



VICTORIA JUNIOR COLLEGE  
JC 2 PRELIMINARY EXAMINATION 2018  
HIGHER 2

H2 ECONOMICS

9757/02

Paper 2

2 hours 15 minutes

**Additional Materials:** Answer Paper

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**READ THESE INSTRUCTIONS FIRST**

Write your name and class on all the work you hand in.  
Write in dark blue or black pen on both sides of the paper.  
You may use an HB pencil for any diagram or graphs.  
Do not use staples, paper clips, highlighters, glue or correction fluid.  
DO **NOT** WRITE IN ANY BAR CODES.

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

Start each question on a FRESH piece of paper.

At the end of the examination, fasten your work securely, by question, using the strings provided.

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

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This document consists of **3** printed pages

[Turn over

Answer **three** questions in total.

## Section A

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

- 1** Electric Vehicles (EVs) that run on lithium batteries are gaining popularity due to the growing concern over air pollution. Advancements in EV technology has also led to cost improvements for carmakers.
- Discuss the impact of the above events on the market for electric vehicles and its related markets. [25]
- 2** The number of mergers in the telecommunications industry has been increasing significantly. Following the merger between AT&T and Time Warner, US telecom giants T-Mobile and Sprint have also reached an agreement to merge and are now awaiting the approval from government antitrust regulators.
- (a) Explain the characteristics which determine the market structure that telecommunications firms operate in. [10]
- (b) Discuss the factors a government should consider when deciding whether to approve the merger of firms. [15]
- 3** With access to quality schooling and information on the Internet, most Singaporeans are educated on various issues, ranging from the risks of excessive plastic use to being a more discerning buyer of second-hand cars. However, there remains hurdles that prevent Singaporeans from making well-informed choices.
- (a) Explain why a government might intervene in the above cases. [10]
- (b) In light of the above-mentioned, evaluate the policies that the Singapore government can adopt. [15]

## Section B

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

- 4** (a) Explain the information an economist would require to determine whether the standard of living in a country has improved over time. [10]
- (b) Discuss why governments may need to choose a mix of policies to achieve a high standard of living. [15]
- 5** Different governments implement different policies to reduce the country's current account deficit. Whilst the US government impose protectionist measures like tariffs, other governments choose to adopt tight fiscal policy or supply side policies.
- (a) Explain the factors that are likely to cause a balance of payments deficit on the current account. [10]
- (b) Discuss the appropriateness of the measures a government could adopt to alleviate a current account deficit. [15]
- 6** Free trade agreements are treaties which make trade and investment between two or more economies easier. International business is now simpler with Singapore's network of over 22 implemented agreements.
- Source: Enterprise Singapore
- Discuss the impact of free trade agreements on different economies. [25]

----- End of paper -----

## Suggested answers to 2018 VJC H2 Prelims Paper 2

### Question 1

**Electric Vehicles (EVs) that run on lithium batteries are gaining popularity due to the growing concern over air pollution. Advancements in EV technology has also led to cost improvements for carmakers.**

**Discuss the impact of the above events on the market for electric vehicles and its related markets.** [25]

### Introduction

Prices of electric vehicles and prices of its related markets are determined by demand and supply in a free market. Demand refers to the quantity of a good or service that consumers are willing and able to buy at various price, in a given time period, ceteris paribus. Supply refers to the willingness and ability of a firm to offer a good or service for sale at various prices in a given time period, ceteris paribus. This essay seeks first to explain how price and quantity of EV and its related goods can be affected by the various events and a conclusion can then be made about the total revenue of each market.

### Body

#### 1) Market for Electric Vehicles (EV)

#### **Rise in demand for EVs due to change in taste and preferences**

EVs are gaining popularity as governments worldwide are creating more awareness of the benefits to the environment of switching to EVs. This change in taste and preference towards EV will result in a rise in demand for EV as consumers increase their willingness to consume EVs, causing the demand curve to shift rightwards from  $D_1$  to  $D_2$

#### **Rise in supply for EVs due to fall in marginal cost of production**

Advancements in EV technology could lead to more innovative and cost efficient production processes. These improvements in production methods is likely to lead to a fall in marginal cost of production, resulting in an increase in supply as production is now more profitable and hence firms are more willing to supply the good. This causes the supply curve to shift rightwards from  $S_1$  to  $S_2$

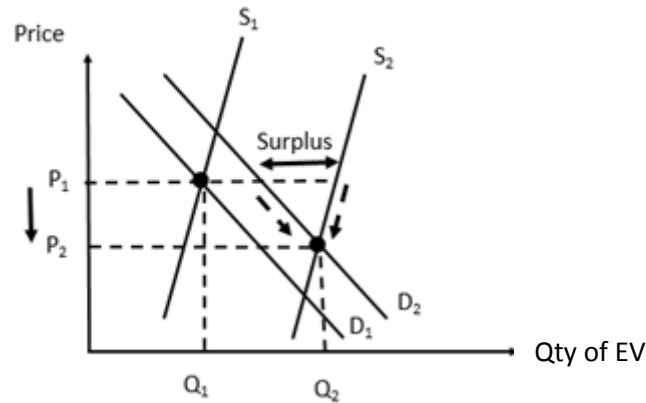
#### Impact on P, Q and TR

#### **Extent of rise in supply is likely to be greater than the rise in demand of EVs**

The rise in demand and rise in supply of EVs will lead to an unambiguous increase in the equilibrium quantity of EVs. However, the **impact on the equilibrium price will depend on the extent of the shifts in demand and supply.**

Currently, the DD for EV may be rising but to a smaller extent as consumers may not be very receptive to embrace the relatively new technology and a new type of vehicle. In addition, the lack of charging stations in the country may also make it less convenient to own an EV deterring consumers from switching. Government schemes to incentivize the use of EV may also have been introduced rather recently and it would take time for consumers to react and adjust their consumption patterns. On the other hand, with advancement in technology, the efficiency gains from improved methods of production may be significant such that marginal cost of production is significantly reduced, hence resulting in a stronger rise in supply.

**$\uparrow DD < \uparrow SS$  will lead to  $\downarrow$  in equilibrium price and  $\uparrow$  equilibrium quantity.**



Suppose the market is initially at equilibrium E with price P and quantity Q. The increase in demand and supply will cause the demand and supply curves to increase from  $D_1$  and  $S_1$  to  $D_2$  and  $S_2$  respectively.

Since the rise in supply is likely to outweigh the rise in demand, at the original price P, there will be a surplus, leading to a downward pressure on prices. As price fall, quantity supplied will fall (movement along  $S_2$ ) and quantity demanded will rise (movement along  $D_2$ ) until a new equilibrium is achieved at the intersection of  $D_2$  and  $S_2$ . Hence, the new equilibrium would be at E' where the equilibrium price of EV will decrease from  $P_1$  to  $P_2$  while the equilibrium quantity will increase from  $Q_1$  to  $Q_2$ .

#### **↑DD < ↑SS will lead to overall ↑ in TR**

Holding demand constant, the rise in supply will result in a rise in TR. The fall in TR due to a fall in price is less than a rise in TR from a more than proportionate rise in Q given that **demand for EV is likely to be price elastic ( $PED > 1$ )** since EV is likely to take up a **high proportion of consumer's income**. Since the rise in demand will lead to an increase in TR since both price and quantity increases when demand increases, this reinforces the increase in TR arising from the rise in supply, causing TR of producers in the EV market to rise.

#### **Evaluation:**

In the **long run**, with governments across the world creating wide-spread awareness for greater mass appeal, the shift to electric vehicles will come faster and in a more pronounced way, fueled by technology advancements and regulation especially in China and Europe. Another consideration as to whether global demand for EVs will continue to rise faster will also be dependent on other factors such as implementation of more charging infrastructure for convenience and the performance appeal of EVs.

#### Alternative outcome: $\uparrow DD > \uparrow SS$

#### **Extent of rise in demand is likely to be greater than the rise in supply of EVs**

[C, E] The rise in demand and rise in supply of EVs will lead to an unambiguous increase in the equilibrium quantity of EVs. However, the impact on the equilibrium price will depend on the extent of the shifts in demand and supply.

*The demand for EVs may be rising by a larger amount as governments are actively promoting the use of EVs. In China for example, EVs are exempt from licence-plate auctions in some Chinese cities, hence pushing more people to purchase an EV instead of fuel powered car as there is greater certainty of getting a car. In addition, with a more educated population, more people are becoming environmentally conscious and hence a larger proportion of consumers*

will be more receptive to switch to EVs. A smaller rise in supply could be due to the other opposing factors that can offset the cost savings derived from the innovative process techniques such as rising wage costs especially if there is a need for higher skilled labour or costs of higher costs of producing other parts of the EV such as the use of higher quality materials for a lighter weight of the car body.

Suppose the market is initially at equilibrium  $E$  with price  $P$  and quantity  $Q$ . The increase in demand and supply will cause the demand and supply curves to increase from  $D_1$  and  $S_1$  to  $D_2$  and  $S_2$  respectively.

At the original price  $P_1$ , there will be a shortage, leading to an upward pressure on prices, since the rise in demand is likely to outweigh the rise in supply. As price rises, quantity supplied will rise (movement along  $S_2$ ) and quantity demanded will fall (movement along  $D_2$ ) until a new equilibrium is achieved at the intersection of  $D_2$  and  $S_2$ . Hence, the new equilibrium would be at  $E'$  where the equilibrium price of EV will increase from  $P_1$  to  $P_2$  while the equilibrium quantity will increase from  $Q_1$  to  $Q_2$ .

**$\uparrow DD > \uparrow SS$  will lead to overall  $\uparrow$  in TR**

As both equilibrium price and quantity rise, the total revenue earned by EV car manufacturers will rise from  $P_1 Q_1$  to  $P_2 Q_2$ .

## 2) Market for Lithium batteries

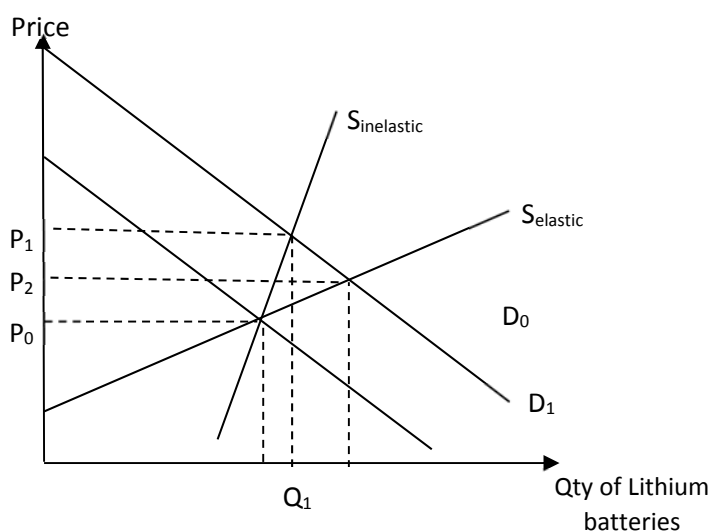
**Increase in demand for EVs will lead to an increase in derived demand for lithium batteries, increase TR for producers in the market for lithium batteries.**

Lithium battery is a **factor input** for EV. Therefore, with the increasing popularity of EV, the **derived demand** for lithium batteries that is used to power EVs will rise.

In the short run, we expect **PES < 1** given the **long period of time needed to extract the lithium minerals** to produce the lithium batteries.

With the rise in demand from  $D_0$  to  $D_1$ , there will be a shortage at the original price  $P_0$ , resulting in an upward pressure on the price of lithium. With the rise in price, suppliers would increase the quantity supplied whereas quantity demanded might fall as consumers may not be willing and able to pay the higher price. The movement along the (new) demand and (existing) supply curves continues until a new equilibrium is reached where the equilibrium price and quantity increases to  $P_1$  and  $Q_1$ .

As both equilibrium price and quantity rise, total revenue earned by lithium producers will rise to  $P_1 Q_1$



### Evaluation:

In the **long run**, the ability of mining companies to be more responsive to changes in demand will increase as there may be advancement in the mining technologies. Hence, supply of lithium batteries will be likely to be more price elastic and the extent of the rise in price of lithium batteries will be smaller in the long run and that will affect the extent of change in TR.

In addition, ceteris paribus may not hold in reality so alongside with rising demand for lithium batteries, battery makers may be working on new technology and chemistries that would affect the cost of production and hence supply and might cause the prices of lithium batteries to fall, affecting the outcome on TR.

### 3) Market for Fuel powered cars

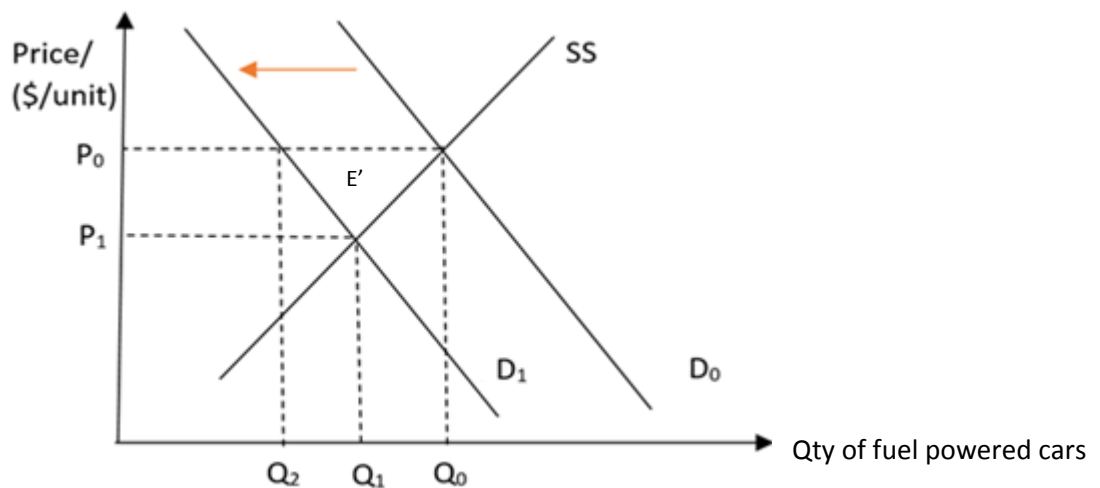
**Change in taste and preference towards EVs will lead to a fall in demand for fuel powered cars causing a fall in TR for fuel powered cars manufacturers.**

Due to the change in taste and preference towards EVs, this may result in an increase in demand for EV. Since **EVs and fuel powered cars are substitutes**, people will switch away from fuel powered cars, causing the demand to fall to  $D_1$ .

At the initial equilibrium price of  $P_0$ , the quantity supplied would be  $Q_0$  but the new quantity demanded would be  $Q_2$ , leading to a surplus of  $Q_0Q_2$ . This causes downward pressure on price and the consequent movement along the (new) demand and (existing) supply curves continues until a new equilibrium is achieved at  $E'$  where equilibrium price and quantity falls to  $P_0$  and  $Q_1$ .

It is also expected that **supply of fuel powered cars is likely to be price elastic** given that car in general is a manufactured good and assumed that there are already available factors of production such as workers, the raw materials and assembly lines in place. The elastic supply of fuel powered cars means that it is **very responsive to price changes**, hence just a **small change in price is needed in order for the surplus to clear**.

Since both price and quantity demanded will fall to  $P_1$  and  $Q_1$ , total revenue for fuel powered car manufacturers will fall to  $P_1 Q_1$ .



**Evaluation:**

IF there are any changes to the cost of production that are significant enough to drive down the price of EV through a faster rise in supply, then this can reinforce the fall in demand for fuel powered cars as EV is a substitute. Given that  $XED > 0$ , a fall in price of EV will cause a rise in quantity demanded for EV and thus a fall in demand for fuel powered cars. However, the fall in demand for fuel powered cars may be limited in the short run as consumers may not be willing to make the switch to EV as the price of EV may still be very much higher compared to fuel powered cars despite the fall in price of EV.

In the long run though, we may expect XED to be of a higher value as consumers may be more aware that while electric cars will cost more up front than their fuel powered compatriots, in the long run, they may be cheaper to operate, especially when the biggest savings will be in fuel.

**Conclusion**

For the lithium battery and fuel powered cars market, the impact on total revenue is conclusive as it is only the demand factor that comes into place, affecting price and quantity demanded, ceteris paribus. As for the Electric Vehicle market, the impact on total revenue will very much depend on the extent of shift of both demand and supply. As of now, it is more likely to expect the extent of shift in supply to be greater than the shift in demand for EVs. Buying an EV requires consumers to adapt to a novel infrastructure and way of life. Most consumers still know relatively little about EVs. As such, the speed with which consumers become comfortable with the realities of EV ownership will have a significant impact on how rapidly this market expands thus affecting the extent of change in total revenue for the producers of EVs.

For the market for lithium batteries, in the long run, the impact on total revenue may not necessarily hold as supply of lithium batteries could change, depending on how much improvement is made in the extraction technology for mineral lithium which may affect the cost of producing lithium battery. If so, then the extent of shift of both demand and supply of lithium batteries in the long run will determine the total revenue for this market.

As for the market for fuel powered cars, car manufactures shouldn't expect a significant fall in demand at least in the short run as at present, the battery costs account for a large proportion of the EV cost and it is said that battery prices need to drop by more than half before EVs get competitive with cars powered by fuel. Therefore, for now, there should only be a slight fall in



demand for fuel powered cars despite the fall in price of EV hence only a slight drop in total revenue for fuel powered car manufacturers is expected.

Given the oligopolistic nature of the car manufacturing industry, there is strong mutual interdependence between firms, and hence they are very likely to avoid price wars and instead engage in non-price strategies like innovation. Hence, in the long run, there is likely to be more innovations and cost savings in the area of EVs causing SS to continue to increase further and overall TR to increase since demand for EVs are price elastic.

### Mark Scheme

Level	Descriptors	Marks
L3	Accurate and precise explanation of demand and supply factors to explain the impact on market price and quantity. Good discussion of the impact of total revenue (i.e. include elasticity concept PED and relative magnitude of change) for <b>all 3 markets</b> .  Answers demonstrate a strong consideration of context of the EV and its related markets by providing relevant examples.	18 - 20
	For an answer which addresses the impact of the events <b>on 2, of which one must be EV</b> markets. Well developed and clear analysis (using DD-SS framework) of the impact of the events on the market price, quantity and TR (combined market adjustment and accurate application of elasticity).	15 - 17
L2	Answer attempts to link the events to the <b>price, quantity and TR</b> for <b>2 markets</b> . Answer is generally correct but with <b>some gaps</b> in analysis (i.e. in application of elasticity concept, adjustment process)  <b>Or</b>  Answer clearly linked events to the <b>market price, quantity</b> with accurate market adjustment and elasticity application to ascertain the extent of price change, qty change for the <b>3 markets</b> .	12 - 14
	For an answer that is relevant, but explanation of demand or supply factors and links to the equilibrium price and quantity for at least 2 markets may be <b>under-developed</b> (e.g. no market adjustment process, assert TR without explanation) <b>or imprecise</b> .	9 – 11
L1	For an attempt to address the question but response tends to be descriptive with only limited use of the DD/SS as a tool of analysis, undeveloped (assertions on price, quantity)	5 – 8
	For an answer that is <b>mostly irrelevant – no recognition of question requirement</b> . There could be listing of some demand and supply factors without explanation, some definition of demand and supply, price mechanism concepts.	1 - 4
E3	For an answer that uses <b>contextualised analysis</b> to support an evaluative conclusion on the impact on <b>total revenue</b> for <b>EV market and two other related markets</b>  <b>Insightful comments</b> on overall impact on total revenue for the EV and	4 – 5

	two other related markets which may include considerations of the current global trends, market structure, country context.	
E2	<p>For evaluative comments which shows some attempt to explain and support evaluative statement(s) made.</p> <p>Attempts to weigh the <b>extent of shift of demand and supply</b> to evaluate the overall impact on total revenue for EV market.</p> <p>Some attempts at considering the <b>SR and LR</b> impact of the events on P, Q or total revenue in one of the related markets.</p>	2 – 3
E1	For an answer that gives an unsupported evaluative statement on the impact on total revenue for the EV market and its related markets	1

## Question 2

The number of mergers in the telecommunications industry has been increasing significantly. Following the merger between AT&T and Time Warner, US telecom giants T-Mobile and Sprint have also reached an agreement to merge and are now awaiting the approval from government antitrust regulators.

(a) Explain the characteristics which determine the market structure that telecommunications firms operate in. [10]

(b) Discuss the factors a government should consider when deciding whether to approve the merger of firms. [15]

### Part (a)

#### Introduction

The characteristics of a market can be described by the level of barriers to entry, the number of firms in the industry, the level of market information and the nature of the product. Telecommunications firms operate in an **oligopolistic market structure** due to the **high level of barriers to entry** and the presence of **few dominant firms** which results in **rival conscious behaviour**.

#### Body

**In the telecommunications industry, the level of barriers to entry (BTE) is high.**

To operate in the telecommunications industry, a firm will require a **government license**. The number of government licenses issued is typically limited and a firm who wishes to enter the market will have to bid for the license. For example, in 2016 when the Singapore government announced that firms could bid for spectrum (i.e. radio frequencies to transmit sound and data) needed to provide mobile services in Singapore, only one firm, TPG Telecom TPG Telecom was successful and became Singapore's fourth, and newest, mobile operator.

There are also **high financial barriers** to entry. For the telecommunications industry, the setting up of the network infrastructure for broadband requires **huge initial capital expenditure** and **returns are uncertain**. These factors tend to **deter the entry of new firms** who are unable (due to huge capital expenditure) or unwilling (due to the high risks) to finance such investments. Even if the network infrastructure is built (e.g. 4G mobile airwaves), a telecommunications firms who wants to sell broadband services needs significant capital expenditure to bid for the airwaves. For example, in 2017, Singapore's four mobile operators took part in the General Spectrum Auction where one operator paid up to S\$500over million to the Singapore government to use the 4G mobile airwaves.

In addition, the large set-up costs incurred from the investment in infrastructure like cable networks in the telecommunications market allows **substantial EOS to be reaped**, resulting in a very large Minimum Efficient Scale (MES); hence the incumbent firms tend to grow to a large size. Their low unit cost will pose as an entry barrier into the market because new firms with a small market share will not have a scale of production large enough for their unit cost to be sufficiently low, to be able to compete and survive against the larger incumbent firms.

The high BTE restricts new firms from entering, resulting in the telecommunications market being dominated by a few firms.

**There are a few dominant firms which control a large market share hence display rival conscious behaviour.**

In each telecommunications industry within a country, the high level of barriers to entry results in the existence of a few dominant firms. In the US for example, the market is dominated by major players like AT&T, Verizon, T-mobile and Sprint. These firms also display **rival conscious behaviour**, where each seller takes the actions and reactions of their rivals'

marketing strategy into account when making their own production and marketing decisions. This is because every action taken by any of the dominant firms is likely to affect all the other firms in the market significantly due to their large market share. Hence, firms are not merely called competitors but rivals. Each firm recognises that their rivals will notice any action it takes and hence they consider and are very sensitive to each other's' reaction. For example, when one firm offers lower prices for their high-speed fibre broadband package, rival firms counter offer almost immediately. In addition, rivals within the telecommunications industry also react to each other's actions through non-price competitive strategies such as advertising and offers on after-sales services.

The **high levels of barriers to entry** and **rival conscious behaviour** are **key features of an oligopolistic market structure**. Apart from these characteristics, the telecommunications market also exhibits the other features of imperfect information and differentiated products.

**The level of information in the market is not perfect, as consumers do not have perfect knowledge of the quality of services available in the communications industry.**

[C, E] For example, consumers do not have perfect knowledge about the actual broadband speed he/she has subscribed to. Consumers do not have perfect information about the exact factor costs of providing each communication medium.

**There is some degree of differentiation in terms of the nature of the service provided by the telecommunications firms.**

While the nature of the service provided by telecommunication companies may be regarded as largely similar where they provide mobile, internet and broadband services, there is some degree of differentiation. For example, there may be some differences in terms of the mobile and broadband plans they offer, roaming packages the telecommunication firms offer and the quality of the service they provide.

### Conclusion

In conclusion, the key features of high barriers to entry resulting in few dominant firms exhibiting rival conscious behaviour allows us to conclude that the telecommunications industry operates in an **oligopolistic** market structure.

### Mark Scheme

Level	Descriptor	Marks
L3	Well-developed explanation that links at least <b>2 characteristics</b> of an oligopoly to the telecommunications industry. Must include BTE point and rival conscious behaviour.	8 - 10
L2	Under-developed explanation that links the characteristics of an oligopoly to the telecommunications industry. Answer attempts to apply to the telecommunications industry.	5 – 7
L1	An answer that shows some knowledge of the characteristics of a market structure.	1 - 4

**(b) Discuss the factors a government should consider when deciding whether to approve the merger of firms.** [15]

### Introduction

When deciding whether to approve the mergers of firms, the government will weigh the benefits and costs of the mergers to determine the extent to which the merger can lead to an improvement in society's welfare. In determining the extent of the benefits and costs to society, the government will need to consider factors such as the extent to which the merged firm will

experience greater market power; the degree of contestability in the market; and the extent of EOS the merged firm can reap.

### Body

**A government would consider the extent to which the merger leads to greater market power for the merged firm.**

This could be determined by considering the market shares of the firms which are merging or the initial market concentration prior to the merger. If the firms that are merging each has a substantial share of the market or that the market was already highly concentrated, then approving the mergers would likely increase the market power of the firms further, lessening competition in the market.

For example, a government will likely consider the market share of AT&T and T-mobile should the two firms decide to merge. Given that the two firms are the second and fourth largest mobile carriers in America, a merger between them would lead to substantially greater market power for the merged firm. In contrast, if supermarkets Lidl and Iceland with 2% and 5% of market share in the UK respectively merge, the extent of the increase in market power will not be that substantial and will not significantly result in substantial lessening of competition.

The extent of the increase in market power of the merged firm is an important consideration as it affects society's welfare.

Greater market power will affect efficiency and equity in the following ways:

1. The greater the market power the merged firm experiences, the less competitive the market becomes, resulting in **greater allocative inefficiency**.

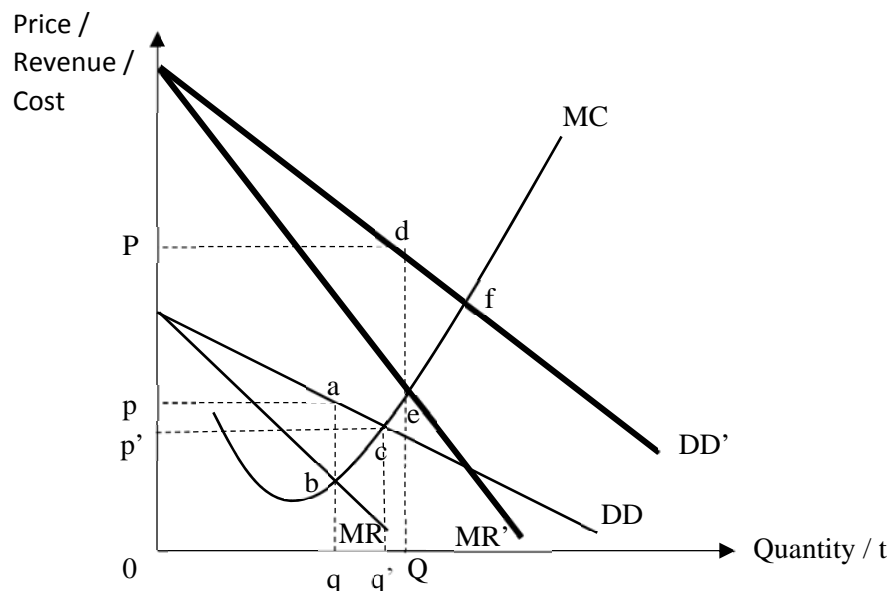


Fig. 1: Welfare loss from increased market power

The merged firm with increased market power now enjoys higher and more price inelastic demand for its products. Hence, there is **greater welfare loss** due to market power. With reference to Fig 1, before the merger, there was underproduction since for the units between the profit maximising output level ( $q$ ) and the allocative efficient level ( $q'$ ) and  $P > MC$ . From units,  $q$  to  $q'$  the additional benefit  $>$  additional cost and there will be a net benefit to society of area

abc if these units were produced. By restricting output to  $q$ , the firm has caused welfare loss to society as measured by the loss in the potential net benefit of area abc. After the merger, there is greater allocative inefficiency and welfare loss; the welfare loss has increased from area abc to area def.

2. The greater the market power the merged firm experiences, the greater its ability to profitably raise prices, leading to exploitation of consumers because of higher price charged and greater profits earned, which results in **greater inequity in income distribution**. The merged firm will have higher and more price inelastic demand. With reference to Fig 2, consumers are now charged a higher price of  $P'$ , while firms enjoy an increase in profits from  $[(P-AC) \times q]$  to  $[(P'-AC') \times q']$ . This worsens inequity between consumers and firms, and since shareholders of firms are more likely to be middle- or high-income households, inequity in income distribution between households worsens.

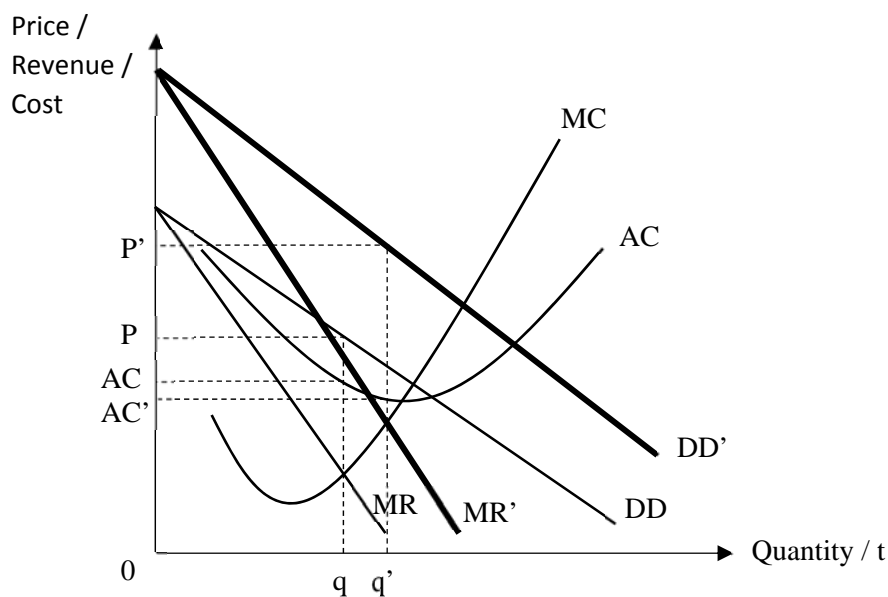


Fig. 2 – Increase in firm's profits with higher market share

3. The greater the market power the merged firm experiences, the greater its ability to conduct R&D which results in **greater dynamic efficiency**. R&D tends to be costly and inherently risky with uncertain results. Merger can result in lowered costs (assuming the new firm can enjoy EOS from a larger scale of production) and increased profits earned (as analysed in the previous paragraph) which allows the merged firms to have greater ability to undertake investments in R&D. This results in process (or product) innovation, which enhances dynamic efficiency and improves society's welfare over time. For example, if the government were to allow telecommunications companies to merge, the additional profits earned can be channelled into R&D projects to develop more cost-efficient technology in providing telecommunications services. These innovations can result in benefits to consumers who enjoy better quality services.

#### Evaluation:

It may be difficult to determine the extent of market power of the merged firm as it hinges on the definition of the market. In some cases, government regulators and merging firms may have very different interpretations of the market the merging firms are competing in, making it difficult to come to a consensus on the extent of market power of the merged firm. For example, in the recent merger between Grab and Uber, the Competition and Consumer Commission of Singapore (CCCS) found the merger to result in substantial market power as

the merger led to increased market power for Grab in the market for ride-hailing services as Uber was its closest competitor. Grab on the other hand viewed the market as being too narrowly defined; it saw itself competing in the market for point-to-point transport instead, where this broader definition would mean that the merger would not have led to substantial increase in market power, given that there are still many substitutes available, ranging from taxis to other form of public transport.

In addition, the extent of market power attained by the merged firm could vary depending on the new geographic market of the merged firm's product or service, i.e. whether it is traded internationally or purely within the domestic market. If the good/service in concern is one that is internationally traded (e.g. electronics), then the merged company is still likely to face competitive pressures from foreign firms which restricts the increase in the merged firm's market power. On the other hand, if the good sold caters mainly to the domestic market (e.g. telecommunication services), the merged firm faces less competition hence there will be greater increase in market power for the merged firm as there would be limited substitutability in the event of a price increase.

**A government would also consider the degree of contestability of the market following the merger.**

The theory of contestable market argues that the crucial determinant of the price and output behaviour of firms depends on whether there is credible threat of competition; the number of firms in the market is irrelevant. Hence, even if the market is already concentrated and a merger would increase the market power of the merged firm, as long as there is a high degree of contestability where the credible threat of potential competition is high, firms will still behave competitively. The high level of competitive pressure prevents firms from abusing their market power; firms may still behave competitively, setting low prices. This allows the market to achieve close to the benefits of competitive markets, where there is likely to be less allocative inefficiency as firms charge a low price to maintain competitiveness due to the threat of competition; there is also less X-inefficiency as firms are less complacent and would strive to be cost-efficient given the threat of competition.

Hence, in deciding whether to approve mergers a government would not only consider the degree of market concentration but also the degree of contestability of the market following the merger.

**Evaluation:**

The degree of contestability may differ depending on the type of merger. Mergers that allow firms to have possession of exclusive rights enabling the firm to gain control of the supply of the good, causing the market to be less contestable post-merger. Hence, mergers that involve the integration of firms in different stages of production (i.e. vertical integration) might lead to a less contestable market as compared to mergers of firms in the same stage of production (horizontal mergers) as the former gives existing/potential firms less access to the previous stage of production increasing the barriers to entry.

**A government would also consider the extent of EOS the merged firm can reap as these may be passed on to consumers leading to lower prices.**

When a firm expands through merger, the increased scale of production enables it to use a bigger plant, resulting in technical EOS. For example, for a food processing firm, it can enjoy EOS from a bigger warehouse due to the principle of increased dimensions – storage space rises more than in proportion to construction costs.

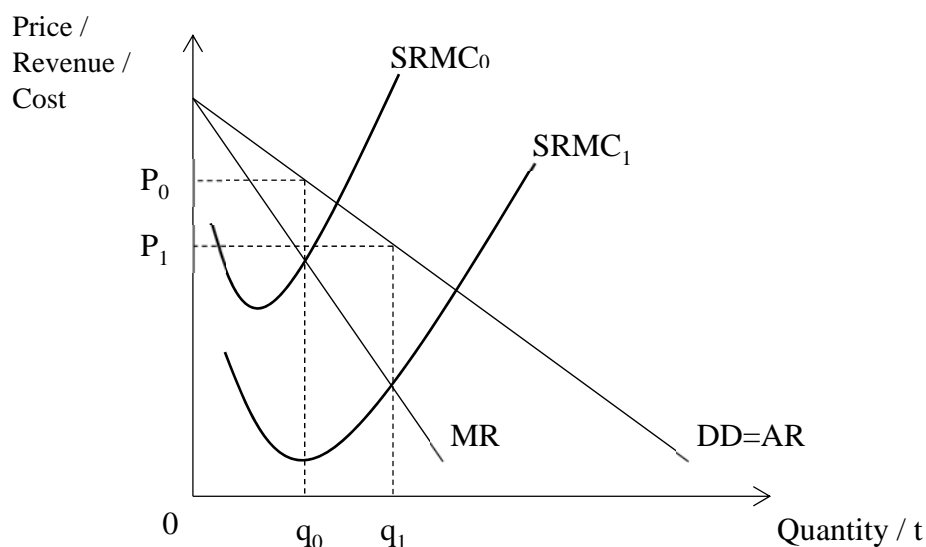


Fig 3 - Cost savings from merger

As the merged firm experiences greater EOS, the firm may enjoy cost savings. In the short run, this is illustrated with the fall in marginal cost from  $MC_0$  to  $MC_1$  in Fig 3. Assuming the merged firm passes on its cost savings to consumers, consumers pay a lower price of  $P_1$ , corresponding to the new profit-maximising output of  $q_1$ , increasing consumers' welfare. The lower price also makes the good more affordable for consumers, especially the poor, improving equity in distribution of goods as the low income households are better able to access the good.

#### Evaluation:

While firms may reap EOS, whether consumers eventually gain depends on whether firms pass on these cost savings to the consumers. This may depend on the PED of the good. If the good has many close and available substitutes, the demand for the good is more price elastic. This means that there is a higher chance for firm to pass on the cost savings to the consumers since a fall in price will lead to more than proportionate rise in quantity demanded, causing total revenue to increase.

#### Conclusion

Overall a government would need to consider the factors above when weighing the benefits and costs of mergers, in terms of their impact on efficiency and equity. The importance of these factors discussed above may vary from industry to industry and from country to country.

For example, greater market power enjoyed by the merged firm may affect the different efficiency concepts and equity differently. Whether having greater market power is beneficial or detrimental to society's welfare will depend on the degree of importance the government places on these areas of efficiency and equity, which in turn depends on the **nature of the industry/type of good**, as well as the **priorities of the government**. As a merger is likely to result in sustained supernormal profits which worsens equity, the government is unlikely to approve of mergers in industries which provide necessities like healthcare services since ensuring equity would be crucial in such markets. On the other hand, in the case of the pharmaceutical industry, R & D and hence dynamic efficiency is critical for the development of new and better drugs, hence the government is more likely to approve the merger of firms in this industry as the supernormal profits will allow the merged firms to have greater ability to conduct R & D.

The decision on whether to approve or reject mergers might also change over time due to globalisation and technological advancement. With globalisation and technological



advancement, markets tend to be more dynamic in nature which means that level of contestability may change over time.

While these are the factors the government would consider, it would be difficult to accurately determine some of these impacts because of the lack of information and the need to speculate and forecast the possible impacts of the merger on the market. The dynamic nature of some markets may also increase the difficulty of forecasting the effects of merger, for example the sharing and technology markets which are dynamic and constantly evolving.

### Mark Scheme

Level	Descriptor	Marks
L3	A well-developed answer that is framed as the factors which the government would consider when deciding whether to approve the merger of firms.	8 - 10
L2	An under-developed answer which discusses the factors which the government would consider when deciding whether to approve the merger of firms.  Gaps in explanation, minor flaws in analysis.	5 - 7
L1	A brief answer that shows some knowledge of the how the merger affects efficiency and equity. Answer contains inaccuracies in analysis.	1 - 4
E3	For a conclusion which evaluates and weighs the various factors a government would consider when approving the merger of firms. Includes a well-substantiated judgement and analysis of arguments raised. Uses examples to contextualize judgement.	4 - 5
E2	For a conclusion that attempts to evaluate or weigh the various factors discussed in the essay	2 - 3
E1	Unsubstantiated judgement about the factors which the government would consider.	1

### Question 3

With access to quality schooling and information on the Internet, most Singaporeans are educated on various issues, ranging from the risks of excessive plastic use to being a more discerning buyer of second-hand cars. However, there remains hurdles that prevent Singaporeans from making well-informed choices.

- (a) Explain why a government might intervene in the above cases. [10]
- (b) In light of the above-mentioned, evaluate the policies that the Singapore government can adopt. [15]

#### Part (a)

##### Introduction: Outline the main sources of market failures

Market failure refers to the failure of the free market to allocate resources efficiently and/or distribute output equitably. Allocative efficiency occurs when society's welfare is maximised. Concerning the use of plastic bags and buying and selling of second-hand cars, allocative inefficiency arises from the presence of **negative externalities** and **information asymmetry (adverse selection)** respectively. Hence, governments may intervene in these markets, to achieve a more efficient allocation of resources.

#### Body

**Government intervenes to influence the use of plastic as negative externalities from the consumption of plastic can lead to welfare loss.**

**Negative externalities** are **external costs** that accrue to **third parties** who are not involved in the economic transaction. When consumers in Singapore use the non-biodegradable plastics, they often discard them irresponsibly such that plastic wastes result in pollution problems for the larger global community. Third parties such as other Singaporeans involved in the trading and selling of seafood, not involved in the consumption and provision of plastics, are affected as they lose out on substantial incomes as fishes die from plastic pollution.

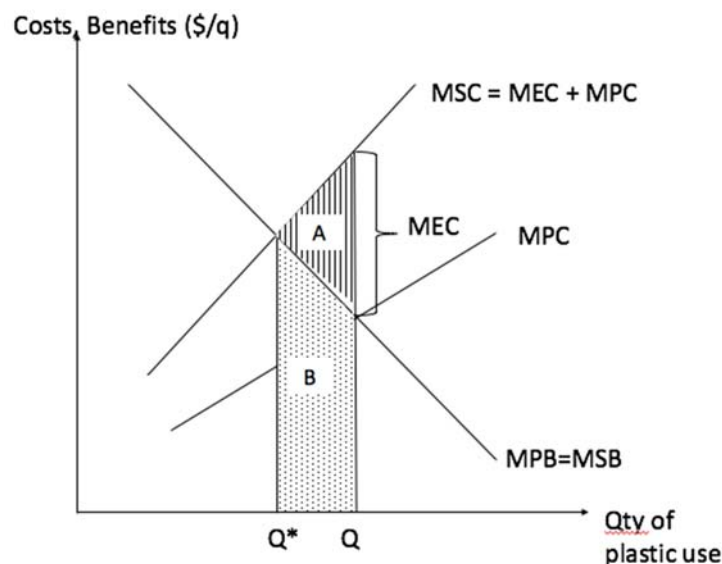


Fig 1: Welfare loss due to negative externalities

The marginal private benefit (MPB) of consuming an additional unit of plastic is the value and convenience that users enjoy in storing and carrying goods. The marginal private cost (MPC)

of consuming an additional unit of plastic is the price that consumers pay to purchase it. The **presence of the marginal external cost (MEC)** i.e. additional cost from consuming an additional unit of good to third parties creates a **divergence between the marginal social cost (MSC) and MPC** of using plastic, where MSC is higher than the MPC by MEC. *Assuming no external benefit*, marginal social benefit (MSB) = MPB. A consumer seeking to *maximise his own private interest* would disregard the external costs of plastic consumption, and consume till MPB = MPC, i.e. private **equilibrium is at Q where MPB=MPC**. (Fig. 1).

However, **socially optimal level of output is Q\* at MSB = MSC** where society's welfare is maximised. This leads to an **over-consumption of QQ\* units**. Total social costs of consuming QQ\* units will be Areas A + B, and is greater than the total social benefit is only Area B. Hence, the overconsumption of QQ\* units will lead to **welfare loss of Area A**. Thus, a government is likely to intervene by taxing consumption of plastic use in a bid to eliminate market failure, in the form of welfare loss (Area A), so as to achieve allocative efficiency.

**Government intervenes in the second-hand car market as adverse selection stemming from information asymmetry can lead to welfare loss.**

Information asymmetry arises when one side of the market, either the buyers or sellers, have better information than the other. When both buyers and sellers are perfectly informed about the quality of the goods traded in the market, the prices will adjust to reflect quality differences. With full information, both markets are allocative efficient since the goods go to the people who value them the most.

In the case of the second-hand car market, the sellers are more knowledgeable and have more information about the traded cars than the uninformed buyers. For example, the buyers are not privy to information about the condition of the car and possible car defects as the sellers wanting to fetch the highest possible selling price for their cars are not incentivised to fully disclose all information about the car. Therefore, **adverse selection** occurs as the **uninformed buyers** end up having to **choose from an undesirable or adverse selection of goods**, which is not socially optimal.

When second-hand car buyers do not know whether the cars they are buying is of high or low quality, the tendency is for the market to be dominated by low quality cars that need frequent repairs, also known as the 'lemons'. This is because facing lack of information as to whether a car is a cherry (i.e. high quality) or a lemon, a buyer treats all car to be of medium quality and will be only willing to pay the average price for an average quality of car. As a result, the sellers willing to sell the higher quality cars at higher prices will exit the market, reducing the average quality of used cars in the market. Over time, the increased presence of low-quality cars in the market will further lower the prices that consumers are willing to pay. The decrease in price will further decrease the number of high quality cars supplied. In this case, asymmetric information generates a market in which some high quality cars are sold, but fewer than what would be sold in a market with perfect information, resulting in welfare loss.

In the most extreme case, the downward spiral in prices may continue causing the number of high quality cars sold to drop to zero, resulting in no possible trade of high-quality second-hand cars. This leaves the market with only lemons due to asymmetric information. The market fails and is allocative inefficient as **welfare loss is incurred** when **mutually beneficial trade of high quality second-hand cars cannot take place**. The sellers and buyers cannot overcome the information gap to trade at the prices that satisfy both their willingness to pay and sell.

**Mark Scheme**

Level	Descriptors	Marks
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L3	<p>A well-developed answer which thoroughly explains how market failure arises from both negative externality and adverse selection, with illustration of contextualised examples of MEC, MPB and MPC.</p> <p>For clearer illustration of the source of market failure, the answer should include an accurately drawn diagram for market failure in the case of negative externality.</p>	8 - 10
L2	<p>An undeveloped answer with some gaps in analysis for how negative externality AND adverse selection leads to market failure.</p> <p>OR</p> <p>Answer addresses only ONE source of market failure.</p>	5 - 7
L1	<p>Some knowledge of market failure (e.g. negative externality, adverse selection) but mainly unexplained assertions.</p>	1 - 4

### Part (b)

#### **Introduction: Outline the main policies to address the 2 sources of market failure**

In addressing both sources of market failure, the government can impose taxation on plastic use, ban plastic use and enact laws and regulation in the second-hand car market. The effectiveness of the policies depends on the nature of the good in question and the characteristics of the country.

#### **Body**

##### **The Singapore government may adopt taxation to address the allocative inefficiency resulting from the overconsumption of plastic.**

Taxation will help plastic users **internalize the MEC of plastic use** and reduce their consumption of plastic. The government can impose **taxes on the plastic consumption equal to the MEC at the socially optimal output level,  $Q^*$** . In doing so, the MPC rises to  $MPC'$  (Figure 2) as consumers have to also pay taxes on top of the cost of plastic use now. Motivated to maximise their private utility, consumers will now consume plastic at output levels,  $Q^*$  where  $MPC'=MPB$  thereby achieving allocative efficiency. Taxation can effectively align private interests with that of the society's and cause the elimination of the welfare loss associated with the overconsumption of plastic as it can reduce consumption from  $Q$  to the socially optimal level,  $Q^*$ .

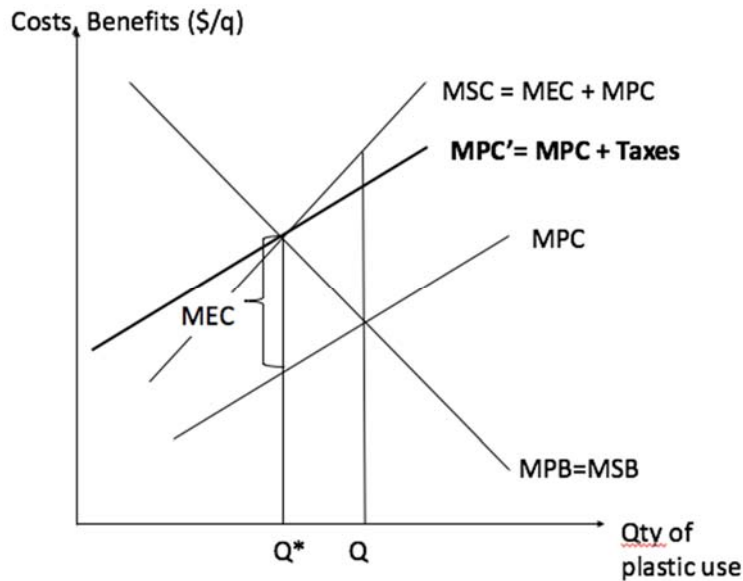


Fig 2: Taxing the use of plastic

**Evaluation:**

While Singapore is a developed economy where data collection can be done with greater ease and reliability, it is still **difficult for government to estimate the MEC accurately**. The external costs suffered by third parties are not easily quantifiable and accurate data for such are hard to come by. As a result, the government may still under-/over-estimate the MEC resulting in over-/under-taxation, worsening the market failure.

The effectiveness of a tax on plastic will depend on the price elasticity of demand for plastic. For example, a plastic bag tax which is 5 to 10 cents per bag takes up a very **small proportion of an average Singaporean’s income**, thus in this case the **demand for plastic bag is likely to be price inelastic**. This means that the tax is likely to be ineffective as consumers will not be very responsive to the tax causing the fall in quantity of plastic bags used to be insignificant. Hence, a higher tax may be required to cause a desired fall in quantity of plastic bags used by consumers.

**The Singapore government may use a total ban on plastic to address the allocative inefficiency resulting from the overconsumption of plastic.**

The government can choose to eliminate the externality by banning the consumption of plastic. For example, the government can ban the sales and free provision of plastic bag at supermarkets. When the regulation is in effect, the consumption of plastic products will fall to zero, at  $Q_{\text{ban}}$  (Figure 3) and there will be an improvement in welfare loss for the society. Prior to the ban, the welfare loss resulting from the overconsumption of  $QQ^*$  is represented by area cde. When the ban is imposed, the consumption of plastic bags will fall to 0 and the welfare loss stemming from the under-consumption is now represented by area abc. While there is still a welfare loss and society is not at the social optimal level of plastic consumption, the area of deadweight loss is reduced. Ban is particularly effective when the marginal external cost is increasingly large when consumption level of plastic rises, as reduction of consumption to 0 will result in a welfare improvement.

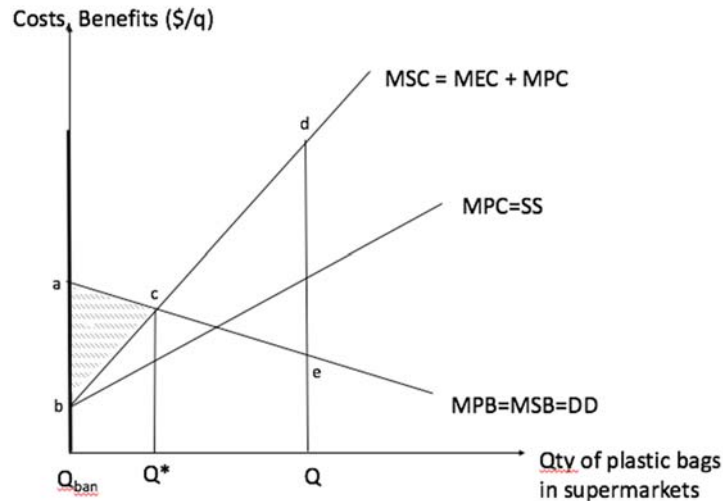


Fig 3: Banning the consumption of plastic bags at supermarkets

**Evaluation:**

A total ban is easy to implement in the Singapore economy. Given strong institutions, Singapore can effectively enforce and punish undesirable behaviours to yield a certain outcome of zero consumption and sales of plastic bag. However, it might still not make sense to impose a total ban on plastic use as it does not impose a high enough a MEC at higher quantities of consumption (unlike drugs consumption) to merit a total ban. The welfare loss may actually be higher given the ban as consumers are deprived of the convenience of using plastic products in society.

**The Singapore government may adopt laws and regulation to improve allocative efficiency arising from adverse selection in the local second-hand car market.**

The root cause of market failure in the second-hand car market is that buyers are unable to ascertain the good-quality from the bad-quality products. The government can regulate the quality that producers have to meet by enacting laws and legislation such as ‘**Lemon Law**’ which forces producers to replace defective cars.

In March 2012, the Singapore government passed a new act to strengthen consumer protection, allowing second-hand car owners to either request repairs for defective car parts or even seek a price reduction or full refund of the lemon car bought. This enactment of the law will encourage sellers not to conceal their knowledge about the car as sellers will know that **any violations will result in penalties**. These will act as an **effective deterrent** to prevent sellers from selling defective cars and will incentivise the sellers of defective cars to disclose the full information about its products. As a result, the consumers’ perceived costs and benefits of purchasing the used car reflects the true cost and benefits at the point of transaction. This will prevent information asymmetry from resulting in only lemons being traded in the local second-hand car market, thus addressing the root cause of the problem. The ‘Lemon Law’ increases consumer confidence that the product purchased is not a lemon, hence has the effect of increasing the output of high quality cars being sold in the market, preventing a missing market for high quality cars, hence reducing allocative inefficiency.

**Evaluation:**

Regulation is an appropriate policy to address the problem of adverse selection as it requires or incentives sellers to reveal the quality of the product being sold. As cars are mechanically complex products, it is particularly difficult for consumers to determine when or why faults develop. Therefore, the problem of information asymmetry in the second-hand car market is significant. The problem is further compounded by the fact that cars are an exceptionally high-

value item due to quota regulation via COE in Singapore. Therefore, the enactment of effective regulation to protect consumers from making wasteful big-ticket purchase is crucial as this can ensure a more equitable and fair transactions of second-hand cars from taking place in the market.

**Conclusion:**

The government should adopt different policies to address the two sources of market failures. To curb overconsumption of plastic, taxation is the more effective and appropriate measure. To deal with adverse selection, lemon law is appropriate for the Singapore’s context.

Taxation is a preferred measure over total ban of plastic use in Singapore because of the nature of the good. While plastic use results in negative externality, the MEC is not high enough to warrant a total ban of the product in society. Therefore, a sweeping ban will more likely result in a government failure than an improvement in society’s welfare. While there might be possibility of misinformation causing the tax amounts to be too high or too low, the government can overcome the limitation of information by conducting more economic studies into the cost and benefits of plastic use. Moreover, the Singapore government can also use the tax revenues to mitigate and minimise the negative impacts on society arising from plastic pollution. Therefore, it is the more effective and more appropriate measure for Singapore.

To make taxation an even more effective measure in the case of a tax on plastic bag in Singapore, given that demand is price inelastic, the government may need to implement policies to change consumers’ behaviour and attitude for its use. If the government successfully convinces the population to see recyclable shopping bags and Tupperware as substitute for disposable plastics, the imposition of taxes and consequent price increase will cause a more significant fall in quantity demanded of plastic to improve allocative efficiency. Lemon law is also a good measure to apply in Singapore for the second-hand car market. Given our unique COE regulations applied in the car markets, cars are very expensive locally. Therefore, when sellers take advantage of the information asymmetry to fetch high prices for their poor-quality cars, the buyers will be impacted very adversely. In addition, it is also easy to implement lemon law in Singapore as the existing legal institutions are established and strong such that the enforcement of the law can be ensured.

**Mark Scheme**

Level	Descriptors	Marks
L3	A well-developed answer which thoroughly explains <b>at least 2</b> government measures to address market failure for <b>both</b> cases (second-hand car market and plastic use) in the context of Singapore.	8 - 10
L2	An undeveloped answer which explains how government measures achieve improvement in allocative efficiency for only ONE source of market failure.  Some theoretical gaps in the explanation of the measures.	5 - 7
L1	Knowledge of various government measures (either command or market-oriented measures); unexplained assertions.	1 - 4
E3	Able to consider the context of Singapore, extent of market failure / nature of good and weigh between at least 2 policies to conclude which policy is more effective or appropriate to address the market failure.	4 - 5
E2	Attempts to consider the limitations of the policy, points raised are applicable to the Singapore context.	2 - 3

E1	Answer with unsubstantiated conclusion	1
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#### Question 4

(a) Explain the information an economist would require to determine whether the standard of living in a country has improved over time. [10]

(b) Discuss why governments may need to choose a mix of policies to achieve a high standard of living. [15]

#### Part (a)

##### **Introduction**

Standard of living (SOL) in a country can be measured in terms of 2 aspects – **material and non-material well-being**. Material well-being stems from the **consumption of goods and services** and is measured using a country's national income indicators. On the other hand, non-material well-being is related to the **quality of life that stems from intangibles**, such as amount of leisure time, pollution levels, state of the environment.

##### **Body**

**Information on real GDP per capita can be used to measure the improvement in material aspects of living standard in a country.**

Gross Domestic Product (GDP) refers to the total money value of all final goods and services produced by factors of production located within a country's geographical boundaries, during a given period of time. **Real GDP** refers to GDP that has been **adjusted for inflation** (i.e. the effects of inflation is eliminated). This means that the value of final goods and services are measured at constant prices and hence any increase in real GDP reflects a rise in quantity of goods and services produced and hence a rise in quantity of goods available for consumption, leading to an increase in material living standards.

Apart from real GDP data, to measure SOL in a country, information on the size of the population or population growth rates will also be required so that **real GDP per capita** data can be obtained. Real GDP per capita **divides GDP by the total population** in the country, reflecting the average income available to citizens for the purchase and consumption of goods and services. It is used because if for example population growth rate is 5% but real GDP growth rate is only 2%, then the individual's share of real national income will be falling as the increase in national income is shared by a much larger population. An increase in real GDP per capita would imply that individuals have **higher purchasing power** and hence would be able to **consume more goods and services**, leading to **higher material living standards**.

In addition, an increase in real GDP per capita also means that governments can collect more tax revenue, and hence can likely spend more on sectors such as healthcare and education systems. This may increase the quantity of healthcare and education services available for consumption, leading to higher material living standards for residents. Higher real GDP per capita may also reflect an improvement in non-material well-being as the increase in tax revenue would mean that the government may have more budget to spend on improving the intangible aspects like the quality of the environment.

**Other than real GDP per capita, information on the income distribution provided by the Gini coefficient would be useful for a more accurate interpretation of the change in living standards.**

Real GDP per capita only provide an indication of the average income per person and hence increases in real GDP per capita may **not reflect an increase in income of all residents equally**. For example, while emerging economies like China experience increases in real GDP per capita, the increase in income is usually concentrated in the hands of the rich minority. Hence, the economic well-being of the typical individual may not have improved, and the

increase in real GDP per capita would have overstated the rise in the average's person material well-being.

Thus, the **Gini coefficient**, which measures the **degree of inequality in income distribution** helps to assess the extent of income inequality in the country, and can be used to supplement GDP data to give a more accurate interpretation of improvements in SOL. The Gini coefficient takes on a value between 0 to 1; the greater the Gini coefficient and the closer it is to 1, the greater is the income inequality within the country. A fall in the Gini coefficient reflects an improvement in the income distribution in Singapore and hence would more accurately reflect a higher material living standard for the average person when real GDP per capita increases.

### **Indicators that reflect non-material living standards will also be necessary for a more comprehensive measure of the change in SOL.**

Income statistics do not reflect non-material well-being, hence does not give a complete measure of SOL. The increase in real GDP per capita can be at the expense of air quality due to rising pollution alongside increases in production and consumption. In India, agricultural activities lead to the burning of forests as farmers set fire to clear the fields for planting crops leading to air pollution; the burning of fossil fuels in factories for production of goods and services is another source of air pollution in India. The air pollution results in negative externalities, worsening the quality of environment, lowering the non-material living standards of residents in India. Hence, if increase in real GDP per capita is accompanied by increase in pollution, then the resultant rise in national income would overstate the rise in the overall living standards of residents. Therefore, indicators like **air pollution index** which shed light on the quality of the environment will provide information on the non-material aspects of living standard, giving a more complete and accurate measure of SOL.

Apart from pollution index, indicators like the **total number of hours worked per worker** will also be useful in providing information on the intangible aspects of the quality of life of residents in the country. Increases in real GDP may arise as a result of people having to work harder or longer hours. For example, while South Korea has been experiencing increases in real GDP, its citizens currently work the longest hours; as long as 68 hours a week. This not only leads to citizens having less leisure time, it also increases the chances of them getting strokes and heart attacks as a result of the more hectic and stressful life. In this case, the increase in real GDP would overstate the improvement in SOL as individuals are enjoying a lower quality of life in terms of the non-tangible aspects. Hence. such information is needed to give a **more complete** and accurate **measure of SOL**.

### **Conclusion**

National income indicators like real GDP per capita is the main indicator used to assess the change in material living standards of individuals in a country. However, given its limitations, for a more accurate measurement and interpretation, it needs to be complemented with other indicators Gini coefficient and also qualitative indicators that reflect the quality of life that stems from intangible aspects like pollution index and hours worked to capture changes in non-material living standards.

*Other acceptable indicators:*

- *Composite indicators: Human Development Index (HDI); Measurable Economic Welfare (MEW)*
- *Life expectancy rates; infant mortality rates;*

### **Mark Scheme**

<b>Level</b>	<b>Descriptor</b>	<b>Marks</b>
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L3	For an answer that uses economic concepts to provide a clear explanation of how the indicators can be used to reflect <b>both</b> material and non-material aspects of SOL.	8 – 10
L2	For an answer that gives a descriptive explanation of the indicators used to measure SOL  OR  Answer covers only <u>one</u> aspect of SOL (i.e. either material or non-material)	5 – 7
L1	Answer shows some knowledge of indicators used to measure SOL. Largely unexplained list; major conceptual errors	1 - 4

### Part (b)

#### **Introduction**

To achieve a high SOL, governments can implement various policies, from expansionary fiscal or monetary policy to achieve economic growth and hence higher material living standards to policies like pollution tax or regulations to address the pollution so as to improve non-material living standards.

Governments may need to choose a mix of policies to achieve a high standard of living as each policy can only target a limited number of objectives. Other reasons why a mix of policies may be required could be because there may be because certain policies may be limited in effectiveness and hence need to be complemented with other policies or that the causes of the macro problems that impede the achievement of a high SOL stems from different causes.

#### **Body**

**Each policy can only target a limited number of objectives, resulting in a mix of policies being needed to achieve both high material and non-material living standards.**

A high material living standard is achieved when there is actual growth. To achieve actual growth, the government may opt for expansionary fiscal policy, either by increasing government expenditure or decreases taxes. By increasing government expenditure on domestically produced goods and services, e.g. expansion of the transport infrastructure, AD increases. The rise in AD will lead to a multiplied rise in the real national income through the multiplier process. With higher real national income, households have more purchasing power and hence is able to consumer more goods and services, leading to higher material living standards.

However, as SOL comprises of both material and non-material aspects, there is a need to ensure that the higher material living standards does not come at the expense of non-material living well-being. For countries like China and India who are experiencing high growth rates, higher material living standards from increased production of goods and services through agricultural and industrial activities have resulted in pollution leading to deterioration of the environment, hence compromising non-material living standards. In such cases, the governments of these countries would also need to implement policies like production or pollution taxes or impose regulations to reduce pollution so as to ensure a high SOL can be achieved.

In China, the government has introduced an environmental tax on companies that produce noise, air and water pollutants. A pollution tax forces firms to internalise the marginal cost of pollution in their decision-making, and rational firms will choose to lower pollution as long as the marginal private benefit of lowering pollution (which is avoiding the pollution tax) outweighs

the marginal private costs of lowering pollution (e.g. of using cleaner methods of production). Since this measure ties the total amount of taxes payable to the amount of pollution generated, firms have the incentive to actively find cleaner production methods or engage in R&D that allows them to reduce the amount of pollution tax it needs to pay. This leads to the lowering of pollution, hence improving the environment and quality of life of residents in the country, leading to a higher non-material living standards.

**Evaluation:**

Not all countries need to implement a mix of policies to achieve a high SOL. Whether there is a need to also implement policies to improve the non-material living standards depends on whether non-material living standards is compromised. For example, the extent of environmental damage would differ from country to country and would depend on the type of production the country engages in. For countries like Singapore where its main industries lie in high-end manufacturing (e.g. microchips) and bio-medical services, the extent of pollution from these activities are not that significant, compared to China where pollution from its heavy manufacturing industries like steel, cement and shipbuilding is high, and hence may not require the implementation of additional policies to reduce pollution to achieve a high SOL.

**Conflicts between policy objectives may arise in the pursuit of policies to bring about a high SOL, hence requiring a mix of policies to address the conflicts.**

To achieve economic growth to improve material living standards, governments may choose to adopt expansionary fiscal policy. However, the rate of increase in AD might be so fast (as in the case for emerging economies like China and India) that it exceeds the rate at which the productive capacity of the economy increases (i.e. rate of increase in AS). This results in demand-pull inflation as the lack of spare capacity would result in increasing pressure on scarce resources, bidding up the prices of these factors of production. Producers may pass on the cost to consumers resulting in higher prices and hence increases in the GPL. If the increase in households' income is less than the increases in GPL, household will experience a fall in real income, causing a fall in consumption and hence material living standards.

In such a case, the government would also need to implement supply-side policies to ensure that potential growth is achieved so as to prevent demand-pull inflation from reducing material living standards. For example, the government can provide grants and subsidies to encourage training and skills upgrading to increase the quality of labour. As labour becomes more productive, output per man-hour increases, increasing the productive capacity of the economy. This causes the vertical portion of the AS to shift rightwards, easing the pressure on scarce resources, preventing the increase in GPL, enabling economic growth to be sustained and hence high material living standards can be maintained.

**Evaluation:**

Whether conflicts between policy objectives arises may depend on the choice of the policy tool. In the case above, conflicts between economic growth and inflation may not arise if the government had adopted fiscal policy in the form of increasing government expenditure on infrastructure or lowering of corporate tax rates. For example, the increase in government expenditure on infrastructure would increase the quantity and quality of factors of production like labour and capital, causing productive capacity of the economy to increase. The expansion of productive capacity in the economy would cause less pressure on scarce resources, preventing prices from rising. Hence, there will not be a need to implement a mix of policy in such a case.

**Macroeconomic problems that impede the achievement of high material living standards may arise from different root causes, resulting in the need for a mix of policies to tackle these problems to achieve a high SOL.**

A country may be experiencing low material living standards a result of high unemployment, where a large proportion of residents are not employed and hence do not have the ability to consume goods and services. In order to achieve higher material living standards for the majority, the government would need to implement policies to tackle the unemployment problem.

If unemployment was mainly demand-deficient unemployment, then the use of expansionary demand management policies like the use of expansionary fiscal or monetary policy would be sufficient. An increase in AD would lead to an increase in demand for goods and services which would in turn result in an increase in demand for labour since labour is a derived demand.

However, if both demand-deficient unemployment and structural unemployment are present, then implementing expansionary demand management policies alone will not be sufficient. The government would need to concurrently implement policies to tackle the structural unemployment as well. To address the mismatch between job requirements and skillset of workers, policies such as subsidies for re-training those unemployed may be required so as to equip these workers with the skills to be gainfully employed in expanding industries. Hence, in this case, in order to achieve a high standard of living, the government will need to implement a mix of policies to address the different causes of unemployment that is present so as to ensure that the majority of the residents is able to enjoy a higher national income and hence consume more goods and services.

#### **Evaluation:**

There may not always be a need for a mix of policies even when the root causes of the macroeconomic problem differ. A country may be experiencing falling economic growth that arises both from a lack of internal demand causing a fall in consumption, and a lack of external demand causing a fall in exports revenue. In such a case, implementing expansionary demand management policies alone is sufficient to bring about an increase in AD and hence economic growth, leading to a higher material living standard.

#### **The limitations of the effectiveness of policies may result in the need for a mix of policies is needed to complement each other in order to bring about a high standard of living**

To bring about economic growth so as to achieve a high standard of living, economies that have a small domestic market and lack natural resources like Singapore might choose to adopt supply-side policies to boost the competitiveness of its exports. Hence, the government implements supply-side policies like provide grants for research and development (R&D) of higher quality products to increase the non-price competitiveness of the country's exports, leading to higher export revenue and hence economic growth and improvements in material living standards.

However, such supply side policies usually have a long gestation period and is typically a longer term measure. Therefore, in order to bring about economic growth in the short term, the government would need to **complement the long-term supply-side policies with short-term policies like exchange rate policy.**

By weakening the country's exchange rate, its exports will be more price competitive and hence demand for exports increases. At the same time, the price of imports increase, causing quantity demand to fall. Assuming  $PED_m > 1$ , the more than proportionate fall in quantity demand will lead to import expenditure decreasing. Hence  $X-M$  increases, resulting in increases in AD and hence economic growth, assuming ceteris paribus.

#### **Evaluation**

Small and open economies that face the constraint of a small domestic market and lack of natural resources may need to use a greater mix of policies to achieve the outcomes compared to large economies as a number of policies will be limited in terms of their effectiveness as a result of these constraints.

For example, small and open economies that lack natural resources would be dependent on imported raw materials. This would mean a high marginal propensity to import, resulting in larger withdrawals and hence a smaller multiplier. This would limit the effectiveness of demand management policies and there would be a greater need to complement with supply-side policies to achieve the intended outcomes.

### Conclusion

Governments need to choose a mix of policies to achieve a high SOL **mainly** because of the fact that **most policies are only able to target a limited number of objectives**.

This is supported by the Tinbergen Rule, which states that for each and every policy target there must be at least one policy tool. To achieve a high SOL, governments need to ensure that **economic growth is sustained** as well as **sustainable**. Hence, in striving to achieve a high material and non-material living standard, governments will not only need to strive for sustained economic growth but also ensure that the non-material aspects like the state of environment is not compromised. Some macroeconomic problems that impede the achievement of high material SOL may be due to **different root causes** and hence would require more than one policy to tackle them.

The nature and characteristic of an economy also plays an important role in determining whether or not there is a need for a mix of policy. An economy in a particular stage of development might result in a certain type of industry operating in the country and hence determine the extent to which state of environment may be compromised with the expansion of economic activity. The nature of the economy may also severely limit the effectiveness of policies resulting in the need for a greater mix of policies to achieve the outcome of a high SOL.

### Mark Scheme

Level	Descriptors	Marks
L3	Well-developed answers which thoroughly analyses the reasons for the mix of policies, with explanation of how the different policies can work to achieve high material and non-material living standard.	8 - 10
L2	Largely descriptive explanation of the reasons for the mix of policies (e.g. limited use of economic analysis in the explanation of policies) OR Underdeveloped explanation of the reasons for the mix of policies	5 - 7
L1	Answers which show some knowledge of the workings of macroeconomic policies; largely not addressing the question; Listing of points	1 - 4
E3	For an answer that uses analysis and contextualised examples to support an evaluative conclusion on the reasons why governments need a mix of policies to achieve a high SOL.	4 - 5

	Evaluates the reasons by considering situations where the reasons for choosing a mix of policy might not hold; the extent to which countries might choose a mix of policies to achieve high SOL; weighs the reasons for requiring a mix of policies.	
E2	For an answer that makes some attempt at evaluating the reasons why government may need to choose a mix of policies to achieve a high SOL.	2 - 3
E1	For an answer that gives an unsupported concluding statement on the reasons why governments need a mix of policies to achieve a high SOL.	1

### Question 5

Different governments implement different policies to reduce the country's current account deficit. Whilst the US government impose protectionist measures like tariffs, other governments choose to adopt tight fiscal policy or supply side policies.

a) Explain the factors that are likely to cause a balance of payments deficit on the current account. [10]

b) Discuss the appropriateness of the measures a government could adopt to alleviate a current account deficit. [15]

#### Part (a)

##### **Introduction**

- The current account (CA) balance records **payments** arising from the imports and exports of goods and services, from incomes in the form of rents, interest, profits and dividends, and unilateral transfers into and out of the country.
- CA deficit means that there is a net outflow of currency from the CA, i.e. the total value of receipts received from abroad (credit) is less than the total payments made to overseas (debit).
- As the balance of trade accounts for the largest proportion of the current account balance for most countries, a current account deficit normally arises because of the trade deficit (i.e. export revenue (X) is less than import expenditure (M) or net exports (X-M) is negative.)

##### **Body: Factors causing a CA deficit**

###### **(1) Strong economic growth in the domestic economy may cause a CA deficit**

Strengthening of the domestic economic environment can cause a country's trade balance to deteriorate and become a deficit. When there is domestic economic growth, there will be a rise in national income, ceteris paribus and this will lead to higher purchasing power, increasing the ability of consumers to purchase imported goods and services. With a rise in demand for imports, import expenditure will rise. If the import expenditure exceeds the export revenue, this will result in a trade deficit and if the trade balance is a major component of the current account balance, there will be a CA deficit, ceteris paribus.

US for example is seeing its CA deficit worsening over the years largely due to stronger economic growth (e.g. as it recovers from the 2008 global financial crisis). Higher national income has provided households with the ability to buy imported goods and services. The rising import expenditure which exceeds the rise in export revenue resulted in the CA deficit; US has a substantial trade deficit with China.

###### **(2) Appreciating exchange rate may cause a CA deficit**

An appreciation of the domestic currency of a country against other foreign currencies means that foreigners would be required to exchange more units of their currencies for the domestic currency to buy the same quantity of goods. This will cause the price of her exports in terms of foreign currency to rise and price of imports in terms of domestic currency to fall. Therefore, foreigners will buy less of the country's exports, causing the demand for exports to fall. This means that with a lower quantity of exports and the price of exports in domestic currency unchanged, export revenue will fall.

Since residents now find imported goods cheaper in terms of domestic currency, quantity demanded for imports will rise. Assuming  $PED > 1$  as there are many close substitutes, import expenditure will rise as the fall in expenditure from the lower price of imports will be



more than offset by the rise in expenditure from the more than proportionate rise in quantity demanded of imports. Given that import expenditure exceeds export revenue, it will result in a CA deficit.

US dollar has been appreciating against Yuan and other foreign currencies, therefore causing the purchase of more relatively cheaper foreign-produced goods (resulting in rise in import expenditure assuming  $PED_M > 1$ ) and lesser US produced goods (rise in export revenue lower than rise in import expenditure).

**(3) Higher domestic inflation rate relative to other countries may cause a CA deficit**

Higher domestic inflation rate (either demand-pull caused by rising AD exceeding full employment level or cost-push inflation due to rising wages) relative to other countries will cause the domestic goods to be relatively more expensive than foreign imports. This causes domestic households to reduce quantity demanded for domestic goods and substitute them with the relatively cheaper imported goods. Thus, demand for imported goods will rise.

At the same time, foreigners will decrease quantity demanded for the country's exports as the price of exports in domestic currency is relatively higher due to the higher inflation rate, causing export revenue to fall given  $PED > 1$  due to availability of close substitutes (loss in revenue from the more than proportionate fall in quantity demanded exceeds rise in revenue from the rise in price of exports). The rising import expenditure, if it exceeds the export revenue will result in a current account deficit.

Jordan experienced a rise in current account deficit partly due to the higher domestic inflation in 2017.

**(4) Loss of comparative advantage results in a deterioration in the country's export competitiveness and may cause a CA deficit**

Lower-cost countries like China have abundant labour and thus lower labour costs. The expansion of labour intensive manufacturing industries in these lower-cost countries which export their cheaper products to the developed countries like US, has resulted in the US firms not being able to compete. This is due to the loss of comparative advantage of the US firms (i.e. inability to produce labour intensive goods at lower opportunity costs compared to the Chinese firms; Labour costs in US are relatively higher than in China).

Consumers will thus switch to buying the cheaper imported goods, resulting in a rise in demand for imports and import expenditure. Chinese consumers will buy less of the more expensive US goods resulting in a fall in the export revenue assuming  $PED > 1$  (availability of close substitutes from other countries). With export revenue falling and import expenditure rising, and assuming import expenditure is greater than export revenue, there will be a rise in CA deficit, ceteris paribus.

**Conclusion**

A CA deficit implies that there is net outflow of currency from the CA and usually arises because of a deficit in the balance of trade as trade balance is a major component of the CA balance in most countries.

**Mark Scheme**

Level	Descriptor	Marks
L3	A clear and detailed answer that explains the factors causing current account deficit.	8 – 10

L2	A descriptive explanation of factors (at least 2) causing current account deficit OR Under-developed explanation of factors (at least 2) causing current account deficit.	5 – 7
L1	Answers show some knowledge of current account and factors leading to current account deficit but largely unexplained listing of factors.	1 – 4

### Part (b)

#### **Introduction**

Different governments adopt different measures such as contractionary fiscal policy, exchange rate policy, protectionism and/or supply-side policies to alleviate the country's current account deficit. The appropriateness of the measures depends on the **root causes** of the current account deficit, **economic conditions**, **nature of the economy**, the **level** and **duration of the deficit** and possible **trade-offs** in macroeconomic goals.

#### **Body**

##### **A government may adopt contractionary fiscal policy to reduce the current account deficit.**

The government aims to reduce the current account deficit by reducing import expenditure through the reduction of national income. It can implement contractionary fiscal policy by reducing government expenditure (such as education, healthcare, etc.) and/or raise taxes to reduce aggregate demand. A rise in income tax will reduce the personal disposable income and ability to purchase imported goods and services. A rise in corporate tax will reduce the expected after tax profits, hence reduces the incentives for firms to invest due to the lower retained earnings. With a fall in government expenditure, consumption and investment expenditure, there will be lower aggregate demand (AD) for goods and services.

The fall in AD will result in AD being lower than the real national output and firms will face an unplanned rise in inventories. Firms will therefore reduce production and require lesser factors of production and this will result in a fall in national income. With lower national income, there will be lower induced consumption from households and this will result in a downward multiplier process with a multiplied fall in the national income. As purchase of imports is dependent on the national income, the fall in national income will result in a fall in import expenditure which will help to reduce the current account deficit, ceteris paribus.

#### **Evaluation:**

- For countries like US, there is a strong downward multiplier effect as  $MPC_D$  (marginal propensity to consume domestic goods and services) is high as the households have lesser needs for retirement savings. This is due to the government providing for most of the citizens' social needs. So a contractionary fiscal policy will be able to reduce import expenditure significantly and hence the CA deficit.
- However, depending on the state of the economy, there may be conflict in goals. If the economy is operating below full employment, this policy may result in a rise in unemployment. Moreover, the fall in AD may fuel business pessimism and may induce firms to further cut down on investment. Therefore, besides reducing current output and employment, such policies also run the risk of reducing potential output growth.
- Contractionary fiscal policy will be effective if the economy is initially experiencing inflationary pressure, as a fall in AD will be able to cool down the economy and bring down prices. This will improve the price competitiveness of exports and will also encourage consumers to switch towards domestically produced goods which are now relatively

cheaper than imports. However, if the consumer confidence and business outlook are very strong, the policy may not be able to reduce the consumption and investment expenditure significantly and thus reduction of the current account deficit may not be significant.

**A government may adopt exchange rate policy to reduce the current account deficit.**

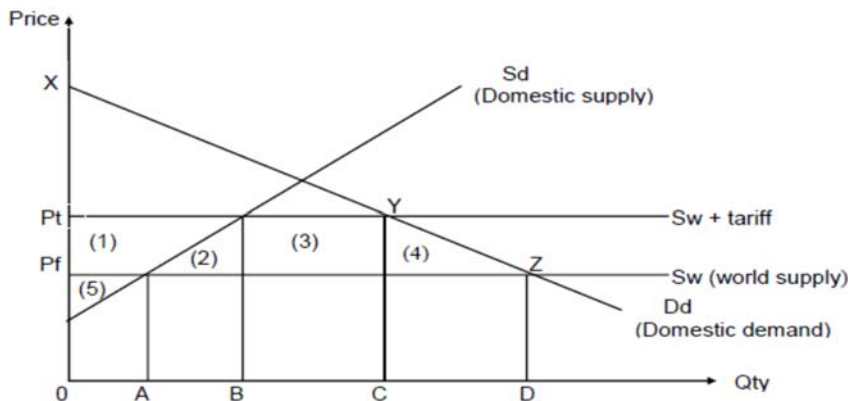
In a managed float exchange rate system, the Central Bank may intervene in the foreign exchange market to reduce the value of the domestic currency against the foreign currencies. This causes the value of the domestic currency to be weaker relative to selected foreign currencies, and makes her exports more competitive in terms of these foreign currencies. With the weaker domestic currency, imports will also be more expensive in local currency and will lead to a fall in import expenditure, assuming  $PED_m > 1$  (availability of close substitutes). This is because the rise in expenditure due to the higher price of imports is outweighed by the fall in import expenditure from the more than proportionate fall in quantity demanded. The rise in export revenue and the fall in import expenditure results in a rise in (X-M) which reduces the current account deficit.

**Evaluation**

- Effectiveness of the exchange rate policy will depend on the nature of the economy. For economies which are quite sufficiently endowed with natural resources and hence less reliant on imported inputs, a weaker currency will not result in cost-push inflation. But for countries that rely heavily on imported inputs, currency depreciation may result in cost push inflation.
- Exchange rate policy will be appropriate if the economy has spare capacity. The increase in (X-M) which are components of AD will also result in a rise in real GDP and actual economic growth. However, if the economy is near full employment, the further rise in AD may result in inflationary pressure.
- In the SR, consumers may not switch to the cheaper local goods as taste and preferences may take time to change and firms may not be able to adjust prices immediately due to contractual obligations. Hence, in the SR, import expenditure may rise, leading to an initial worsening current account deficit. In the LR, as consumers switch to the cheaper local goods and contracts are renegotiated, current account balance will improve.
- Such a policy may lead to capital flight if investors expect further currency depreciation and this could destabilise the short term capital account.

**A government may impose tariffs to reduce the current account deficit.**

Tariffs are taxes levied by a government to restrict foreign competition.



Initial equilibrium price was at Pf where world supply curve (Sw) intersects domestic demand curve, with domestic production at OA units. US is a small producer (e.g. <5% of world steel).

With the imposition of a tariff on the imported products (e.g. steel), supply curve shifts upwards to  $Sw + \text{tariff}$  and the price of imported steel will be higher at  $P_t$ , resulting in a fall in quantity demanded of imports. Domestic consumers will switch to consuming domestic goods (from OA to OB). Assuming demand for imports are price elastic as consumers have many substitutes, this will lower import expenditure. This is because the rise in expenditure from the rise in price is more than outweighed by the fall in expenditure from the more than proportionate fall in quantity demanded of imports. Assuming export revenue unchanged, current account deficit will be reduced.

### Evaluation

- Tariffs are implemented on specific industries, e.g. in the steel industries in the case of US. The proportion of steel industries' contribution to GDP may not be so significant so the reduction in the import expenditure may not be large enough to sufficiently reduce the current account deficit.
- Protectionism may be justified if the cause of the current account deficit is due to unfair trade practices like dumping or undervalued exchange rate. However, it is difficult to ascertain that there are unfair trade practices. It also cannot be a long-term solution because it doesn't improve the competitiveness of exports. Moreover, it may provoke retaliation which will counter the positive effect of tariffs in reducing current account deficit. It also results in the misallocation of resources. There is a welfare loss of area 2 due to over-production from inefficient domestic producers at higher marginal costs of production and area 4 due to lower consumption from higher price of goods.

### Government can adopt supply-side policies to reduce the current account deficit.

The government can provide grants, subsidies or tax incentives to encourage innovation and investment in research and development (e.g. 2018 Productivity Solutions Grant which provides funding for up to 70% of costs of technologies to improve productivity). These policies lower the cost of conducting R&D, incentivizing firms to conduct more R&D, enabling firms to improve the quality of its products and increase the demand for its exports. Moreover, with better production methods or processes, the firms will be able to improve productivity and generate more output with the given inputs, thus lowering marginal costs of production. This will improve the price competitiveness of the exports and result in a rise in quantity demanded of exports assuming demand for the exports is price elastic (i.e. many close substitutes in the global market). There will be a rise in export revenue as the higher revenue gained from the more than proportionate rise in quantity demanded will outweigh the loss in revenue from the fall in price of exports. This will improve the balance of trade and reduce the current account deficit, ceteris paribus.

### Evaluation

- Supply-side policies are more effective if the root cause of the current deficit is lack of competitiveness of the exporting firms.
- However, such policies take time to be effective. Meanwhile, countries may have to resort to other policies for a quicker, but temporary solution.

### Conclusion

The types of policies that the government used depend on the **causes** of the current account deficit, **economic conditions, state and nature of the economy**. If current account deficit arises due to demand-pull inflation, then expenditure reducing policies like contractionary fiscal policy would be more appropriate than deliberate currency depreciation which can worsen the inflation rate in the country. If the root cause of the inflation is lack of export competitiveness, then supply-side policies to improve the price competitiveness of the exports will be more appropriate. However, as the effects of supply-side policies take time, and there

may be other causes of the current account deficit, other policies may be required to complement the supply-side policies.

It also depends on the **state of the economy** as in the situation where an economy is operating at below the full employment level, deliberate currency depreciation may be much appropriate than contractionary fiscal policy as the latter policy will worsen the economy. For a country that relies heavily on external demand, exchange rate and supply-side policies will be the most appropriate as it improves both the price and non-price competitiveness of the exports. However, if the external economic conditions are not so positive, the effectiveness of the policies may be limited.

### Mark Scheme

Level	Descriptors	Marks
L3	Well-developed answers which thoroughly analyses the appropriateness of the different macroeconomic policies (at least 3) that the government can adopt to reduce the current account deficit.	8 - 10
L2	Under-developed answers giving largely descriptive explanation of the appropriateness of the different macroeconomic policies (2 policies) that the government can adopt to reduce the current account deficit.	5 - 7
L1	Answers which show some knowledge of the workings of the macroeconomic policies that the government can adopt to reduce the current account deficit.	1 - 4
E3	For an answer that uses critical analysis to support an evaluative appraisal of the appropriateness (consider at least 2 aspects, namely root causes of the deficit, state and nature of the economy) of the different macroeconomic policies that the government can adopt to reduce the current account deficit.	4 - 5
E2	For an answer that makes some attempt at an evaluative appraisal of the appropriateness of the different macroeconomic policies that the government can adopt to reduce the current account deficit.	2 - 3
E1	For an answer that gives an unsupported concluding statement or appraisal of the appropriateness of the different macroeconomic policies that the government can adopt to reduce the current account deficit.	1

### Question 6

**Free trade agreements are treaties which make trade and investment between two or more economies easier. International business is now simpler with Singapore's network of over 22 implemented agreements.**

**Source: Enterprise Singapore**

**Discuss the impact of free trade agreements on different economies.**

**[25]**

#### **Introduction**

With globalisation, economies around the world are becoming more integrated and interdependent on each other for economic growth. This comes as **goods and services** become more mobile with trade integration, **capital flows** become easier with financial integration; and **labour flows** between countries become more mobile with international migration.

Free trade agreements (FTA) are official treaties between **member countries** to **abolish tariff barriers** among themselves but may maintain their individual tariffs against non-members. Such agreements that **boost trade and investments** between member countries will enhance the benefits of globalisation to member countries.

#### **Body**

**FTA enhances trade between member nations leading to improvement in consumers' welfare.**

As seen from Figure 1, Pt shows the domestic price in the home country when there is a tariff imposed on the good. With the tariff, the domestic demand is at OC while the domestic supply is OB. This means that imports is restricted to BC as a result of the tariff.

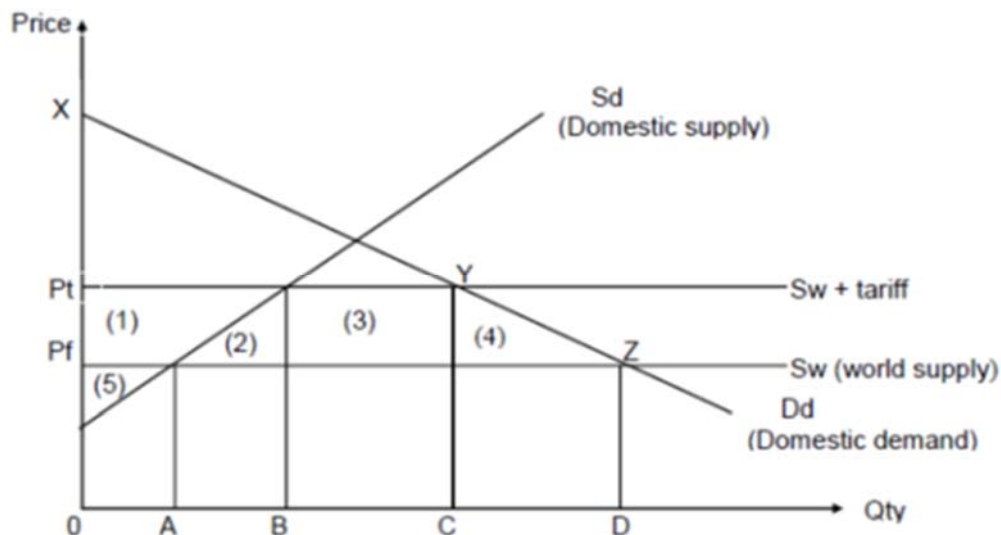
The signing of FTA will result in the abolishment of tariffs. When the tariff is abolished, the fall in price of the good from Pt to Pf allows domestic consumers to consume the goods at a **lower price**. Domestic quantity demanded rises from OC to OD while domestic quantity supplied falls from OB to OA. Import now rises from BC to AD. As a result of the fall in price and rise in imports, **consumer surplus increased** by areas (1), (2), (3) and (4); while producer surplus reduced by area (1).

In addition, the access to other markets with the signing of FTA would **increase the variety** of goods and services to consumers. The greater degree of choice would also increase consumers' welfare.

#### **Evaluation:**

The extent of this benefit to domestic consumers in the different economies will depend on the **degree of reliance** on foreign consumer goods. For example, developed countries (DC) such as the US could be heavily reliant on imported basic textiles and food-stuff from less developed countries (LDC). In such instances, the FTA that removes the import tariff would benefit US consumers' welfare substantially.

**Figure 1. Abolishment of tariff lowers domestic price for consumers**



**FTA provides access to larger markets for producers, leading to higher profits.**

Such trade cooperation that reduces any trade barriers between member countries, allow domestic firms better access to each other's markets. This brings about **larger revenues** for firms in the member countries as a result of the **larger market size** that firms can sell their goods to. As a result, a larger scale of production can bring about **economies of scale**, lowering the average cost of production. The larger revenues and lower costs can bring about **higher profits** for the firms.

**Evaluation:**

The extent of benefit between member countries would depend on the **degree of similarity of the goods produced**. This would allow member countries to specialise and reap the benefits from their **comparative advantages**. If the member countries produce very similar goods, the level of competitiveness will be high since domestic firms would need to compete both in terms of price and quality in order to secure the market. Product differentiation could alleviate the degree of competition to cater to **difference in tastes and preferences**. An example would be textiles where the fashion design and materials may be different. This allows for firms in DCs to sell their goods to LDCs despite both having similar industries.

In other instances, the less efficient firms may have to close down as a result of the competition from other member countries. Domestic firms facing such predicament and are unable to differentiate their product would suffer. In the long run, these will close down; increasing the import reliance on member countries for such goods.

In the long run, there is **greater efficiency in the allocation** of resources within the FTA because each of the member countries is able to apply their comparative advantage and trade freely. The respective **factor endowment** will determine the comparative advantage of the country. For example, a country with an abundance of arable land will be able to provide food crops with lower opportunity cost vis-à-vis a member country with huge desert land mass. Barring any transport costs and mobility of factors of production, there would be greater production (from specialisation) and consumption for the FTA countries.

**FTA helps achieve economic growth and employment**

Trade can be a driver of growth. Signing of FTA reduces trade barriers between member countries allowing countries to **increase the size of their export markets**. Ceteris paribus, if planned export value rises by more than that for import, the resulting rise in aggregate demand will lead to a rise in equilibrium national output as long as there is availability of **spare capacity**

in the economy. Otherwise, the rise in aggregate demand (AD) may increase the pressure on scarce resources, causing upward pressure on prices, leading to DD-pull inflation. Thus, the **state of the economy** determines the extent of benefit from the FTA.

The increased access to other markets allows the home country to **overcome their domestic demand constraints** to actual growth (e.g. small size of domestic market) by exporting excess resources or goods to member countries. This enables fuller utilization of otherwise under-employed or unemployed resources, raising the level of output, income and employment in the home country. The extent of the rise in national income is dependent on the **size of the multiplier** and the extent of the injection from trade.

#### **Evaluation:**

The extent of impact from the rise in net exports will depend on the **nature of the economy**; the **reliance and openness to trade** of the member country. If net exports contribute significantly to the country's GDP, the rise in this component will result in a more significant rise in the country's output and employment. For example, a small economy like Singapore constrained by the small size of its domestic market is highly open and reliant on trade to boost its national income; the total value of exports and imports comprise more than 300% of its national income. As a result, the country relies heavily on the contribution from trade for its economic growth and hence the increase in size of export markets that FTA brings about is a significant benefit for Singapore.

The extent of impact from the rise in net exports will also depend on the **terms of trade** between the member country. DCs generally produce higher value-added goods and services while LDCs, where their production is generally more labour-intensive, tend to produce goods and services that are low in value-add. Under such trade arrangements, the terms of trade will favour DCs more than LDCs. The **stage of development** thus determines the degree of value-add in the production. DCs have a higher technological and infrastructural advantage compared to LDCs. Coupled with a more educated and skilled workforce, DCs are able to produce higher value-added goods and services.

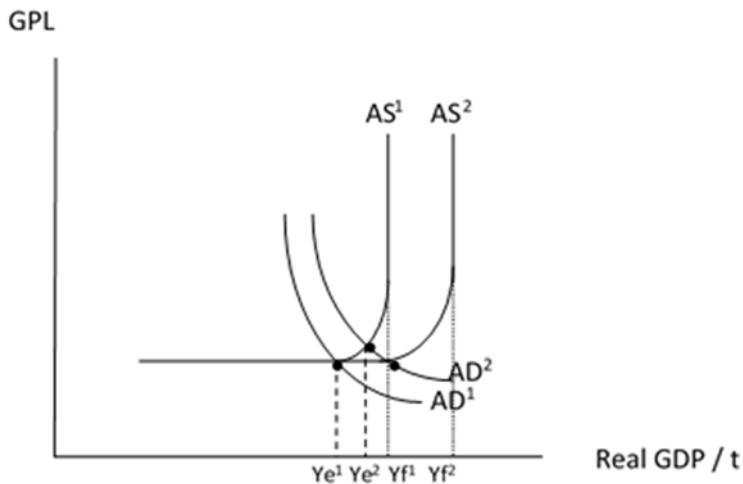
FTA may facilitate and allow **greater capital flow** between member countries. This comes about as a result of the reduced regulatory restrictions of the free trade agreement. These capital inflows in the form of foreign direct investments (FDI) will boost the AD of the home country in the short run since investment is a component of AD.

The increase in investment and trade, ceteris paribus will result in an increase in the AD of the home country since  $I$  and  $(X-M)$  are components of AD. This results in a rightward shift of AD from  $AD^1$  to  $AD^2$ . The increase in AD will result in AD being higher than the real national output; firms face an unplanned fall inventories, causing them to increase production, increasing national income by a multiple through the multiplier effect, resulting in actual growth.

In the long run, capital inflows in the form FDI leads to capital accumulation and could also result in increases in quality of the factors of production. This leads to an increase in productive capacity of the economy (assuming the rate of capital accumulation exceeds that of capital depreciation), causing the aggregate supply (AS) to shift rightwards from  $AS^1$  to  $AS^2$ , leading to potential growth.

#### **Figure 2. Economic growth as AD and AS rises**





As seen in Figure 2, the rightward shift in the AD curve from  $AD^1$  to  $AD^2$  results in a rise in GPL as output rises from  $Ye^1$  to  $Ye^2$ . However, when AS curve shifts rightwards from  $AS^1$  to  $AS^2$ , the GPL falls and real GDP now rises from  $Ye^2$  to  $Yf^1$ .

### Evaluation

The rise in the AS curve as the AD curve rises will help to mitigate any inflationary pressure as the economy reaches close to the full employment output level, bringing about **sustained economic growth**. The rise in AS as a result of greater FDI inflows would especially be beneficial for emerging economies that are growing very rapidly like China as there is higher possibility of inflationary pressures given the rapid rise in AD. Thus, the **state of economy** determines the extent of benefits from FTA.

In addition, the more dissimilar the industries (difference in comparative advantage or **stage of development**) are in the member countries, the more positive the impact since there will be less competition amongst them.

FDI inflows also helps to enhance the depth and scope of investments in the receiving country. For example, the FTA may allow more high-tech investment inflow to boost a primarily agricultural economy, introducing new and better methods of farming that boosts productivity and yields. These investments may also then be made available to other industries, increasing the depth and scope in terms of the use of technology.

### Evaluation:

Such inflows of FDI will be more beneficial for developing economies or economies at a lower **stage of production** as it brings in new technology to help the economy progress. This increases efficiency and helps domestic industries move into production of higher value-added goods. The extent of benefits from FDI inflow thus depends on the initial stage of development of the country. A country with a high level of development and technology may not benefit as much from FDI inflow since the value-add to the productivity may be low.

### FTA may increase structural unemployment

Structural unemployment occurs when displaced workers do not have the required skill sets to be engaged in another job. As a result of the FTA, domestic firms may be subjected to increased competition from similar firms within the member countries. If these domestic firms are less efficient and are unable to compete, they may outsource their production resulting in unemployment for the industry in the home country.

For example, commercial banks in Singapore make use of the services of call centres located in India for their provision of customer-support services. As a result, workers who used to work in the call centres in Singapore will become unemployed. For certain types of labour to be transferred from one industry to another, extensive retraining is often required. Such retraining may be very costly or at times, even impossible. A considerable time period may also be required for such retraining resulting in structural unemployment.

**Evaluation:**

The extent of structural unemployment may be dependent on **nature of the economy** such as factors like the level of education of the population. In developing countries like Indonesia where the majority of the population has a low level of education, acquiring new skills may take a longer time and workers may be less receptive to training.

**FTA may lead to trade diversion**

Trade diversion occurs when trade is diverted from a more efficient exporter towards a less efficient one as a result of the formation of free trade agreement or a customs union. While the cost of goods and services become cheaper as a result of the abolishment of tariffs within the member countries, it is undesirable as it concentrates production in countries with higher opportunity cost and lower comparative advantage, resulting in inefficient allocation of resources.

For example, if there are two countries that can produce apples for sale. Country A is able to offer apples for sale at \$1.00 each, while Country B is able to offer apples for sale at \$1.05. Let us assume that home country imposes a 10% tariff on apples. Buying apples from Country A would now cost \$1.10, while those from Country B would cost \$1.16. Without any trade agreement, the home country would buy from Country A. If the home country signs a free trade agreement with Country B and the tariff is abolished, apples would now cost only \$1.05. As a result of the free trade agreement, the home country has to buy from a less efficient source at a higher price. As a result of the higher price of apples that consumers in the home country has to pay, there will be a welfare loss as resources become inefficiently allocated.

**Evaluation:**

The extent of welfare loss is dependent on **the proportion of all the goods and services** affected by the trade diversion. For example, if the trade diversion affects only a small basket or a small proportion of goods and services, these negative impact may actually be offset by gains in other areas that have a greater impact on the welfare of society.

**FTA may cause balance of payments disequilibrium**

In the current account balance of the BOP, member countries may experience increased volume and value of trade if there are mutual benefits. However, it could also worsen the current account deficit from trade if a particular member country is unable to compete for exports. It could also worsen the current account if a particular member country imports more than it is able to export, resulting in trade deficit.

Prolonged deterioration in the current account could lead to a depreciation of the external currency for the home country. A current account deficit will result in an excess of the home country's currency in the Forex market. As such, there will be downward pressure on the external value of the home country currency. In addition, when the country consumes beyond its means, additional borrowing is needed to fund these consumption, leading to an increased burden in future repayment.

**Evaluation:**

The impact of the current account deterioration is dependent on both the price and quality of goods and services available in the home country. If the goods lose their competitiveness due

to poorer quality, the extent and duration of such a current account deterioration would be more severe. Countries with a higher **stage of development** is more likely to have the resources and funding to ensure that the quality of their products.

The extent of the impact on current account is also dependent on repatriation of profits and dividends. When FDIs flow from DCs into LDCs to tap on the cheaper labour costs for production, profits from these investments will be repatriated to the DCs. This will help offset any trade deficit that DCs may suffer as a result of importing from LDCs.

In the capital account, FDI will flow into the member country with a more positive business outlook and out of the member country with poor business sentiments. Prolonged FDI outflow will result in the 'hollowing out' of the economy in terms of productive capacity. This will affect the potential growth of the country as the dearth of investment leads to lower output and productivity over time.

**Evaluation:**

The extent of the FDI inflow will depend on the **factor endowment** of the receiving country. DCs tend to invest in LDCs to tap on the cheaper labour that is abundantly available.

**Conclusion**

[Stand] While free trade agreements bring about more benefits than costs, the extent is dependent on the characteristics of different economies. The resource endowment, state and nature of the economies can determine the extent of the benefits from signing the FTA.

For economies with a small domestic market, they are likely to benefit from the expansion of their production. As such, they may gain most significantly from the access to larger markets to trade for economic growth.

For countries with a lack of natural resources, the benefit of being able to obtain factor inputs and other consumption goods more cheaply with the abolishment of tariff would be a significant benefit for consumers from signing the FTA.

For developing countries, the increased flow of capital as a result of the FTA would be most important since it allows for greater transfer of technology. This would enable the economy to progress from low value-add production to higher value-added goods and services.

The more dissimilar the member countries, the greater the benefits from trade creation, economic growth and development. The benefits from specialisation will allow member countries to achieve sustained economic growth as access to both markets and resources is enlarged.

**Mark Scheme**

Level	Descriptors	Marks
L3	Accurate and precise explanations of the benefits and costs; and recognises the question requirement that the extent of these impact is dependent on the context of the different economies (e.g. characteristics and nature of economy).	18 – 20
	Answer that recognises the question requirement of the benefits and costs of FTA; and attempts to contextualise their justification with examples and illustrations.	15 - 17
L2	For an answer that either gives an under-developed explanation of benefits or costs of FTA with attempts to use examples / diagrams to illustrate (demonstrate technical rigour in answers).	12 – 14

	For an answer that is mostly relevant, but explanation of the benefits or cost is either undeveloped or descriptive.	9 - 11
L1	For an answer that shows some relevance and listing of possible benefits and costs.	5 – 8
	For an answer that is mostly irrelevant and some knowledge of free trade agreements.	1 - 4
E3	For an answer that uses <b>contextualised analysis / examples</b> to support an evaluative conclusion (e.g. <i>benefits and costs may be of different degrees; short run versus long run effects etc.</i> ).	4 - 5
E2	For an answer which shows <b>some attempt</b> to explain and support evaluative statement(s) made.	2 – 3
E1	For an answer that gives an <b>unsupported</b> evaluative statements	1