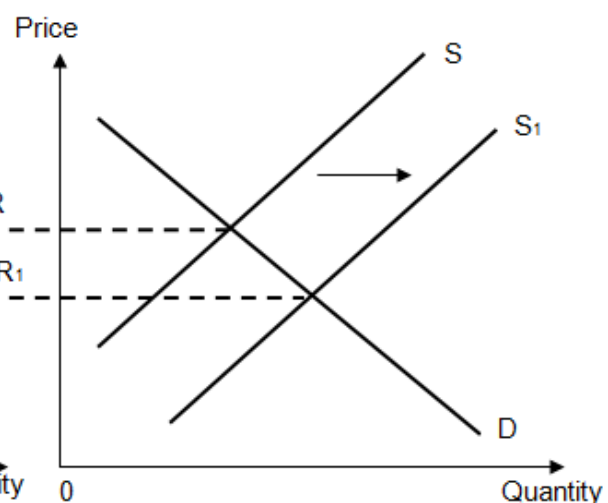


Figure 2: Perfectly Competitive Industry

However, the firm in Monopoly profit maximizes and produce at  $Q_M$  with price  $P_M$ . The firm will make supernormal profits and new firms attracted by it cannot enter the industry due to high BTE. Thus, the firm will make supernormal profits in the long run.

A firm's profitability depends on BTE. When a firm has ownership or control over key inputs, a natural BTE, there is high BTE resulting in one large firm or a small number of large firms. Thus, firms have high market power and a relatively price inelastic demand. Firms can then increase price to increase TR and hence increases profits e.g. DeBeers in the fine diamond industry.

A firm's profitability depends on BTE such as EOS and large MES in relation to market demand. In certain industries e.g. Singapore Power is a natural monopoly and hence its LRAC fall through the entire output. The MES is very large relative to market demand. It is thus more efficient for one firm to produce the good. This firm is able to reap EOS and this translates into a decrease in TC and hence increases profits.

Other factor such as alternative objectives is a determinant of a firm's profitability. Firms may choose to revenue maximisation at  $MR = 0$ . This will affect price and quantity (TR) and hence profits.

Another factor such as government intervention is a determinant of a firm's profitability. Government intervention is necessary when a firm has immense amount of market power and they may not work in the society's interest. This is especially true for natural monopoly producing essential goods such as water and electricity. Government can regulate a monopoly through implementation of MC or AC pricing leading to a fall in price and increase in output. The firm will incur a subnormal and normal profit respectively. Hence, government intervention affects profits negatively.

### Conclusion

In conclusion, given that  $\text{Profits} = TR - TC$ , the condition of ceteris paribus simplifies the analysis. However, any BTE or non-BTE determinants affect both costs and revenue concurrently and hence the effects on profits have to depend on the relative magnitude of the changes in TR and TC. BTE is not the only determinant but as argued, it is probably one of the most important determinants of profitability.

### Marks Scheme:

Knowledge, Understanding, Application and Analysis		
Level	Descriptors	Marks
L3	<p>Answer shows excellent knowledge of</p> <ul style="list-style-type: none"> <li>how BTE determine price and output (TR) decisions of firms and hence profitability</li> <li>how BTE affect costs (TC) and hence profitability</li> </ul> <p>Answers shows excellent knowledge</p> <ul style="list-style-type: none"> <li>how behaviour (price and non-price) of competitors</li> <li>how firms with alternative objectives e.g. revenue maximisation</li> <li>how the presence of potential contestable markets</li> <li>how government intervention e.g. price controls and nationalisation</li> </ul> <p>affects price and output decisions of firms and hence profitability.</p> <p>Excellent rigour of analysis throughout which includes well explained diagrams. There no major conceptual errors in explanation with</p>	9 –11

	explicit links to revenue and cost and hence profitability.	
L2	<p>Answer shows good knowledge of</p> <ul style="list-style-type: none"> <li>▪ how BTE determine price and output decisions of firms and hence profitability</li> <li>▪ how BTE affect costs and hence profitability</li> </ul> <p>Answers shows good knowledge</p> <ul style="list-style-type: none"> <li>▪ how behaviour (price and non-price) of competitors</li> <li>▪ how firms with alternative objectives e.g. revenue maximisation</li> <li>▪ how the presence of potential contestable markets</li> <li>▪ how government intervention e.g. price controls and nationalisation</li> </ul> <p>affects price and output decisions of firms and hence profitability.</p> <p>Good rigour of analysis which includes well explained diagrams. There are some conceptual errors in explanation and lacks explicit links to revenue and cost and hence profitability.</p>	6 – 8
L1	<p>Answer shows some knowledge of</p> <ul style="list-style-type: none"> <li>▪ how BTE determine price and output decisions of firms and hence profitability</li> <li>▪ how BTE affect costs and hence profitability</li> </ul> <p>Answers shows some knowledge of other determinants of price and output decisions of firms and hence profitability.</p> <p>Some rigour of analysis which may include diagrams. There are major conceptual errors in explanation with no links to revenue and cost and hence profitability.</p>	1 – 5

<b>Evaluation</b>		
E2	Justified evaluations/stand on how BTE is the only determinant of a firm's profitability.	3 – 4
E1	Unjustified evaluations/stand on how BTE is the only determinant of a firm's profitability.	1 – 2

## Paper 2: Essay 4

Singapore's recorded a 6.3% annual growth in Gross Domestic Product (GDP) and enjoyed a current account surplus of \$51.4 billion in 2013, a massive 18.6 percent of gross domestic product.

Discuss the extent to which the above figures may be used as an indication of improving living standards in Singapore. (25)

<b>Command</b>	Provide alternative(s) to the stated issue. Places emphasis on more than just having a two sided discussion but also to show the limit to which an argument has validity and to come to a reasoned conclusion.
<b>Content</b>	Economic Indicators e.g. GDP, inflation, Current Account, GINI Coefficient. Measure of Standard of living- GDP, HDI, MEW.
<b>Context</b>	Singapore
<b>Approach</b>	We need to provide a 2-sided argument of the limit to which we can use GDP and current account figures to measure standard of living (material and non-material) and thus offer alternatives. It is crucial to consider these points in the context of Singapore.

### Introduction:

**Definition of SOL-** Standard of living refers to the quality of life. It includes both material and non-material well-being. The material well-being refers to the quantity and quality of goods and services available, and the non-material well-being includes intangibles such as leisure time, lifestyle and the state of the environment.

### Body:

**Thesis:** It is indicative and SOL has improved.

**Define GDP-** Gross Domestic Product (GDP) is the aggregate value of all final output produced by factors of production within the economic boundaries of a country over a given period of time, irrespective of who is earning the income.

GDP is a measure of economic growth or the increase in output. Since GDP has increased by 6.3%, this implies that aggregate demand (AD) must have increased resulting in a multiplied increase in national income via the multiplier effect. Thus, with an increase in national income, this means that materially, residents have a greater disposable income and thus higher purchasing power, hence they are able to enjoy a greater quantity of goods and services and hence higher material SOL.

**Define Current account-** The current account shows the flow of goods and services, plus incomes flowing into and out of the country, plus net transfer of money into and out of the country.

**Components of Current account-** Trade in Goods Account, Trade in Services Account, Net Income Flows, Net Current Transfers

Current account surplus-Assuming Ceteris paribus for Net income flows and Net Current Transfers, an improvement in current account balance by \$51.4 billion does imply that living standards have improved. This is because a large component of current account is the trade in goods and services component i.e. Balance of Trade. This is especially so for Singapore ('a massive 18.6% of GDP'), given our export-oriented nature. Thus, the trade surplus contributes to an increase in AD via increase in (X-M) and thus National income increases. This contributes to a higher material SOL as we are able to enjoy a greater amount of goods and services.

### Anti-thesis:

**It is not indicative of Material SOL:**

**GDP does not give us an indication of inflation levels**



When assessing standard of living using national income figures, real GDP figures should always be used. This is because AD may be rising along the classical portion of the AS curve, such that inflation may result. Thus, if we are not careful and use nominal GDP figures, the figures would include both inflation and the actual quantity of goods and services consumed.

Thus, in order to get a clearer idea of the actual quantity of goods and services consumed, we need to subtract the rate of inflation from the nominal GDP figures, in order to obtain real GDP figures.

### **GDP does not give an indication of per capita income**

It is important to consider population figures when looking at standard of living. GDP figures alone will not be enough as the population numbers does affect GDP per capita, the amount of national income per person, i.e. the amount of goods and services each individual is able to enjoy.

Given Singapore's growing population in recent years due to our aim of a target population of 6.9million, it would not be enough to just look at GDP figures, but we need to look at the GDP per capita figures. This is because if GDP is increasing at a slower rate than rate of increase in population, the GDP per capita will actually be falling, and thus SOL per person will be falling.

### **Equity**

In order to know whether material living standard has improved, we also need to not only know if GDP has increased, but also how it is distributed. If GDP increases benefit only a small minority of the population and most of the population does not benefit, then the economy's overall standard of living may not have increased even if national income increases.

Income equality has become a bigger issue in Singapore in recent years and the Gini coefficient for Singapore is rather high, sitting at 0.478.

### **Composition of GDP**

Expenditure on Capital versus Consumption goods- If imports are primarily made up of capital goods, then this could translate into higher SOL only in the future, and not current SOL. Singapore also has a large expenditure for defence (about 3% of her GDP), however, although this contributes towards GDP, it does not contribute to an actual increase in SOL.

### **Nature of Current Account Surplus**

A Current account surplus indicates that Singapore has more exports than imports. However, exports do not contribute to the living standards of Singaporeans as these are goods enjoyed by foreigners, and if import levels have decreased, this means that Singaporeans are enjoying fewer goods now.

There is also no indication of the current account figures of the previous year; hence although figures current show a surplus, it would be hard to say if current account figures have improved in comparison to before. Thus, we can't say that there has been increased contribution to AD, NY and thus material SOL.

### **It is not indicative of Non-Material SOL:**

2 well –developed Non-material indicators

Leisure Time

Singaporeans are known to have one of the longest working hours in the world and a Global Gallup Survey has also polled that Singaporeans are one of the most unhappy people in the world. Thus, if increases in GDP are due to longer working hours and sacrifice of leisure time, then it would not be accurate to say that we have increasing SOL, just based on GDP and current account figures.

State of environment

If the increases in GDP result in environmental degradation through factory emissions from higher production, then, we also cannot say that we have an increasing SOL. Singapore also suffers from yearly haze conditions due to forest fires from Indonesia; this would also be something we need to take into account when measuring SOL.

## Overall Stand and Evaluation

In summary, GDP and current account figures allow us to understand national income levels and hence do provide an indication towards material standard of living. However, we must take note that these must be tweaked for accuracy, i.e. we need to look at inflation, per capita, equity and composition figures. We must do this before we can be sure if Singapore has an improving material SOL.

In addition, material SOL figures alone is not enough; we also must take note of non-material SOL figures, thus, it is important to take note of figures that provide us an idea of items such as state of the environment and leisure time, e.g. Pollution Standards Index (PSI) figures, and no of working hours.

Thus, instead of relying on just GDP and current account figures, it may be wise to use a more composite index such as Human Development Index (HDI) which takes note of things such as life expectancy, education and per capita income indicators. This would provide us a better view of Singapore's SOL. Also, something we cannot ignore is income inequity which is a growing problem in Singapore, thus we must take note of GINI coefficient figures in order to accurately conclude about our SOL.

Levels	Description
<b>L1</b> <b>Knowledge/</b> <b>Recognition</b> <b>{Description}</b>	<u>1-5 marks :</u> Answer did not address question or address in an incidental manner. It may contain only a few valid points made incidentally in an irrelevant context. Numerous concept errors. No understanding of what is meant by standard of living. Argument is incoherent.
	<u>6-9 marks :</u> Answer is lacking in a core component- There is either no/little mention of Non-material SOL. OR No examples are being raised in the context of Singapore.
<b>L2</b> <b>Consolidate</b> <b>{Add some</b> <b>detail –</b> <b>Application</b> <b>without</b> <b>Analysis}</b>	<u>10-11 marks :</u> The answer is a very general essay on standard of living, but it does not directly engage the question in terms of the 'extent' to which the above data can be used as an indication. The answer also poorly engages how GDP <u>and</u> Current Account may or may not be an indication of SOL. E.g. how GDP needs to be tweaked to take note of inflation.
	<u>12-14 marks :</u> Most parts of the essay directly addresses/engages the question. It directly addresses the word 'extent' to which the above data may be used as an indication. Either GDP <u>or</u> Current Account are poorly engaged in terms of how it may or may not be an indication of SOL. Generally speaking, there is also either a lack of depth or scope of points.
<b>L3</b> <b>Elaborate</b> <b>{Extend to</b> <b>include</b> <b>analysis}</b> ▪ <u>Analyse</u> relevant theory to aid explanation ▪ <u>Apply</u>	<u>15-17 marks :</u> The answer is able to address the word 'extent' to which it may be used as an indication well. It is able to show how GDP and current account may or may not be an indication of SOL. Non-material SOL is also addressed. However, although the essay does try to link Singapore, it does not select points that are particularly important to standard of living in Singapore e.g. equity.
	<u>18-21 marks :</u> The answer addresses the question and its key words well. It does an excellent job of looking the extent to which GDP and SOL are indicative of SOL. Both material and non-material SOL are explained well. Points selected and elaboration of points also shows a good understanding of the

explanation in the context of the question	nuances when looking at standard of living in Singapore.
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Evaluation Marks		
<b>E1</b>	An overall stand and simple evaluation is provided e.g. briefly suggesting alternative sources of measurements of SOL. E.g. HDI and MEW.	1-2
<b>E2</b>	An overall stand is provided and an in-depth evaluation that shows consideration of overall issue in relation to Singapore is provided. E.g. Although GDP and CA are very important to our export-oriented economy; it is gradually becoming more important to consider equity and leisure time in our consideration of SOL as these are increasingly becoming contentious points in rapidly advancing Singapore.	3-4



## Paper 2: Essay 5

Q5. In line with the Government's **restructuring efforts** to achieve **economic growth** driven by **sustained productivity improvements**, the Ministry of Manpower is taking steps to **raise the quality of our workforce** and **reduce reliance on foreign labour**.

*Ministry of Manpower, March 2013*

(a) Explain how raising the quality of our workforce and reducing reliance on foreign labour will bring about productivity improvements. [10]

(b) Discuss the view that the government should focus on supply side policies rather than demand management policies to achieve sustained economic growth. [15]

### Part a

<b>Command</b>	Explain how: to elaborate in detail, the process involved or issue at hand with focus on the effects/outcomes
<b>Content</b>	Quality of workforce, reduce reliance on foreign labour and productivity improvements
<b>Context</b>	No particular context but from the preamble answer should be in the Singapore context
<b>Approach</b>	Students should be able to relate raising quality of workforce & reducing reliance of foreign labour to improvement in productivity of our workforce with use of AD/AS concepts and good examples in the Singapore context

### Introduction

Productivity refers to output per unit of input. Singapore's approach towards improving productivity is to raise the quality of our workforce and moderate foreign employment. It is an approach to support Singapore's restructuring effort towards a high-value, productive economy so that Singapore can enjoy sustainable non-inflationary growth, low unemployment and favourable balance of payments. Singapore's labour market is currently near full employment and job creation remains healthy.

### Body Paragraph 1

**P:** In a country such as Singapore which has no natural resources and therefore depends much on its people, raising the quality of her workforce helps to lower cost of production and improves productivity.

**E:** Labour training programmes will help train workers to work more efficiently, resulting in more output per unit of labour, effectively lowering the cost of production. As a result, the short run AS curve shifts to the right.

**E:** For example, workers' training and retraining programmes like SPUR, improvement in education system to ensure that relevant skills are taught in schools.

**L:** It is definitely very important for the Singapore government to improve our labour productivity as a small country with no natural resources, there is a need to rely on human labour so as to achieve our macro goals.

## **Paragraph 2**

**P:** Raising the quality of our workforce will bring about productivity improvements via higher productive capacity.

**E:** With our increasingly well educated workforce and specialised training, productivity of our workforce has improved and this leads to increase in productive capacity since each worker can now contribute more output within the same work duration. The long run AS curve shifts to the right because greater output is achieved on a sustainable basis *ceteris paribus*. This thus promotes potential growth.

**E:** Knowledge-based industries such as aerospace engineering, biomedical engineering and digital media require specialised training. These industries are associated with higher productivity compared to other lower skilled industries.

**L:** Hence raising quality of our workforce is crucial to increase productivity for Singapore's long term growth and job creation.

## **Paragraph 3**

**P:** Reducing reliance on foreign workers has forced Singapore firms to come up with measures to increase their productivity.

**E:** Singapore government had implemented moderation of foreign workers policy progressively during periods of slow growth to minimise the cost for firms. In addition, to help offset business cost and support reduction of foreign workers process, the Singapore government has put in place grants and subsidies to help firms embark on using innovation and technology in their production processes and improving training of workers. By reducing reliance on foreign workers, and allowing the firms to catch up in their adaptation of technology, this has given Singapore an opportunity to improve productivity of our workforce.

**E:** Examples of measures to reduce foreign workers include: increase in foreign worker levies, foreign worker quotas, Employment pass holders requiring minimum salaries to qualify

**E:** However, some debate that reducing foreign labour has not increased labour productivity thus far but instead reduce it in the short run due to the inefficiencies that result from a severe shortage of workers.

**L:** Reducing reliance on foreign labour may result in falling productivity in the short run but is still likely to improve productivity in the long run.

## **Paragraph 4 (optional)**

**P:** Improvement in labour productivity will make Singapore more attractive to foreign investors.

**E/E:** With improvement in labour productivity, investors will be more willing to invest in our country with expectations of higher profitability. This is important to Singapore as we rely heavily on investment for growth. The increase in AD due to investment will lead to a much greater increase in national income through the multiplier effect, promoting actual growth in the economy. The inflow of FDI will also bring about further improvements in AS in the long run as there is more spending on capital goods. This further increases the productive capacity and promotes higher potential growth in the economy.

**L:** An improvement in labour productivity will result in increases in AD and AS thus helping the economy to achieve both actual and potential growth.

**Conclusion:**

The drive towards a high-value, productive economy supported by reduction of reliance on foreign workers and higher quality workforce should bring about long term benefits of sustainable non-inflationary growth and more job and favourable BOP in the long run.

**Mark Scheme**

L1	Weak understanding of the question. Several errors and inconsistencies in the explanation. A little or no reference to the Singapore economy. No usage of economic concepts (AD/AS). Answer lists and describes a few reasons why improving productivity is important to Singapore but no explanation on them.	1-4
L2	Ability to answer the question is seen. Some knowledge of how raising quality of workforce can improve our workforce productivity and thus enable us to achieve our macro goals. Explanation has some reference to AD/AS concepts. Very little reference made on reduction of reliance on foreign workers.	5-6
L3	Show good understanding of the question requirement, able to relate raising quality of workforce to improvement in productivity of our workforce and how improving labour productivity can increase both actual and potential growth. Use of AD/AS concepts and good use of examples in the Singapore context	7-10



(b) Discuss the view that the government should focus on supply side policies rather than demand management policies to achieve sustained economic growth. [15]

### Question analysis

Command	Discuss 2 sided answer Demand side policies are effective however come with limitations. Supply side policies are effective however come with limitations.
Content	Macroeconomic Problems & Macroeconomic Policies Demand Side policies - Fiscal Policies & Monetary Policies Supply Side policies
Context	Singapore economy Singapore Government Policies
Approach	Explain how the various policies achieve actual and potential growth therefore help achieve sustained economic growth in an economy. Discuss the limitations of the policies in relation to effectiveness in achieving economic growth.

### Introduction

Supply side policies seem to be more beneficial to small economies and demand side policies have many limitations. However, it would be inappropriate to say that demand-management policies are largely irrelevant because it is still useful to some extent especially in the short run. The Singapore government for example aims to achieve sustained non-inflationary economic growth using demand side policies and supply side policies. Due to the nature of the economy – small with limited resources, the government focus more on supply side rather than demand side policies. Demand side policies refer to policies that increase aggregate demand and supply side policies are policies to increase aggregate supply.

### Thesis 1

**P:** Supply side policies increase a country's ability to enjoy sustainable non-inflationary economic growth.

**E:** In a country like Singapore which is small and lacking in resources, it is easy for the country to achieve actual growth but with high inflation if her aggregate demand increases without increasing her aggregate supply. With supply side policies, the country can augment the size of her factors of production and increase their quality to increase the maximum amount of output. Supply side policies, allow a country to increase the quality of her products through R and D. It also increases the quality of her workforce which enable her to produce goods higher up in the value chain (e.g pharmaceutical products) or reduces the average cost of production. All these increase the country's international competitiveness.

Greater productivity in the country also attracts FDI inflows leading to increase in AD and AS and thus actual and potential growth. Hence with the increase in aggregate supply a country can enjoy a rise in output in the long run with low inflation. (Draw AD/AS diagram to illustrate).

**E:** Examples of supply side policies in Singapore: The government has been actively encouraging re-training and upgrading of skills through subsidies and incentives. This is done with the aim to improve quality and productivity of labour which will promote employment without growing inflation. Examples of such policies are Skills Programme for Upgrading and Resilience (SPUR) and Continuing Education Training (CET) which subsidises skills upgrading. Through these policies, Singaporeans are able to be more competitive and better able to gain employment. These policies would help to shift the AS curve outwards leading to an increase in both potential and actual growth.

**E:** However, a supply side policy may have limited impact on the AS. This is because supply side policy takes time to take effect and thus increase in AS cannot be seen in the short run. Workers may be reluctant to go for training and employers may also be reluctant to let employees off for training. Financing government expenditure may have an offsetting effect on AS. Government expenditure to achieve sustained growth will put a strain on the government's budget. In the future, tax may be increased to support the supply side policies and this may have disincentive effect on

work and investment and may result in a fall in AS. Also supply side policies may be inappropriate especially in the short run when the problems arise from demand deficiency.

**L: Link back to question:** Nevertheless, to achieve sustained economic growth in the long run, Supply side policies are still the most important.

### **Anti-Thesis 1**

**P:** Expansionary fiscal policy which allows increases in government expenditure and decrease in taxation may also need to be used to achieve actual growth.

**E:** By increasing G, the government injects into the economy and by decreasing taxes, households and companies are able to increase consumption and investment. The injections into the economy work through the multiplier effect and consequently national income increases resulting in actual growth.

**E:** In the case of Singapore, the government would often increase government expenditure by accelerating infrastructural projects such as the building of train lines and schools.

**E: Fiscal policy** may not have a significant impact on a country's economic growth. Fiscal policy would be effective in a large economy with a big domestic sector and large multiplier like the USA and China. However in a small economy like Singapore it is not effective in increasing AD as it gives little boost to the NY due to a small injection multiplier and a small domestic relative to the external demand. Most of public spending is often aimed at the supply side measures to increase the country's productive capacity or to redistribute income to allow the poor to cope better with the global economic downturn. Furthermore, government spending may result in a crowding out effect. As the government borrows from banks to increase spending in the country, banks will increase interest rate leading to lower levels of investment. This would not be as effective in increasing AD as the free market is known to be better at decision making and allocation of resources than the government. Also the use of fiscal policy may result in increasing demand pull inflation.

**L:** This increase in AD would lead to an increase in the general price level if the economy reaches full employment. Supply side policy used in tandem with fiscal policy may still be more effective to bring about sustained growth.

### **Anti-Thesis 2**

**P:** In countries which are unable to manipulate interest rates due to the open economy trilemma, exchange rate policy can be employed.

**E:** In a small open economy like Singapore, employing traditional monetary policy may be impractical as with the free movement of capital the Triffin dilemma occurs and monetary policies may be given up for exchange rate policy which can be used to promote economic growth. In times of recession when income and employment falls AD will also fall. Depreciation is therefore used to increase AD. Depreciation can be used to increase exports and decrease imports in a country like Singapore. With depreciation, exports will seem more competitive as it is cheaper, while imports will seem more expensive due to the weaker currency. Assuming Marshall Lerner condition holds, this will lead to increase in  $(X-M)$ , increase in AD and therefore increase in national income leading to actual economic growth.

**E:** These may also drive up cost push inflation which is extremely undesirable given Singapore's import-reliant export industry as this would filter through to higher export prices and thus has drawbacks on  $(X-M)$  and thus AD and economic growth. In addition, focusing on stimulating Singapore export using exchange rate policy cannot reduce the vulnerability faced from income change of the world economies. When major economies like America and Europe are in recessions, Singapore's export will also fall reducing her AD and national income. An expansionary monetary policy centred on exchange rate of reducing in price of Singapore's export can reduce some fall in export fully reverse the fall in Singapore's economic growth.

**These** may also drive up cost push inflation which is extremely undesirable given Singapore's import-reliant export industry as this would filter through to higher export prices and thus has drawbacks on  $(X-M)$  and thus AD and economic growth. In addition, focusing on stimulating Singapore export using exchange rate policy cannot reduce the vulnerability faced from income change of the world economies. When major economies like America and Europe are in recessions, Singapore's export will also fall reducing her AD and national income. An expansionary

monetary policy centred on exchange rate of reducing in price of Singapore's export can reduce some fall in export fully reverse the fall in Singapore's economic growth. Also in the short run the BOT may worsen and economic growth may fall due to the J curve effect. At the same time for depreciation to be effective the Marshal-Lerner condition must hold.

**L:** Thus focusing on providing goods that are income-inelastic through supply side policy might be more apt.

### **Synthesis:**

In conclusion, supply side policies have more to offer, given the many limitations of demand management policies. However, they would be inappropriate especially in the short run when problems arise due to demand deficiency. Though fiscal and monetary policies would not have that significant impact in small economies with its large dependence on exports, it is still important because they work quickly and their effects are seen more rapidly as compared to supply side policies. Thus it is inappropriate to say that governments should focus more on supply side policies rather than demand management policies because demand management policies are still useful to some extent especially in the short run. In Singapore, due to the nature of the economy being small and open, she has a small multiplier and faced increased vulnerability from changes in external sector. By diverting her resources to increase aggregate supply through supply side policies allow her to augment her increase in productivity and productive capacity as well as enjoy sustainable non-inflation growth in the long run.

### **Mark Scheme**

L1	Answer that shows some superficial knowledge of the economic policies adopted by a government to achieve economic growth. Little or no evaluation of the policies. Conceptual error/s evident.	1-5
L2	Some explanation and evaluation in terms of effectiveness of at least 2 policies with the use of AD/AS framework. Evaluation may not be consistent for all policies discussed. Diagram may not be clearly explained Some examples of policies adopted by government to achieve sustained economic growth – addressing both actual and potential growth.	6-8
L3	Detailed explanation of at least 3 policies and their evaluation in terms of their effectiveness. Reference to AD/AS framework clearly made and explained. Examples adopted by a government to achieve actual and potential economic growth and thus sustained economic growth. A considered introduction or conclusion is also observed.	9-11
E1	1m – Any evaluation within the essay / any conclusion; no judgment 2m – Any conclusion; weak judgment	1-2
E2	A reasoned judgment on whether supply side policy is more effective than demand side policies in achieving sustained economic growth. 3m – Clear stand on the above issue with a weak judgment 4m – Clear stand on the above issue with judgment that is well elaborated	3-4

## Paper 2: Essay 6

Discuss the view that protectionism brings harm to the free market economy. [25]

### Question Interpretation

Command word	Discuss – give different perspectives Give overall evaluation - stand and justify
Content/Concepts	Free market economy – exchange of goods & services with no government intervention Benefits and costs of free trade Protectionism – definition, arguments for and against protectionism Macro aims, micro aims, SOL
Context	Give own examples of products / industries / countries (developed & developing countries)
Approach	<u>Thesis</u> : Explain why protectionism brings harm to the free market economy - What is protectionism and why it hinders the gains from trade. (Use Principle of Comparative Advantage or World Tariff diagram) - Arguments against protectionism  <u>Anti-thesis</u> : Explain why protectionism does not bring harm to the free market economy - Arguments to justify protectionism - Protectionism negates the costs of free trade  Discuss the effects on the economy, linking to the macro and micro aims and SOL. Give examples. Make a stand and justify

### Essay Outline

#### Introduction

- Define free trade, protectionism
- Set context: Explain that free market economy means removal of barriers to promote free trade. Free trade helps to achieve the macro and micro aims of the government and improve SOL whereas protectionism is a barrier to free trade and hinders the achievement of these aims.

#### Body

#### **Thesis: Protectionism brings harm to the free market economy**

##### **T1: Explain what is protectionism and why it hinders the gains from trade**

Protectionism goes against principle of comparative advantage and limits trade possibilities:

- Explain that countries are not able to fully exploit principle of comparative advantage in allowing for specialization and trade to take place.
  - o Lower world output and lower consumption possibilities
- Higher prices and lower overall economic welfare due to import tariffs
  - o Explain how consumers have to pay higher price and lower quantity from import tariff. Illustrate with world tariff diagram.
  - o Explain overall loss in economic welfare due to domestic over-production and domestic under-consumption.
- Other effects such as lower export earnings, lower quality, lower rate of technological advancement

##### **T2: Explain arguments against protectionism**



- Complacency
- Retaliation
- Beggar-thy-neighbour effect

### **Anti-thesis: Protectionism does not bring harm to the free market economy**

#### **AT1: Explain arguments for protectionism**

- Protect domestic workers from falling wages and unemployment
- Protect sunset industries
- Protect infant industries
- Protect foreign control of domestic industries through dumping

#### **AT2: Explain that protectionism negates the costs of free trade**

Explain the costs of free trade that protectionism can help to reduce:

- Immobility of resources and structural unemployment
- Increased vulnerability to external shocks and economic stability
- Free trade may not benefit all countries equally

#### **Conclusion** (Overall Evaluation to make a stand & justify)

- Consider time period. Protectionism is justified in the short run and give reasons. But in the long run, protectionism is harmful to the free market economy as it breeds inefficiency in the economy and slows down economic growth.

### **Detailed Answer**

#### **Introduction**

A free market economy refers to the removal of barriers to promote free trade which is the exchange of goods and services across international borders. Protectionism refers to the partial or complete protection of domestic industries from foreign competition in domestic markets. Countries use various methods to restrict trade such as tariffs, quotas, embargoes, export subsidies. Free trade will generally enable countries to develop and grow, allowing them to be more globally competitive to achieve the macro and micro aims of the government as well as to attain higher standards of living whereas protectionism is a barrier to free trade and hinders the achievement of these aims. However free trade can also have detrimental effects, and hence countries may engage in protectionism to protect their own industries.

### **Thesis: Protectionism brings harm to the free market economy**

#### **T1: Explain what is protectionism and why it hinders the gains from trade**

Protectionism brings harm to the free market economy as it **hinders the gains from free trade**. With protectionism, countries are not able to fully exploit the **principle of comparative advantage** in allowing for specialization and trade to take place. Hence countries are **not able to enjoy higher world output and higher consumption possibilities**. Developing countries such as India will benefit from the lower prices due to the specialisation of goods all around the world. According to the Principle of Comparative Advantage (CA), mutually beneficial trade occurs when a country exports a good it has CA in and imports the good that it does not have CA in. With greater abundance of cheaper labour in India, India has a lower opportunity cost in producing labour intensive goods. Hence specialisation and production of labour intensive goods will allow India to benefit as other countries such as US specialise and produce high-skilled capital intensive goods. This will result in higher world output of both goods produced by India and US. However, protectionism does not allow the countries to enjoy this benefit as it hinders trade and countries will not specialise according to the principle of CA, hence resulting in **lower world output**.

With trade barriers and limited quantity available to import and consume, countries will suffer from **lower consumption possibilities**. Countries would allocate their scarce resources to produce goods

that they do not have a CA in, thus limiting the benefits of specialisation and trade. Hence a country which used to consume outside its production possibility curve would not be able to enjoy the same level of consumption possibilities. Hence lower world output and lower consumption possibilities ensue due to protectionism. In the long run, there is less efficient utilisation of resources and lower standard of living.

Due to import tariffs, consumers have to pay **higher prices** and suffer from lower quantity available. This is shown in Figure 1 below.

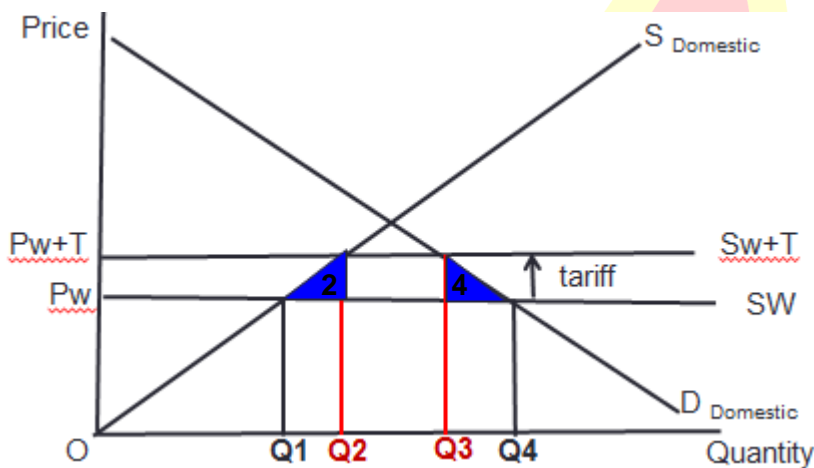


Figure 1: World Tariff Diagram

Figure 1 shows that after the imposition of the tariff, the market price rises by the full amount of the tariff from  $P_w$  to  $P_w + T$  and there is a fall in consumer surplus. In addition, consumption falls from  $OQ_4$  to  $OQ_3$ . There is an overall loss in economic welfare shown by the shaded area in Figure 1 due to domestic over-production (area 2) and domestic under-consumption (area 4). Area 2 measures the additional opportunity cost incurred due to the increase in domestic production. Since the domestic producers are relatively more inefficient than the foreign producers, it will be cheaper to purchase from abroad than to produce domestically. Area 4 measures the surplus that is lost by consumers due to fall in overall consumption by  $Q_3Q_4$  amount.

Protectionism also brings harm to the free economy as countries will suffer from a **fall in economies of scale (EOS)**, translating to **higher costs of production** for producers, and hence **higher prices** of goods. With protectionism, there is limited trade amongst countries. Thus firms are unable to expand to other countries which would mean that these firms end up producing less goods and services. This means they are unable to reap substantial EOS, which are benefits of trade enjoyed by firms when they increase their production levels as they expand their market reach and produce for the local and foreign markets. As a result, firms are unable to enjoy the lower production costs and their profits would be much lower than if the industry was not protected. Hence firms may pass on the higher costs in the form of higher prices to consumers.

**Anti-thesis: Protectionism does not bring harm to the free market economy**

**AT1: Explain arguments for protectionism**

However, protectionism does not always bring harm to the free market economy. It can be justified if it helps to protect its sunset industries, infant industries or to protect foreign control of domestic industries through dumping.

A country may engage in protectionism to protect its declining (sunset) industries. The industry could have lost its comparative advantage because of changes in the relative costs of production across countries. One such example is the US tyre industry where the US government has imposed import tariffs on tyre from China to protect the declining US tyre industry. As US faces

intense competition from China's tyre industry, there is a danger that the US tyre firms may be forced to shut down very quickly resulting in sudden and massive structural unemployment. As the factors of production are not perfectly mobile, workers need time to learn new skills to move into new industries. Hence protectionism would allow the industry to decline gradually and to give the workers sufficient time to be retrained to move to other industries as well as for the machines to be used for a longer period of their life span to prevent wastage of resources.

However, protectionism in this case cannot be sustained for an indefinite period of time as it goes against the principle of comparative advantage. If the industry has indeed lost its CA, it is more efficient if resources are transferred to other industries with CA. Furthermore, once protectionism is put in place, it is very hard to remove it as workers within the industry may be resistant to the change. Thus, this causes resources to be effectively locked in inefficient industries and depriving other industries such as sunrise industries of valuable economic resources.

<b>Thesis: Protectionism brings harm to the free market economy</b> <b>T2: Explain arguments against protectionism</b>
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Protectionism may bring harm to the free market economy as it results in complacency. Protectionism significantly reduces competition from foreign firms. This means that domestic firms are the main producers in the market and are sheltered from foreign competition by the government. Hence they may get complacent and not feel the need to engage in research and development to reduce costs and to improve the quality of their products. This means that firms may no longer produce at the minimum average cost as they lack the incentive to be productive efficient. This results in productive inefficiency from society's point of view as goods are not produced at the lowest possible average cost and the rate of technological advancement will also be slower. For example, before protectionism was implemented, US tyre firms compete with foreign firms in the market for tyre and will try to lower their costs to sell them at a cheaper price or differentiate their tyre to make its demand more price inelastic. As the US government imposed tariffs on imports of tyre from China, the US firms are sheltered from their major competitor and may not see the need to be productive efficient. As such, the price of US tyre is higher than it should be and this reduces the consumer surplus of US tyre consumers. Hence this brings harm to the free market economy.

<b>Anti-thesis: Protectionism does not bring harm to the free market economy</b> <b>AT2: Explain that protectionism negates the costs of free trade</b>
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However, free trade also has its problems and limitations, and protectionism can negate or reduce the costs of free trade. Free trade brings about problems of immobility of resources and structural unemployment, increased vulnerability to external shocks and economic instability, and free trade may not benefit all countries equally.

Over-reliance on trade with other countries increases the vulnerability of the economy to external shocks and may cause economic instability. If a country is dependent on its exports to boost its economic growth, it faces instability in its national income and employment if there are any fluctuations in export demand or changes in trade cycles of the importing countries. For example, if there is a recession in other countries such as the 2008/9 global recession, countries that are dependent on external demand will suffer. The fall in the demand for its exports will lead to a fall in the national income and hence an adverse effect on the economic growth of the country.

### Conclusion / Overall Evaluation



Protectionism is justified in the short run during recession or to help infant industries to develop and to improve their competitiveness before they are ready to face foreign competition. Protectionism may also be used in the short run to maintain employment of workers in the key industries despite loss of CA. This is to give workers some time to move into other industries during the transition period. In the long run, protectionism is harmful to the free market economy as it breeds inefficiency in the economy and slows down economic growth. Other measures such as supply-side policies must be undertaken to develop possible areas of growth for the country that will help her to achieve sustained economic growth in the future.

#### Mark Scheme

Levels	Description
<b>L1</b> <b>Knowledge/</b> <b>Recognition</b> <b>{Description}</b>	<u>1-5 marks :</u> Answer did not address question or address in an incidental manner – failing to explain protectionism and free trade.  Very poor content development of protectionism and free trade, such that the answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context. Argument is incoherent.
	<u>6-9 marks :</u> Points merely state or describe, with little/weak explanations, or with basic conceptual errors, of: - arguments to support protectionism, - arguments against protectionism  Inadequate content development of analysis present. No/little examples raised in context of industries or economies. Argument is incoherent.
<b>L2</b> <b>Consolidate</b> <b>{Add some</b> <b>detail –</b> <b>Application</b> <b>without</b> <b>Analysis}</b>	<u>10-11 marks :</u>  Some parts of the essay address the question (protectionism, free trade and 2-sided discussion), shows economic analysis, but with gaps and no clear links to micro/macro aims/SOL. Content points are underdeveloped. Argument may not be fully coherent.  Examples raised in context of industries or economies, though not thoroughly.
	<u>12-14 marks :</u> Most parts of the essay directly addresses/engages the question (protectionism, free trade and 2-sided discussion), good economic analysis, with some links to micro/macro aims and SOL but not consistently throughout answer. Content points are more thoroughly developed. Argument is fairly coherent.  Examples raised in context of industries and economies, though not consistently well elaborated.
<b>L3</b> <b>Elaborate</b> <b>{Extend to</b> <b>include</b> <b>analysis}</b> ▪ <u>Analyse</u>	<u>15-17 marks :</u> Clearly answers the question, addressing why protectionism is harmful or justified for the economy, well elaborated economic analysis, links to micro and macro aims and SOL but not consistently made throughout answer. Content points are well and thoroughly developed. Arguments are fluent and coherent.

relevant theory to aid explanation	Answer shows a good knowledge of the effects of protectionism and free trade in various contexts. Coherent essay with many contextual explanations though this may not be consistently applied throughout the essay.
▪ <u>Apply</u> explanation in the context of the question	<p><b>18-21 marks :</b> Clearly answers the question, addressing why protectionism is harmful or justified for the economy, with various perspectives and well elaborated economic analysis, and clear links to micro and macro aims and SOL consistently made throughout answer. Content points are well and thoroughly developed. Arguments are fluent and coherent.</p> <p>Examples raised in context of industries and economies, and consistently well elaborated.</p> <p>Well-argued essay with clear evidence of ability to form reasoned judgment in each scenario and well explained links to micro and macro aims and SOL, as well as overall in the conclusion of the essay.</p>

Evaluation Marks		
<b>E1</b>	Mainly unexplained judgement of when protectionism is good or harmful to the economy with no clear/justified conclusion to support stand.	1-2
<b>E2</b>	Well-reasoned/explained judgment of when protectionism is good or harmful to the economy with strong justification	3-4