

St Andrew's Junior College

JC2 Preliminary Examinations for General Certificate of Education Advanced Level Higher 2

ECONOMICS

9570/02

Paper 2

12 September 2023 2 hours 30 minutes

READ THESE INSTRUCTIONS FIRST

Write your name on all the work you hand in.

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

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

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

DO NOT WRITE IN ANY OF THE MARGINS.

An answer booklet will be provided with this question paper.

You should follow the instructions on the front cover of the answer booklet.

If you need additional answer paper, ask the invigilator for a continuation booklet.

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

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

This document consists of 3 printed pages.

Answer **three** questions in total.

Section A

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

- Ticket scalpers who snap up tickets, often in bulk, then resell them for profit on the secondary market – are back in business since large events and international acts resumed after the pandemic. Fans of Blackpink and Coldplay to, most recently, Taylor Swift, have been forced to buy tickets from scalpers as tickets for their concerts were sold out quickly. These are usually sold at a very high markup, with these resellers often citing the "hassle" and "stress of queuing up" as reasons for the price increase.
 - (a) Explain the role of the price mechanism in ensuring an efficient allocation of resources. [10]
 - (b) Discuss possible strategies that concert organisers could use to improve the market outcome for this type of concert for producers and consumers. [15]
- 2 Netflix announced price cuts in its subscription plans in some countries as the video streaming giant looks to maintain subscriber growth amid stiff competition and strained consumer spending.

Source: Adapted from www.channelnewsasia.com 24 Feb 2023

- (a) Explain **two** alternative objectives that a firm may pursue other than profit maximisation. [10]
- (b) Discuss whether the use of pricing strategy is the best way for a firm like Netflix to increase their profits. [15]
- 3 Singapore's national healthcare expenditure is expected to be about S\$22 billion a year. However, this is expected to nearly triple to S\$60 billion in 2030. To slow down the rate of increase in healthcare spending, the Government launched the Healthier SG programme where eligible Singaporeans would be able to receive fully subsidised nationally recommended health screenings and vaccinations.

Source: Adapted from www.channelnewsasia.com 04 Oct 2022

- (a) Explain two sources of market failure in the market for preventive healthcare. [10]
- (b) Discuss whether fully subsidising preventive healthcare is the most appropriate way to ensure that the market for preventive healthcare operates efficiently. [15]

[Turn Over

Section B

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

- 4 There has been concern for many years over the large and growing trade imbalances of various countries in the world economy. This has led to calls for "global rebalancing" in which countries with persistent balance of trade deficits, such as the United States, would seek to reduce imports.
 - (a) Explain two possible causes of balance of trade deficit faced by countries. [10]
 - (b) Assess the view that government policies to deal with a persistent balance of trade deficit can be potentially detrimental. [15]
- As global disruptions to food production and supply chains persist, the Monetary Authority of Singapore's (MAS) surprise move to tighten its policy in October 2022 attests to the seriousness of upward price pressures.
 - (a) Explain the consequences of failing to achieve a low and stable inflation rate for an economy like Singapore. [10]
 - (b) Discuss the extent to which the nature of an economy affects a government's choice of macroeconomic policies in achieving price stability. [15]
- **6 (a)** Explain possible reasons why an economy's comparative advantage might change over time. [10]
 - (b) Discuss whether, on balance, the use of protectionist policies can ever be justified. [15]

- 1 Ticket scalpers who snap up tickets, often in bulk, then resell them for profit on the secondary market – are back in business since large events and international acts resumed after the pandemic. Fans of Blackpink and Coldplay to, most recently, Taylor Swift, have been forced to buy tickets from scalpers as tickets for their concerts were sold out quickly. These are usually sold at a very high markup, with these resellers often citing the "hassle" and "stress of queuing up" as reasons for the price increase.
 - (a) Explain the role of the price mechanism in ensuring an efficient allocation of resources. [10]
 - (b) Discuss possible strategies that concert organisers could use to improve the market outcome for this type of concert for producers and consumers. [15]

Suggested Answers (a)

Question Analysis:

| Command | Explain |
|---------|------------------------------|
| Content | Functions of Price Mechanism |
| Context | Open |

Introduction:

Due to central problem of economics of scarcity, resources need to be allocated towards competing uses. In the free market, the price mechanism helps to decide what resources and how much resources are used for what purposes. This is done through the three functions of the price mechanism which are signaling function, incentive function and a rationing function.

Body:

Signaling function

The changes in prices act as a signal to producers regarding consumers preferences. When there is an increase in price for a product or service, both consumers and producers react to the change in price accordingly. Consumers react by either cutting back on their use or consumption of the product or they simply choose to not consume the product at all. Producers on the other hand treat the increase in price as a signal to increase their production of that product as consumers are now willing to pay more and producers can potentially earn more by producing and selling more.

Prices help to ensure that there is an efficient allocation of resources as an increase in price would imply that there was a shortage and producers would need to channel more resources to produce that product. Conversely, a surplus in the market will be cleared by falling prices.

For example, when there is an increase in demand for food due to a rise in population, this increase in demand would lead to a shortage observed at the original equilibrium price. With the shortage created, there would be an upward pressure in price as Qd > Qs. This upward pressure in price acts as a signal to both producers and consumers as explained above.

Incentive function

If prices were to increase, producers would be incentivized to increase their production as they can earn a higher profit by selling more of the product to consumers who are willing to pay a

higher price. Scarce resources are thus allocated to produce the products that consumers want the most. Similarly, consumers would be incentivized to find alternative products or services that can satisfy their wants and needs.

If the prices of factors of production or raw materials increases, it would incentivize producers to use alternative factors of production or raw materials in the production process. Producers who are assumed to be profit maximisers will find the least costly method to produce their products to earn higher profits.

Rationing function

Prices help to ration or decide who will be able to consume the good or service. An increase in price may lead to some consumers being unwilling and/or unable to afford the increased price. Only those who are willing and able to pay the higher price will be able to consume the good. The price mechanism thus helps to ration the limited goods to those who are most willing and able to purchase them.

Conclusion:

The price mechanism thus helps to guide what should be produced with given resources, how much resources to allocate to the production of a good and who should consume that good.

Mark Scheme

| Mark Scheme | | |
|-------------|---|--------|
| Level | Knowledge, Application, Understanding, Analysis | Marks |
| L3 | Well analysed explanation of how two of the three functions of the price mechanism helps to allocate resources efficiently. Reasoned (analytic) structure to the answer. | |
| | The two required elements for this question are: 1. Explanation of signaling function of the price mechanism. 2. Explanation of incentive function or rationing function of price mechanism. | 8 – 10 |
| L2 | Answers relevant to the question but theory incompletely explained. Well-explained of only one requirement. Undeveloped or underdeveloped explanations of both requirements. There may be irrelevant explanations or no / inappropriate examples to illustrate concepts. | 5 – 7 |
| L1 | The meaning of the question may not be properly grasped. Answer may not show understanding of the two requirements. A few valid points. Basic errors of theory. Answer mostly irrelevant or inaccurate. | 1 – 4 |

Question Analysis (b):

| Command | Discuss |
|---------|--|
| Content | Improved market outcomes for producers |
| | |
| | Improved market outcomes for consumers |
| | |
| Context | Concerts |

Introduction:

State the possible undesirable market outcome on consumers and producers

- When scalpers purchase tickets in bulk and resell them at a significantly higher price, consumers' surplus will fall as they would have to pay a much higher resell price instead of the actual price set by the organisers.
- As scalpers are able to purchase tickets at lower prices and sell them for much higher prices in the secondary market, scalpers will be see this as an opportunity to exploit customers who are willing to pay the higher price.
- Producers could also suffer due to the possibility of having to manage customers who
 purchased tickets from scalpers who could have sold them counterfeit tickets. Hence, this
 would increase the cost to organisers as they would have to possibly allocate more
 manpower to curb these counterfeit tickets such as having more checkpoints at the
 entrance. This would also affect the consumers who happen to purchase such tickets
 unknowingly to suffer which would also cause unrest and organisers' reputation would be
 tainted as well.

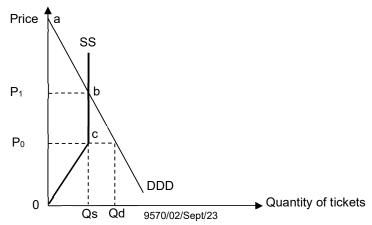
State two possible strategies to improve market outcome of this concert

In order to improve market outcomes, the producers could raise the average price of the concert tickets. The organisers could also increase the supply of tickets by utilising a bigger venue or increasing the number of concerts.

Body:

Strategy to improve market outcome for producers via increased revenue / profits

The fact that prices of tickets can be sold at a huge mark-up in the secondary market would suggest that the average price of tickets may be too low. Thus, the concert organisers could increase the price of the concert tickets to P_1 instead of the average price of P_0 . This would eliminate the shortage at the original eqm price of OP_0 due to excess demand hence prevent the possibility of counterfeit tickets from arising and making it less profitable for scalpers to sell tickets in the secondary market. This would increase the producers' revenue from OP_0CQ_0 to OP_1bQ_0 . Assuming total cost remains the same, this would increase the producers' profit as well.



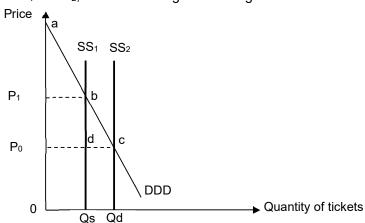
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Limitation:

- → However, as consumers would end up paying the same price as purchasing from the secondary market, consumers' surplus will fall from abcd to abP₁.
- → At the same time, the concert organisers have no accurate information in the first place to set the price of P₁. If the organisers were to increase prices suddenly after selling the tickets priced at P₀, this would affect the consumers' confidence and thus affect the reputation of the organisers as well.
- → If the loyal fans who could not purchase the tickets even at P₁, there is still a possibility of the entry of scalpers who sell tickets above the price of P₁.

Strategy to improve market outcome for consumers via increase in consumer surplus

The concert organisers could also increase the supply of tickets through the use of a larger venue. With a larger event space, and thus more seating capacity, this would increase the supply of tickets from SS₁ to SS₂, thus eliminating the shortage as seen below.



The strategy is effective as it would not benefit the producers at the expense of the consumers. This is because consumers would benefit from an increase in consumers' surplus from abP_1 to acP_0 . Assuming the increase in seating capacity would allow all consumers' who are willing and able to pay to watch the concerts, their utility would increase, thus increasing consumers' welfare as well. Producers will also benefit from increase revenue from $0P_0dQs$ to $0P_0cQd$.

Limitations:

- → However, it's difficult for the concert organisers to derive the exact information regarding the demand of consumers in the first place. Organisers set the selling price of the tickets based on the expectation of consumers' demand, the possibility of unsold tickets, fixed and estimated variable costs. Hence, booking a larger venue would entail higher fixed cost, coupled with the risk of unsold tickets, would also erode their expected profit.
- → Consumers' welfare might not increase as well. With a larger venue, quality of the sound system might be compromised; the visual effect of those consumers who would be seated at further sitting area would be affected as well.

Evaluation:

| Stand | There are pros and cons of the strategies suggested above. To prevent the possibilities of counterfeit tickets, the existing of secondary market that would exploit the consumers via high resell price; the concert organisers could adopt a more direct approach by adding more performance via the provision of an extra concert instead of the existing two concerts after the initial tickets were sold out |
|----------------|---|
| Substantiation | This would reduce the risk of hiring a larger venue which increase the cost of the concert organisers with the possibilities of unsold tickets and increase consumers' welfare by fulfilling the desire of fans to be able to catch the concert, hence increasing their utility. There would also be an increase in consumers' surplus as they would no longer have to purchase a high-priced ticket in the secondary market. |
| | However, most popular concert tours are usually held in various countries and concert dates are planned way in advance, hence it may not be possible to increase the number of runs of the concert as the artiste will have to move on to the next location. This would reduce the possibility of increasing an additional concert after the sold-out tickets. |
| | Concert organiser would better be able to implement strategies to improve their market outcomes as they can learn from earlier runs of the concert. Once tickets are sold out quickly in the first location, they can raise the price of tickets in other locations to better reflect the demand placed on the tickets. |
| Suggestion | In reality, the high resell price in the secondary market would not affect the producers adversely but would affect the consumer's overall welfare, the concert organisers might thus have less incentive to adopt any adverse strategies. |

Mark Scheme:

| Level | Knowledge, Understanding, Application and Analysis | |
|----------------|---|--|
| L3 (8 – 10) | Thorough knowledge of theories using well-drawn supply and demand curves accompanied by a clear analytical explanation of two strategies; one that benefited producers through increased revenue/profits and one that benefited consumers through increased consumer surplus/welfare. Well-developed both sided analysis that include the suggested two strategies and limitations. Application to relevant current situations and context. | |
| L2 (5 – 7) | Able to describe a number of strategies but undeveloped explanation of facts and theory with weak link to demand or supply curve shifts. Good explanation of only one strategy or undeveloped explanation of two strategies. One sided analysis without limitations of the suggested strategies. Lack of explanation to apply theoretical explanation on how the strategies might benefit the economic agents of consumers and/or producers. | |
| L1 | Identify a number of potential strategies without explanation. | |

| (1 – 4) | Provide inappropriate strategies such as providing subsidies by the | |
|---------------|---|--|
| | government etc. | |
| | State a list of relevant factors without elaboration. | |
| | Evaluation | |
| E3 (4 – 5) | Critically evaluates alternatives theories, perspectives and policy choices that include an explanation of the limitations of the identified strategies. Evaluates relevance of unstated assumptions. Synthesizes economic arguments to arrive at well-reasoned judgements and decisions such as a good summative conclusion that explained which strategies were the most likely to be successful in Singapore. | |
| E2 (2 – 3) | Relevant to the dijection but does not explain the juddement or based it on I | |
| E1 | Unsupported evaluative statement(s) or judgements. | |
| (1) | One that lacks explanation. | |

2 Netflix announced price cuts in its subscription plans in some countries as the video streaming giant looks to maintain subscriber growth amid stiff competition and strained consumer spending.

Source: Adapted from www.channelnewsasia.com 24 Feb 2023

| | (a) | Explain two alternative objectives that a firm may pursue other than profit maximisation. [10] |
|--|-----|---|
| | | |
| (b) Discuss whether the use of pricing strategy is the best way for a firm like Netfli | | |
| | | to increase their profits. [15] |

Question Analysis (a)

| Command Word | Explain |
|--------------|-----------------------|
| Content | Alternative Objective |
| Context | Open |

<u>Requirement 1</u>: Explanation of one alternative objective of the firm, e.g. revenue maximization.

<u>Requirement 2</u>: Explanation of a second alternative objective of the firm, e.g. profit satisficing.

Introduction – Outline the other alternative objectives of the firm

A firm may pursue other objectives such as revenue maximization and profit satisficing, besides profit maximization. These objectives would have effects on their price and output decisions.

Requirement 1

A firm seeking to maximize revenue will produce at an output where marginal revenue equals to zero (MR=0). This objective may be taken on by sales managers and commission-based employees whose income is dependent on the total revenue earned by the firm. As such, increasing the revenue of the firm would result in higher personal incomes.

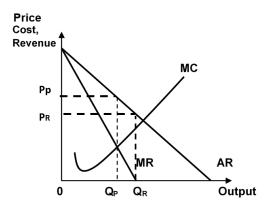


Figure 1: Revenue maximisation

Revenue maximization occurs at Q_R where total revenue is at the maximum, i.e. marginal revenue is equal to zero (MR=0), in Figure 1 above. As such, the firm will produce at Q_R and price at P_R . This is in contrast with profit maximization output level that occurs at Q_R

where MC=MR and price at Pp. Thus, a firm pursuing revenue maximization will produce at a higher output level than a firm pursing profit maximization as well as at a lower price.

Requirement 2

When a firm adopts a profit satisficing objective, it could produce within a range of output levels that achieves a given level of profit deemed acceptable by the shareholders rather than the profit maximising output. This is especially so when there is separation of ownership and management. As information is imperfect, owners may not know what the maximum level of profits could be. Hence managers may aim for a level of profits that is just enough to satisfy the owners rather than maximise profits.

This objective may be adopted in cases where the cost of obtaining sufficient information to make profit-maximising decisions is significantly high, such as in firms that have multiple product offerings or have many plants located in different countries. Avoiding the undue stress or perceived challenges of expansion could be another reason.

[Students may also talk about alternative objectives such as market share dominance]

| Levels | Knowledge, Application/Understanding and Analysis | |
|--------|---|--|
| L3 | Thorough knowledge of the facts and theory with an excellent ability to | |
| (8-10) | describe & explain in a precise, logical and reasoned manner. | |
| | Two requirements of the questions focusing on the alternative | |
| | objectives of a firm. This is done and supported by an appropriate tool | |
| | of analysis. | |
| | Able to apply to the context with appropriate examples. | |
| L2 | Accurate although undeveloped explanation of the two requirements of | |
| (5-7) | the questions- alternative objectives of a firm. | |
| | There should be evidence of an ability to identify facts, some ability in | |
| | applying the appropriate tool of analysis in explanation. | |
| L1 | Answer shows some knowledge but does not indicate that the meaning of | |
| (1-4) | the question has been properly grasped. Basic errors of theory or an | |
| | inadequate development of analysis may be evident. | |
| | Where the answer is mostly irrelevant and only contain a few valid points | |
| | made incidentally in an irrelevant context. | |

Question Analysis (b)

| Command Word | Discuss - Two-sided answer with the need for |
|--------------|--|
| | evaluative statements and judgement |
| Content | Price Strategy – Predatory pricing |
| | Cost Lowering (Economies of Scale) |
| | Non-Price Strategy |
| Context | Video streaming firms |

Requirement 1: An explanation of how firm might engage in pricing strategy to increase profits.

<u>Requirement 2</u>: Candidates should explain an alternative non-price strategy that firms might use to increase profits.

Introduction:

In order to increase the profits, there are various price and non-price strategies a firm like Netflix can adopt such as predatory pricing and research and development (R&D). The type of strategy used may differ in different market structures as the behaviour of firms is affected by the characteristics of the market structure such as the ability to set prices and also the mutual interdependence amongst firms.

Requirement 1 (Price strategy):

Predatory pricing may be a good strategy in the short run for video streaming companies seeking to increase their profits. When a firm engages in predatory pricing, it is selling its products at very low prices or below average variable cost (AVC) with the aim of driving out rival firms from the industry and gain the majority (if not all) of the market share of the video streaming market. For a very large firm like Netflix which produces at a large scale, it is likely that its AVC is significantly lower than smaller scale rivals such as Disney+ and thus is more likely to succeed in driving out smaller competitors to gain market share.

However, a firm will require a large amount of cash reserves to sustain its predatory pricing strategy as the firm will make losses during this time. It may also be unsustainable in the long run as the firm will eventually need to increase prices once its cash reserves are used up which may cause the firm to lose market share to surviving rival firms. In addition, the firm may face unintended consequences of consumers taking advantage of the firm's abnormally low pricing to purchase concurrent subscriptions whilst continuing to subscribe to rival firms' services since the consumption of video streaming services is not mutually exclusive, which may result in no increase in the firm's market share after it reverts to its P=MC pricing.

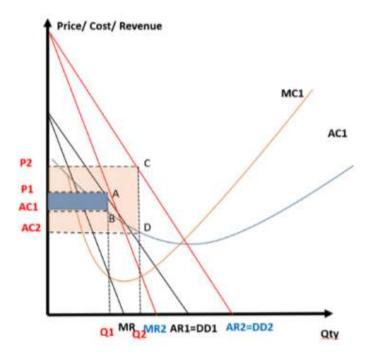
Finally, firms like Netflix are mutually interdependent and face price rigidity. Rival firms may also choose to lower their prices to match and there will be no increase in market share. All firms are likely to suffer losses with no increase in market share. This leads to lower level of profits for all.

[Students may also talk about 3rd degree price discrimination as a possible price strategy]

Requirement 2 (Non-price strategy):

Product innovation may be a better strategy for the firm to differentiate its offerings further from its rivals to gain more market share. By investing in R&D, a firm may be able to differentiate itself further from its rivals and increase the demand for its services. Having a unique selling point, such as Disney+ feature to watch movies remotely with a group of friends, may offer the firm enough product differentiation in the eyes of consumers and consumers may substitute away from rival firms and subscribe to its services instead. The increase in DD will lead to an increase in AR and MR, which will increase P and Q and increase TR, which directly leads to higher levels of profits.

As DD increases, AR & MR curve will shift from AR1, MR1 to AR2, MR2. Assuming ceteris paribus, the profit-maximising output level would increase from Q1 to Q2 as Netflix seeks to produce at the output level where MC=MR. As a result of this, the level of profits would increase from P1ABAC1 to P2CDAC2 as shown in the diagram below.



A firm that innovates in its video streaming services may even entice higher income households in developed economies to subscribe to multiple video streaming services to enjoy the differentiated services provided hence allowing the firm to increase its profits.

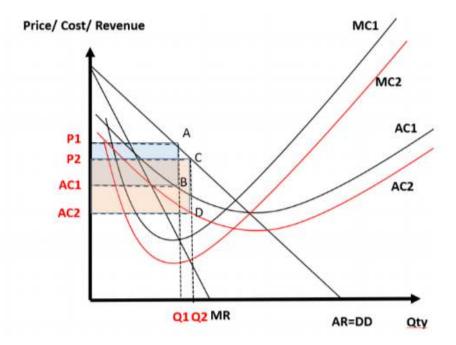
Alternative Requirement 2 (Cost Lowering):

Alternatively, Netflix could consider the use of process innovation where they seek to make use of technology to improve on processes and thus lower cost of production. Netflix can make use of artificial intelligence (A.I) algorithms to gather and analyse vast amounts of user data so that meaningful patterns and preferences from this data can be used to develop detailed customer insights. The use of A.I would help to improve efficiency and productivity as these tasks would have previously been undertaken by human labour. Thus, the use of A.I and automation would help to lower costs, lowering both MC and AC.

As seen in the diagram below, Netflix would originally seek to profit-maximise and produce at OQ1 where MC1=MR. It would price at OP1. As a result of this, the level of profits would be P1ABAC1. With the fall in both MC and AC, MC1 would fall to MC2 while AC1 would fall

to AC2. This would then lead to Netflix to produce at OQ2 instead where MC2=MR and price at OP2. The new level of profits would now be P2CDAC2. Thus, we would see an increase in the level of profits.

However, whether the non-price strategy takes the form of product innovation or process innovation, the outcomes are not guaranteed. Additionally, these are costly and takes time before the effects can be seen.



Conclusion/Evaluation:

| Stand | Whether the use of pricing strategy is the best way for a firm like Netflix to increase its profits would depend on the market structure it is in. |
|----------------|---|
| Substantiation | As seen, if Netflix was operating in an oligopolistic market structure, due to the mutual interdependence, non-price strategy may be a better way for Netflix to increase its profits due to the price rigidity. In addition, to use price strategy to increase profits, Netflix would need to be able to withstand the financial threat as they would have to tap on the vast amount of past accumulated supernormal profits as it would take some time before the competitors are driven out of the market as the fall in prices would likely lead to short-term subnormal profits made. |
| Suggestion | A combination of price and non-price strategies may be necessary for the firm to increase its profits. For countries with higher incomes, it may be better for firms to adopt non-price strategies to entice consumers to adopt multiple video streaming services. As the demand for video streaming services is likely to be price inelastic since video streaming subscriptions is likely to form a small proportion of consumer incomes, product innovation may be a more important factor to capture a larger market share and increase profits. Nevertheless, the success of this strategy ultimately depends on whether Netflix is able to keep up with the |

| changing consumer taste & preferences. For countries with lower |
|---|
| incomes, it may be better to make use of pricing strategy as |
| demand is likely to be price elastic as the subscriptions is likely |
| to form a large proportion of consumer incomes in those markets. |
| Thus, by lowering prices, it would be able to increase its total |
| revenue, assuming ceteris paribus. Lastly, while it seeks to |
| increase its profits, it should also watch its costs tightly and thus |
| process innovation to cut cost is equally important as well. |

| Levels | Knowledge, Application/Understanding and Analysis | |
|--------|---|--|
| L3 | Thorough knowledge of the facts and theory with an excellent ability to | |
| (8-10) | describe & explain in a precise, logical and reasoned manner. | |
| | Two requirements of the questions focusing on whether the use of price | |
| | strategy is the best way for a firm like Netflix to increase its profits. | |
| | This is done and supported by an appropriate tool of analysis. | |
| | Able to apply to the context with appropriate examples. | |
| L2 | Accurate although undeveloped explanation of the two requirements of | |
| (5-7) | the questions- whether the use of price strategy is the best way for a | |
| | firm like Netflix to increase its profits. | |
| | There should be evidence of an ability to identify facts, some ability in | |
| | applying the appropriate tool of analysis in explanation. | |
| L1 | Answer shows some knowledge but does not indicate that the meaning of | |
| (1-4) | the question has been properly grasped. Basic errors of theory or an | |
| | inadequate development of analysis may be evident. | |
| | Where the answer is mostly irrelevant and only contain a few valid points | |
| | made incidentally in an irrelevant context. | |

| E3 | For a well-reasoned judgment on whether the use of government policy to deal with a persistent BOT deficit is detrimental. | 4 - 5 |
|----|--|-------|
| E2 | Some attempts to evaluate the extent to which the use of government policy to deal with a persistent BOT deficit is detrimental. | 2 – 3 |
| E1 | For unsupported evaluative statements or judgments. | 1 |

3 Singapore's national healthcare expenditure is expected to be about S\$22 billion a year. However, this is expected to nearly triple to S\$60 billion in 2030. To slow down the rate of increase in healthcare spending, the Government launched the Healthier SG programme where eligible Singaporeans would be able to receive fully subsidised nationally recommended health screenings and vaccinations.

Source: Adapted from www.channelnewsasia.com 04 Oct 2022

- (a) Explain two sources of market failure in the market for preventive healthcare. [10]
- **(b)** Discuss whether fully subsidising preventive healthcare is the most appropriate way to ensure that the market for preventive healthcare operates efficiently. [15]

Question Analysis (a)

| Command | Explain | |
|---------|---|--|
| Content | Market Failure | |
| | Two Required Elements: | |
| | 1. Explain preventive healthcare generates positive externality in consumption. | |
| | 2. Explain preventive healthcare is under-consumed due to information failure. | |
| Context | Market in Preventive Healthcare | |

Schematic Plan

Introduction:

Briefly explain preventive healthcare leads to market failure due to positive externality in consumption and information failure

Development: Explain Positive Externality in Consumption Explain Information Failure

Conclusion:

Due to both sources of market failure as explained, thus require government intervention

Suggested Answer:

Introduction:

Market failure occurs when the free market fails to bring about an efficient allocation of resources. In this case, preventive healthcare generates both positive externality in consumption and information failure.

Development:

Requirement 1:

Explain Positive Externality in Consumption in the Market for Preventive Healthcare Market fails in the case of preventive healthcare due to positive externalities in consumption.

ivial ket fails in the case of preventive healthcare due to positive externalities in consumption

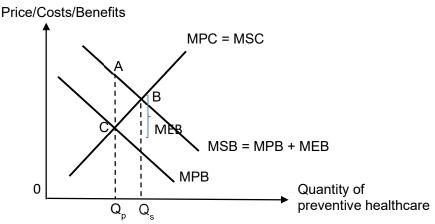
Motivated by self-interest, consumers will consume preventive healthcare services at the market equilibrium where Marginal Private Benefit (MPB) = Marginal Private Cost (MPC) at Qp. An example of MPB is the possible detection of any illnesses thus early intervention to

prevent further complication with each additional unit of preventive healthcare services consume. An example of MPC is the cost of seeking an additional unit of the service. However, the socially optimal output level where society welfare is maximised is where Marginal Social Benefit (MSB) = Marginal Social Cost (MSC) at Qs.

This is because consumption of preventive healthcare services generates positive externalities to the third parties. When individuals consume more preventive healthcare such as going for healthcare screening and flu vaccinations, they will have a lower likelihood of falling sick and able to detect any sign of illness in the early stage. As a result, they are less likely to spread diseases to their family members or co-workers; and with a healthier physique, more able to contribute to the society / increase productivity. Thus, society will benefit not only from the reduction of the spread of diseases thus reduce healthcare cost but also increase productivity leading to economic growth for the economy.

As such, the marginal external benefit (MEB) causes MSB to diverge from MPB as shown in the figure below where MSB is greater than MPB due to MEB, i.e. MSB = MPB + MEB.

Assuming there are no negative externalities in the preventive healthcare market, thus MSC = MPC.



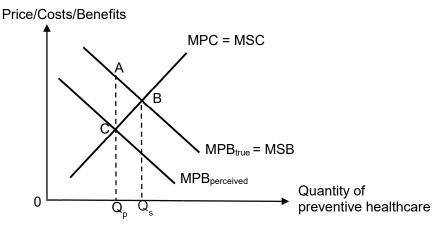
Since Qp is less than Qs, there is underconsumption in the preventive healthcare market. As MSB > MSC this means that society values an additional unit of preventive healthcare service more than the cost of consumption.

This causes a deadweight loss of area ABC where Q_pABQ_s (additional benefit to society from consuming QpQs) is more than Q_pCBQ_s (additional cost to society from consuming QpQs). Hence, the market fails due to allocative inefficiency and more resources should be allocated to the market of preventive healthcare. Thus government intervention is required to achieve a better allocation of resources.

Requirement 2:

Explain Information Failure in the Market for Preventive Healthcare

In addition, preventive healthcare exhibits imperfect information. This is because consumers underestimate the full private benefit of preventive healthcare services such as healthcare screenings. Consumers may not be fully aware that healthcare screenings help to detect any illnesses at an earlier stage thus reduce the likelihood of further health complications in the future. Considering only at their present state of condition instead of the benefit that may only occur in the future, consumer tends to consume at Qp where MPB_{perceived} = MPC instead of the socially optimal output level where societal welfare is maximised at Qs where MSB=MSC. Due to information failure, there is a divergence between MPB_{perceived} and MPB_{true} where MPB_{true} is greater than MPB_{perceived} as shown in the diagram below.



As Qp is less than Qs, there is an underconsumption of QpQs in the market of preventive healthcare. This results in a deadweight loss of area ABC, where QpABQs (additional benefit to society from consuming QpQs) is more than QpCBQs (additional cost to society from consuming QpQs), thereby causing market to fail due to allocative inefficiency.

Conclusion:

Since there is an inefficient allocation of resources due to the under-consumption in the preventive healthcare market hence leading to market failure, government intervention is required to achieve allocative efficiency.

Mark Scheme

| Level | Knowledge, Application, Understanding, Analysis | | |
|-------|---|--|--|
| L3 | Well-explained analysis for both requirements, i.e. positive externalities and information failure related to the market of preventive healthcare with appropriate examples. Diagram(s) are well used to illustrate the concepts clearly. Reasoned (analytic) structure to the answer. | | |
| | The two required elements for this question are: 3. Explanation of positive externalities in consumption. 4. Explanation of information failure. | | |
| L2 | Answers relevant to the question but theory incompletely explained. Well-explained of only one requirement. Undeveloped or underdeveloped explanations of both requirements. Diagram(s) may not be well-used or diagram(s) may not align with the analysis. There may be irrelevant explanations or no / inappropriate examples to illustrate concepts. | | |
| L1 | The meaning of the question may not be properly grasped. Answer may not show understanding of the two requirements. A few valid points. Basic errors of theory. Answer mostly irrelevant or inaccurate. | | |

Question Analysis (b)

| Command | Discuss whether | |
|---------|--|--|
| Content | Market Failure | |
| | Two Requirements: | |
| | Explain how full subsidy works with limitation to tackle positive externality in the market for preventive healthcare. | |
| | 2. Explain one other policy, i.e. public education with limitation to tackle information failure for a balanced answer. | |
| Context | Market for Preventive Healthcare | |

Schematic Plan

Introduction:

Briefly explain full subsidy can address positive externality but in order for the market for preventive healthcare to operate efficiently, government should also introduce public education to tackle information failure.

Development:

Explain How Full Subsidy Works to Reduce Under-Consumption due to Positive Externality

Explain How Public Education Works to Reduce Under-Consumption due to Information Failure

Evaluation:

Evaluative judgement with clear criteria to address whether fully subsidising preventive healthcare is the MOST appropriate way to ensure that the market for preventive healthcare operates efficiently

Suggested Answer:

Introduction:

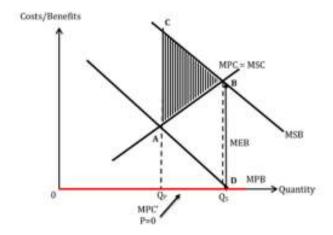
As mentioned in (a), the market for preventive healthcare fails due to both positive externality and information failure. Full subsidy in this case will ensure all Singaporeans would be able to receive preventive healthcare services such as health screenings and to receive the necessary vaccinations to reduce the chances of future chronic illness or reduce the likelihood of further health complications. However in order for the market of preventive healthcare to operate efficiently, government should also introduce public education such as via campaigns to tackle information failure.

Development:

<u>First Requirement: Explain How Full Subsidy Works to Reduce Under-Consumption</u> due to Positive Externality

The Singapore government fully subsidises the nationally recommended health screenings and vaccinations. This means that such services will be provided at price equal to zero. Such free provision is appropriate if the government deemed the external benefit, i.e. MEB as very large.

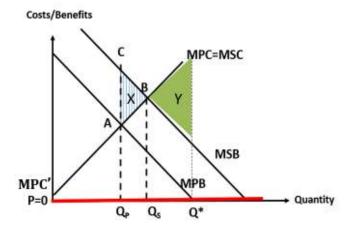
When a full subsidy is given to consumers, the MPC is lowered to MPC' and the new market equilibrium output level will be at Qs, where MPB=MPC' and where P = 0. The new market equilibrium quantity will now coincide with the socially optimal quantity Qs. Hence, deadweight loss is eliminated if the government estimates the correct amount of MEB which is at Qs. This will address the issue of under-consumption, i.e. under-allocation of resources and achieve allocative efficiency.



Limitations:

However, when the government fully subsidises preventive healthcare services, it may lead to overconsumption especially if the MEB is not significant enough as seen from the diagram below.

This is because motivated by self-interest, consumers seek to maximise their utility and will consume up to the point where MPB=MPC'=0. There is now an over-consumption as Q* is greater than the socially optimal output level of consumption of Qs. Hence, the deadweight loss represented by area Y is larger than the original / previous DWL of area X. This shows that government fully subsidising such services gives rise to even greater inefficiency compared to the free market mechanism.



Or

Fully subsidising preventive healthcare services involves a large amount of government funding. This means it will incur large opportunity costs as such funding could be spent on other sectors of the economy such as having a more productive workforce if such budget has been allocated to education instead.

<u>Second Requirement: Explain How Public Education Works to Reduce Under-Consumption due to Information Failure</u>

The government can provide information to correct any information gap as consumers may not be fully aware of the full private benefits of consuming preventive healthcare services.

The Singapore government can use public education and campaigns to help consumers make informed choices. For example, the Government launched the Healthier SG programme

application to raise awareness on the benefits of healthcare screening. This is complemented by the Healthier SG roadshows where the benefits of healthcare screening is shared with participants through an experiential and immersive manner. Assuming the public education and campaign is successful, this will shift MPB_{perceived} to MPB_{true}. Consumers will now consume at the socially optimal output level Qs where MPB_{true}=MPC happens to be at where MSB=MSC. Hence deadweight loss is eliminated, and allocative efficiency is achieved.

Limitations:

Public education is a long-term policy as consumers will need time to change their habits and mind-sets especially the benefits of preventive healthcare may only be visible in the future. It is also difficult to measure the success of such policy thus result may not be evident immediately.

Evaluation:

| Stand | In conclusion, fully subsidising preventive healthcare may not be the most appropriate way to ensure that the market for preventive healthcare operates efficiently. |
|----------------|---|
| Substantiation | This is because full subsidy only targets positive externalities, but preventive healthcare services is also under-consumed due to information failure which is the ignorance of the consumers not fully aware of the full private benefit. |
| Suggestion | Thus to address the different root causes of under-consumption, a combination of policies will be more appropriate as full subsidy provides the affordability of seeking such services and public education can provide more information to the consumers thus they will be more inclined and encourage to go for healthcare screening and vaccinations so that early detection can also reduce future government healthcare expenditure as stated in the preamble that such national expenditure is expected to be nearly triple to S\$60 billion in 2030. This will then ensure the government has sufficient budget to spend on developing other sectors of the economy. |

Students can also evaluate that as full subsidy will require substantial government fundings and it may not be sustainable in the long run. Partial subsidy can be targeted for the lower income household instead. However to better achieve a more efficient allocation of resources in the market of preventive healthcare, government will also need to complement with public education to tackle both sources of market failure.

Mark Scheme

| Level | Knowledge, Application, Understanding, Analysis | Marks |
|-------|---|--------|
| L3 | Well-developed and balanced explanation presented in a precise, logical and reasoned manner (an analytic explanation) pertaining to how full subsidy works and one other policy – public education to address both sources of market failure so as to ensure the market for preventive healthcare operates efficiently. To get a high L3, students should suggest a well and balanced explanation of another policy to tackle information failure. Students that suggest a well-explained and balanced answer of another policy but tackling positive externalities instead of information failure can be awarded low L3. | 8 – 10 |

| | The two required elements for this question are: Explain how full subsidy works with limitation to tackle positive externality in the market for preventive healthcare. Explain one other policy, i.e. public education with limitation to tackle information failure for a balanced answer. | | | |
|----|---|-------|--|--|
| L2 | For an underdeveloped but balanced explanation on how full subsidy works including limitations. Answer that demonstrates some understanding of how full subsidy works and another policy to reduce inefficiency in the market of preventive healthcare. An underdeveloped explanation of how full subsidy and one other policy works to achieve efficiency in the market of preventive healthcare. For an answer that explained how partial subsidy works instead of full subsidy with one other policy. | 5 – 7 | | |
| L1 | For an answer that demonstrates little knowledge of how full subsidy works to ensure the market for preventive healthcare will operate efficiently. For an answer that is descriptive and shows basic knowledge of the | | | |
| | Evaluation | | | |
| E3 | For a well-developed supported judgement based on reasonable argument or evidence with evaluation focus on whether fully subsidising preventive healthcare is the MOST appropriate way to ensure the market for preventive healthcare operates efficiently. | 4 – 5 | | |
| E2 | For an answer that makes some attempt at a judgement. For an under-developed judgement on whether fully subsidising preventive healthcare is the most appropriate way to ensure this market operate efficiently. | 2 – 3 | | |
| E1 | For an unexplained judgement. | 1 | | |

Section B

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

- 4 There has been concern for many years over the large and growing trade imbalances of various countries in the world economy. This has led to calls for "global rebalancing" in which countries with persistent balance of trade deficits, such as the United States, would seek to reduce imports.
 - (a) Explain two possible causes of balance of trade deficit faced by countries. [10]
 - (b) Assess the view that government policies to deal with a persistent balance of trade deficit can be potentially detrimental. [15]

Question Analysis

| Command | Explain |
|---------|---------------------|
| Content | Two possible causes |
| | BOT deficit |
| Context | Open Context |

Schematic Plan

| Balance of Trade Deficit (X <m)< th=""></m)<> | | |
|---|---------------|--|
| Requirement 1 | Requirement 2 | |
| Cause 1 | Cause 2 | |

Suggested Answer

Introduction

A balance of trade deficit occurs when the total international receipts from the export of goods and services for an economy are less than its total international payments for the import of goods and services in a given year.

When there is a deficit in the BOT, the total currency flow into the economy due to export revenue is less than the total currency flowing out of the economy due to import expenditure.

Requirement 1: Appreciation of exchange rate

An appreciation of the exchange rate of a country may be a cause of a balance of trade deficit. In the case of an appreciation of a country's currency, this would lead to the price of exports in terms of foreign currency to rise while the price of imports in terms of domestic currency to fall. Therefore, as a result of the appreciation of the currency, assuming that Marshall-Lerner Condition [PEDx + PEDm >1] holds, this would lead to a fall in export revenue (X) and an increase in import expenditure (M). Assuming that the balance of trade was initially in equilibrium, this would lead to a balance of trade deficit.

OR

Requirement 1: Fall in export competitiveness

A country's goods and services are said to be competitive if their prices are relatively lower and if their quality, after-sales services, rates of innovation etc. are higher relative to substitute products made in other countries.

Consumers in a country with a **higher domestic inflation** relative to its trading partners will find its domestic goods relatively more expensive compared to imported goods. This will cause consumers to switch from domestic goods to imported goods. At the same time, its exports will be relatively more expensive than its trading rivals and hence there will be a fall in quantity demanded for its exports.

For example, when there is higher inflation in Singapore relative to its trading partners, its exports will now be relatively more expensive. The quantity demanded for its exports will fall.

<u>Assuming</u> that the demand for Singapore's exports is price elastic, a rise in export prices will lead to a more than proportionate fall in quantity demanded, resulting in a fall in export revenue (X).

At the same time, imports will be relatively cheaper than domestically produced goods. This will lead to an increase in demand for imports as consumers switch to foreign imports. The larger the cross elasticity of demand for imports with respect to the price of domestic goods, the larger the increase in demand for imports and hence import expenditure.

<u>Assuming</u> balance of trade is in equilibrium initially, a fall in export earnings and a rise in import expenditure will bring about a balance of trade deficit.

Requirement 2: Changes in income levels

In the wake of a global recession – such as the outbreak of the Covid-19 pandemicnational income of trading partners would fall. This would lead to a fall in purchasing power and demand for imports from trading partners. Assuming ceteris paribus, this decreases the export revenue of the domestic country.

Assuming the domestic country's balance of trade is in equilibrium initially, a fall in export earnings will bring about a balance of trade deficit.

Conversely, rising national income due to strong economic performance – such as the rapid economic growth that China enjoyed in the past two decades – would increase Chinese households' purchasing power and consumption expenditure. Demand for imports, and hence import expenditure by China would also rise.

Assuming China's balance of trade is in equilibrium initially, a rise in import expenditure will bring about a balance of trade deficit.

Conclusion

The above are two possible causes of a balance of trade deficit. Should the government deem the balance of trade deficit to be of concern, then they may wish to consider the use of policies to correct the balance of trade deficit.

| Levels | Knowledge, Application/Understanding and Analysis | | |
|--------|---|--|--|
| L3 | Thorough knowledge of the facts and theory with an excellent ability to | | |
| (8-10) | describe & explain in a precise, logical and reasoned manner. | | |
| | Two requirements of the questions focusing on the two possible | | |
| | causes of a balance of trade deficit. This is done and supported by | | |
| | an appropriate tool of analysis. | | |
| | Able to apply to the context with appropriate examples. | | |
| L2 | Accurate although undeveloped explanation of the two requirements | | |
| (5-7) | of the questions- two possible causes of a balance of trade deficit. | | |
| | There should be evidence of an ability to identify facts, some ability in | | |
| | applying the appropriate tool of analysis in explanation. | | |
| L1 | Answer shows some knowledge but does not indicate that the meaning | | |
| (1-4) | of the question has been properly grasped. Basic errors of theory or an | | |
| | inadequate development of analysis may be evident. | | |
| | Where the answer is mostly irrelevant and only contain a few valid | | |
| | points made incidentally in an irrelevant context. | | |

Question Analysis

| Command | Assess |
|---------|---------------------------------------|
| Content | Govt policies to deal with persistent |
| | BOT deficit |
| | Potentially detrimental |
| Context | Open Context |

Schematic Plan

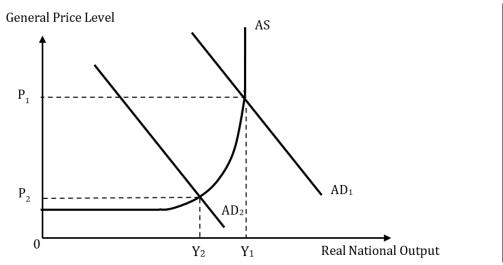
| Govt Policies to deal with persistent BOT deficit | |
|---|---|
| Requirement 1 | Requirement 2 |
| Government policies to deal with a | government policies to deal with a |
| persistent balance of trade deficit can be | persistent balance of trade deficit may |
| potentially detrimental. | NOT be potentially detrimental. |

Suggested Answer

Introduction

A balance of trade deficit can have a contractionary effect on the economy. For example, a balance of trade deficit reduces the level of aggregate demand. The initial fall in AD (due to the decrease in (X-M)) will lead to a fall in output and NY. The fall in output represents a fall in factor incomes as less factors of production are employed. This will cause households to decrease their consumption. This subsequent fall in induced C will lead to further decreases in AD and hence NY, which leads to further rounds of decreases in induced C. Therefore, there is a more than proportionate fall in NY via the reverse multiplier effect. This process stops when the initial decrease in AD (injections) equals the total decrease in savings, taxes and spending on imports (withdrawals).

Assuming the economy is at full employment, the fall in aggregate demand from AD1 to AD2, ceteris paribus, will cause a fall in national output from Y1 to Y2, a fall in general price level from P1 to P2 and an increase in unemployment due to lower output levels as illustrated in figure below. Eventually, the initial fall in net exports will result in a greater decrease in national income through the multiplier process, leading to negative economic growth. The outcome of this is made worse if the economy was experiencing persistent BOT deficit.



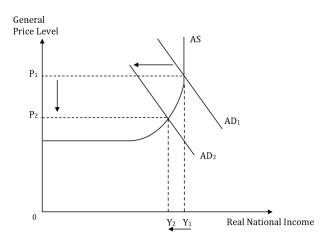
In order to address a persistent BOT deficit, the use of expenditure-reducing as well as expenditure-switching policies can be used to restore the BOT position to a more favourable state. Nevertheless, the use of such policies may bring with it possible detrimental effects which will be discussed in this essay.

Requirement 1: Govt policies to deal with persistent BOT deficit can be potentially detrimental

The use of an expenditure-reducing policy such as a contractionary monetary policy, an increase in interest rate, can be potentially detrimental, despite the ability to reduce the persistent BOT deficit.

Due to the increase in interest rates, this would lead to a rise in cost of borrowing. This would lead to a fall in consumption expenditure as households find it more costly to borrow to buy big-ticketed items. Additionally, the rise in cost of borrowing may lead to a fall in investment expenditure as firms may find that the expected rate of returns is now lower with the increase in cost of borrowing. As such, since both C & I would fall, this would lead to a fall in AD. The fall in AD would lead to a national income. This fall in national income would lead to a fall in purchasing power and lead to a fall in the demand for imports. This fall in demand for imports would lead to a reduction in the import expenditure. Assuming that the BOT of the economy was initially at deficit, this reduction in the import expenditure would help to reduce the BOT deficit, thereby helping to improve the BOT position.

While expenditure-reducing policies such as the contractionary monetary policy can improve the balance of trade position, however, it can be potentially detrimental as the fall in AD (AD1 to AD2) would lead to an increase in demand-deficient unemployment and causes a fall in national income (Y1 to Y2) due to their contractionary effect. Thus, this results in a conflict of macroeconomic objectives.

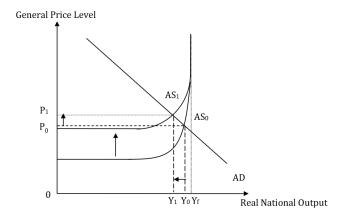


Thus, this policy may not be appropriate if the economy was experiencing a recession as it would worsen the situation.

Government may also utilise expenditure-switching policies such as the use of a depreciation in the exchange rate to deal with a persistent BOT deficit. If a country's currency were to depreciate, this will cause its exports to become cheaper in terms of foreign currency and imports to become more expensive in terms of domestic currency. As a result, foreigners will demand more of the country's exports while domestic economic agents will switch away from imports towards domestically produced goods. Assuming Marshall Lerner condition (PEDx + PEDm >1), this would lead to the balance of trade deficit or the shortfall between the value of exports (PxQx) and the value of imports (PmQm) to be reduced, thereby helping to deal with the BOT deficit.

While the use of expenditure-switching policies such as depreciation would help to improve the balance of trade position, however, it can be detrimental as it risks the case where trade partners may retaliate by implementing the use of protectionist measures or counter-depreciation. This could lead to a fall in the export revenue (X) and would thus lead to the worsening of the BOT deficit. Should the effects of the protectionist measures imposed by trade partner outweigh the benefits of undertaking the depreciation, then this would be detrimental for the economy.

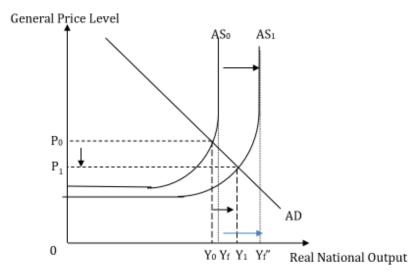
Additionally, if the country undertaking depreciation was a country heavily dependent on imported raw materials, the depreciation of its currency would bring with it threats of cost-push inflation as imported raw materials would now be more costly in terms of domestic currency, pushing up cost of production. As cost of production rises, this would cause a fall in the SRAS (AS0 to AS1). This causes GPL to rise from P0 to P1 and real national income to fall (Y0 to Y1).



Requirement 2: Govt policies to deal with persistent BOT deficit may NOT be potentially detrimental

However, government policies to deal with persistent BOT deficit may not be potentially detrimental. This is so in the case of the use of expenditure switching policy such as supply-side policies. In the case of government supporting research & development (R&D) efforts as well as digitalisation and automation through subsidies, this would have the effect of increase AS (both SRAS & LRAS) if outcomes are successful. With digitalisation & automation, this would help to boost the productivity in economy (amount of output per unit input increases). Assuming productivity rose faster than wage increase, this would lead to lower per unit cost of production. With the lowering of the per unit cost of production, SRAS would increase. The quantity of capital would increase as well with greater use of machines and robots thus leading to an increase in the productive capacity of the economy. LRAS would increase. The increase in both SRAS and LRAS is represented by the rightward shift of the AS curve from AS0 to AS1.

With the increase in AS, this would lead to both actual growth (Y0 to Y1) as well as potential growth (Yf to Yf") and also a fall in GPL from P0 to P1. With actual growth, there would be a fall in demand-deficient unemployment as labour is a derived demand.



The fall in GPL would lead to an improvement in the export price competitiveness. Assuming PEDx >1, a fall in price of exports would lead to a more than proportionate rise in quantity demanded. This would lead to a rise in export revenue.

Additionally, the outcomes arising from R&D in the form of product innovation may lead to an improvement in the quality of domestic produce and thus lead to an increase in demand for exports. This increase in demand for exports would also lead to a rise in export revenue.

Assuming ceteris paribus, the rise in export revenue would lead to an improvement in the BOT position as the deficit would decrease. This would help to address the persistent BOT deficit and yet at the same time achieve macro goals that are compatible in the form of sustained economic growth (actual + potential EG), lower demand-deficient unemployment and low & stable prices.

Nevertheless, the outcomes of supply-side policies are not guaranteed as success from R&D and automation may be subjected to failures. Additionally, the use of digitalisation and automation may take time for the benefits to set in as it may be required to train the workforce to manage the use of the new technology and machines. Additionally, such costs to fund these R&D and automation projects are high and governments may find it difficult to fund the subsidies needed especially in light of pressing needs that the government may be faced with, e.g. competing needs in the health and education sectors. As such, opportunity cost would be incurred when they decide to fund these subsidies for R&D and automation purposes.

Synthesis

| Stand | To conclude, whether government policies to deal with a persistent BOT deficit can be detrimental or not depends on the choice of policies of the government. |
|----------------|--|
| Substantiation | As explained, expenditure-reducing policies generally will be detrimental due to the contractionary effect it brings as it seeks to reduce import expenditure by lowering the level of incomes of households. While that may be so, however, it may not be the case especially if the economy was operating near full employment as the contractionary effect may help to ease inflationary pressures and prevent the rise of AD from being too fast. |
| | On the other hand, when using expenditure-switching policies like depreciation of the exchange rate, whether it is detrimental or not depends on the nature of economy in question. For an economy that is heavily reliant on imported raw materials, it would be detrimental to say the least as while it helps in boosting the export revenue, the economy would be bringing in cost-push inflation as imported raw materials are more expensive now given the depreciation. As such, the government may want to instead consider the use of supply-side policies instead. |
| Suggestion | Ultimately, the government should first consider the root cause of the problem that led to the persistent BOT deficit before the choice of policies. In deciding the choice of policies, the government would want to consider if there are any conflicting macroeconomic goals that may arise as a result of the policy. In cases where it is unavoidable, the |

| to | try | to | mitigate | the | effects | of | the | of policies conflicting |
|----|-----|----|-------------------------|-----|-----------|--------|--------|----------------------------|
| | | | mic goals e addresse | | t eventua | iiy tn | e pers | sistent BOT |

| Levels | Knowledge, Application/Understanding and Analysis | | |
|--------|---|--|--|
| L3 | Thorough knowledge of the facts and theory with an excellent ability to | | |
| (8-10) | describe & explain in a precise, logical and reasoned manner. | | |
| | Two requirements of the questions focusing on whether the use of | | |
| | government policy to deal with a persistent BOT deficit is | | |
| | detrimental. This is done and supported by an appropriate tool of | | |
| | analysis. | | |
| | Able to apply to the context with appropriate examples. | | |
| L2 | Accurate although undeveloped explanation of the two requirements | | |
| (5-7) | of the questions- whether the use of government policy to deal with | | |
| | a persistent BOT deficit is detrimental. | | |
| | There should be evidence of an ability to identify facts, some ability in | | |
| | applying the appropriate tool of analysis in explanation. | | |
| L1 | Answer shows some knowledge but does not indicate that the meaning | | |
| (1-4) | of the question has been properly grasped. Basic errors of theory or an | | |
| | inadequate development of analysis may be evident. | | |
| | Where the answer is mostly irrelevant and only contain a few valid | | |
| | points made incidentally in an irrelevant context. | | |

| E3 | For a well-reasoned judgment on whether the use of government policy to deal with a persistent BOT deficit is detrimental. | 4 - 5 |
|----|--|-------|
| E2 | Some attempts to evaluate the extent to which the use of government policy to deal with a persistent BOT deficit is detrimental. | 2 – 3 |
| E1 | For unsupported evaluative statements or judgments. | 1 |

- As global disruptions to food production and supply chains persist, the Monetary Authority of Singapore's (MAS) surprise move to tighten its policy in October 2022 attests to the seriousness of upward price pressures.
 - (a) Explain the consequences of failing to achieve a low and stable inflation rate for an economy like Singapore. [10]
 - (b) Discuss the extent to which the nature of an economy affects a government's choice of macroeconomic policies in achieving price stability. [15]

| Command Word | Explain |
|--------------|-------------------------------|
| Concepts | Consequence |
| | Low and Stable Inflation Rate |
| Context | Singapore |

Schematic Plan

| ; I | Halic Pian | |
|-----|--|---------------------------------------|
| | Introduction: | |
| | Briefly state the 2 consequences which | you will be explaining in the answer. |
| | | |
| | Requirement #1: | Requirement #2: |
| | 1 consequence on an economic agent | 1 consequence on an economic agent |
| | (consumers, producers, government) | (consumers, producers, government) |
| | or its impact on other macroeconomic | or its impact on other macroeconomic |
| | objectives | objectives |

Introduction:

Low and stable inflation, which leads to price stability, is a macroeconomic goal of an economy. Failing to achieve a low and stable inflation rate in Singapore will have consequences on the various economic agents – consumers, producers and governments.

Requirement #1:

Failing to achieve a low and stable inflation rate in Singapore can have consequences on consumers.

[Use material from the preamble to analyse the impact of cost-push inflation]

In Singapore, with global disruptions to supply chains, there is a fall in supply of raw materials and thus a rise in prices of factors of production. This results in a rise in cost of production and a fall in SRAS. Inflation due to the decrease in AS i.e. **cost-push inflation**, **can lead to lower purchasing power**. This is because when cost-push inflation occurs due to an increase in the cost of factors of production, firms may reduce the production of goods and services in the economy or substitute labour with other cheaper resources such as capital. The fall in AS that results in the fall in production of goods and services and employment of labour will result in a fall in real national income. With a fall in purchasing power, an individual has **less ability to consume goods and services**, thus worsening material standard of living. With greater financial stress, it worsens an average resident's quality of life and thus non-material standard of living.

[Or Explain the impact of failing to achieve a low and stable inflation rate on standard of living]

Generally, if a low and stable inflation rate is not maintained, the Singapore economy might face high inflation. High inflation erodes the value of money and reduces the purchasing power of consumers, assuming that the increase in price levels exceed the increase in income. For consumers who receive no increase in income, high inflation will significantly reduce their ability to consume goods and services. They may be forced to change their lifestyles and might therefore have a lower material standard of living.

- For example, in times of inflation, fixed income earners (i,e, nominal incomes are fixed) such as pensioners and bond holders will find the real value of their incomes eroded by inflation. On the other hand, ceteris paribus, those whose incomes are linked to price movements such as variable income earners like estate agents and producers, will enjoy an increase in their nominal incomes and hence their real incomes can remain relatively stable. Ceteris paribus, fixed income earners will earn lower real income relative to those whose incomes can be index-linked. Hence, inflation redistributes income away from those on fixed incomes to those who can gain wage, rent and profit increases due to inflation. Such a redistributive effect of inflation will worsen income inequality.
- If consumers work longer hours in order to earn higher wages to sustain their lifestyles, their **non-material standard of living** might fall as their leisure hours fall.

Requirement #2:

Failing to achieve a low and stable inflation rate, can also have impacts on other macroeconomic objectives, such as economic growth and balance of trade.

[Impact on Consumption and Investment]

Failing to achieve a low and stable inflation rate, especially when the rate of inflation fluctuates and is hard to anticipate, consumers are less able to plan their purchases as there is greater uncertainty in future prices. If consumers are pessimistic and expect this to persist, consumers may withhold their consumption and cut back on consumption expenditure. Investors are also unable to make sound investment decisions with confidence and certainty. This is because high inflation rates reduce investors' confidence on the return on investment. Moreover, firms may be uncertain about future inflation rates and will have a greater fear that the returns to their investments would be eroded by inflation, further reducing investor confidence. This would then deter them from making investments.

[Impact on Macroeconomic Goals - Actual Economic Growth, Employment]

Therefore, given that high inflation rates can cause a fall in consumption and investment expenditure, AD will fall and the real national income will have a multiplied fall via the multiplier effect. The initial fall in AD (due to the decrease in C/I) will lead to a fall in output and NY. The fall in output represents a fall in factor incomes as less factors of production are employed. This will cause households to decrease their consumption. This subsequent fall in induced C will lead to further decreases in AD and hence NY, which leads to further rounds of decreases in induced C. Therefore, there is a more than proportionate fall in NY via the reverse multiplier effect. This process stops when the initial decrease in AD (injections) equals the total decrease in savings, taxes and spending on imports (withdrawals). The fall in real national income would also lead to a fall in the derived demand for labour giving rise to demand-deficient unemployment.

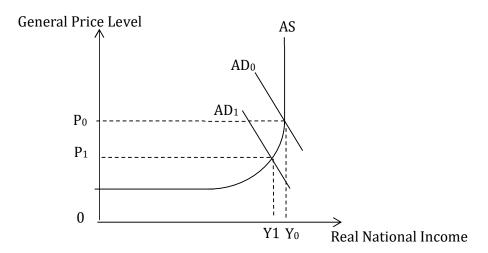


Figure 1: Negative Economic Growth

[Impact on Balance of Trade]

When an economy experiences high levels of inflation, it can be damaging to its export revenue as it causes the country's goods and services to become relatively more expensive than other countries and this may result in its exports becoming less price competitive in the global market. If the **price elasticity of demand for its exports is larger than 1**, there would be a more than proportionate fall in the quantity demanded for its exports. Hence, export revenue may decrease as foreign consumers switch to other relatively cheaper substitutes from other countries. Likewise, in the event of high inflation rates, domestically produced goods and services may be deemed relatively more expensive compared to imported goods and services. Assuming that the **cross elasticity of demand for imports with respect to the price of domestically produced goods is positive** (i.e. they are substitutes), there will be an increase in the demand for imports. This may cause a rise in import expenditure as domestic consumers switch to relatively cheaper imports, resulting in a worsening of the balance of trade, assuming that BOT was initially at equilibrium. This may also cause the external value of a country's currency to depreciate as demand for the currency falls.

Conclusion:

Due to the following consequences on the economic agents and the economy, failing to achieve a low and stable inflation rate would be a concern for an economy like Singapore.

Marking Scheme:

| Levels | Knowledge, Application/Understanding and Analysis |
|--------------|--|
| L3 (8-10) | For an answer that uses accurate economic analysis to explain both requirements. • Accurate and precise explanations of two consequences of inflation, given the time constraints of the examination. |
| L2 (5-7) | Answer is mostly relevant to the questions, but the explanation of the two requirements is either underdeveloped or largely descriptive. |

| L1 (1-4) | Answer shows some knowledge of both requirements but inadequately explains the relevant economic concepts/ contains conceptual errors. Or The answer may be mostly irrelevant or inaccurate. |
|-------------|--|
|-------------|--|

| Command Word | Discuss the extent | | |
|--------------|---|--|--|
| Concepts | Macroeconomic policies to achieve price stability | | |
| | Monetary Policy centered on exchange rates | | |
| | Supply Side Policy | | |
| Context | Open | | |

Schematic Plan

Introduction:

Briefly state the policies which can be considered to address price stability, as well as the two considerations to be explained

| Requirement #1: | Requirement #2: | | |
|-------------------------------------|--|--|--|
| Nature of an economy affects a | Another factor affects a | | |
| government's choice of | government's choice of policy to a | | |
| macroeconomic policies in achieving | large extent. | | |
| price stability to a large extent. | Root cause | | |
| | Extent of unintended | | |
| | consequences | | |

Synthesis/ Evaluative Conclusion:

Clearly state your <u>stand</u> and <u>substantiation</u> to support your overall response (to a large or small extent?) to the answer. Then, recommend a <u>suggestion</u> to be considered to aid countries in policy making to achieve price stability.

Introduction:

Governments can implement various macroeconomic policy tools such as contractionary fiscal policy, contractionary monetary policy centered on interest or exchange rates and supply side policies to achieve the macroeconomic objective of price stability. This depends on the nature of an economy and the root cause of inflation/ conflict of macroeconomic objectives.

Requirement #1:

The nature of economy significantly affects a government's choice of **monetary policies** in achieving price stability.

[Policy adopted by a large and less open economy]

Large and less open economies such as China and United States of America (USA) tend to have a larger population size and hence, domestic markets, compared to smaller economies such as Singapore. The larger domestic market means that **domestic consumption expenditure as a proportion of the country's overall Gross Domestic Product (GDP) is relatively higher** than those of the small and open economies. Therefore, to counter inflation, the governments of the large and less open economies tend to rely more on contractionary monetary policy centered on interest rates to affect consumption spending.

For example, the central bank of USA (Federal Reserve) can implement a contractionary monetary policy by decreasing the money supply in order to raise the interest rate. Internally, an **increase in interest rates would increase the cost of borrowing funds for investment**. Producers will have less incentive to borrow for further investments. Similarly, higher interest rates **increase the cost of borrowing for households** and opportunity cost of consumption. Therefore, households are less inclined to borrow for spending, especially on consumer durables. Thus, higher interest rates will discourage investments (I) and consumption (C), **causing Aggregate Demand (AD) to decrease**. A fall in AD would reduce the increase in general price level in an economy from P2 to P3 from the initial price level of P1, thus helping to **ease demand-pull inflation and achieve price stability**.

[Policy adopted by a small and open economy]

On the contrary, the domestic consumption of the smaller economies tends to be a smaller proportion compared to other components such as **net exports (X-M)**. For small and open economies like Singapore, since they do not have a sufficiently large domestic markets, these economies tend to be more open and reliant on **trade and foreign investments**.

For Singapore, to maintain low and stable inflation rates, the Monetary Authority of Singapore adopts a modest and gradual appreciation of the SGD. After the domestic currency appreciates, the price of exports would be relatively more expensive in terms of foreign currency. This causes the demand for exports to decrease, and the export revenue (measured in domestic currency) will decrease. On the other hand, since the imports is cheaper in terms of the domestic currency, quantity demanded for imports by the domestic country would increase as consumers switch to buy more imported goods and less domestically produced goods, ceteris paribus. Since (X – M) is a component of Aggregate Demand, AD would decrease and the increase in general price level would be reduced as well, achieving price stability.

As a result, the nature of an economy determines the tool used in Monetary Policy to address inflation.

Requirement #2:

[Root Cause of Inflation]

The policies adopted to address the root cause of **cost-push inflation** would differ from policies to address **import price-push inflation**, although both policies would aim to increase SRAS, from AS1 to AS2.

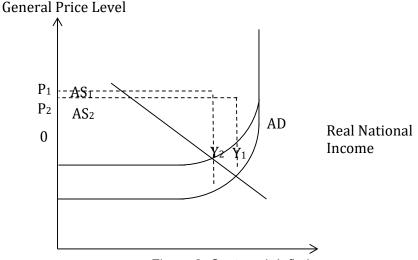


Figure 2: Cost-push Inflation

Wage-cost-push inflation can result when there is an increase in wages without a corresponding increase in labour productivity. This could happen in countries with powerful trade unions with strong bargaining power that push for higher wages independently of the demand for labour. To address the root cause of wage-cost-push inflation, market oriented supply-side policies can also be in the form of reducing the power of trade unions or improving productivity by implementing subsidies for education to increase SRAS. An increase in SRAS can reduce the effects of cost-push inflation for a country and achieving price stability.

On the other hand, an **appreciation of the domestic currency** would better address import price-push inflation. This will cause an **increase in the SRAS** especially if a significant portion

of a country's factors of production are imported. This is because the appreciation of the domestic currency would lead to cheaper imported raw materials and intermediate products in terms of the domestic currency. When this happens, the initial increase in the cost of production of final goods and services will decrease and the fall in SRAS will be mitigated as a result. Due to the increase in SRAS, which dampens the initial decrease in SRAS, general price level is likely to increase by a smaller extent, dampening cost-push inflation and achieving price stability. This is especially important if the country faces a lack of natural resources and is dependent on imports for both factors of productions and consumers goods.

OR Requirement #2:

[Extent of unintended consequences]

When contractionary demand-side policies are adopted to address inflation, it can result in unintended consequences such as the failure of the economy to achieve other macroeconomic objectives. For example, when the economy is operating along the intermediate range of the AS curve near full capacity, the fall in AD would result in an accompanying fall in RNY, as shown in Figure 1 where there was a decrease from Y0 to Y1. The **negative actual growth** due to policies to tackle inflation is thus an unintended consequence. Additionally, as real national income falls, firms produce less and hire less factors of production, including labour. Derived demand for labour falls hence **demand-deficient unemployment** rises. The achievement of price stability at the expense of economic growth and demand-deficient unemployment can have adverse effects on the standard of living of residents in the economy.

Synthesis/ Evaluative Conclusion:

| Oynthicsis/ Evalua | tive Conclusion: |
|--------------------|---|
| Stand | The nature of an economy affects a government's choice of |
| | macroeconomic policies in addressing demand-pull inflation to a |
| | large extent. |
| Substantiation | This is especially so in the determination of whether monetary policy should be centered on interest rates or exchange rates when the government is aiming to address demand-pull inflation. |
| | On the other hand, regardless of the nature of the economy, they will adopt supply-side policies to address cost-push inflation. In their selection of the type of supply-side policies to be implemented, it is identifying and address the root cause of the problem which influences the type of supply-side policy to be adopted. |
| | While it is also important to consider the possible unintended consequences on negative actual economic growth and unemployment as a significant factor for consideration of policy to address inflation. However, in a scenario where the economy is assumed to be operating along the classical range of the AS curve. the consequences arising from the overheating of economy is more of a serious concern compared to the fall in AD to curb inflation and would thus be less of a concern in such a scenario. |
| Suggestion | When considering the factors to be considered in affecting a government's choice of macroeconomic policies, there has to be constant weighing of costs, benefits and constraints in using different policies, as well as the gathering of accurate and relevant information in order to reach an informed decision on the type of policy to be adopted. |

Marking Scheme:

| Marking C | | | | | |
|-----------|--|--|--|--|--|
| Levels | Knowledge, Application/Understanding and Analysis | | | | |
| L3 | Balanced and developed argument that uses accurate economic analysis to | | | | |
| (8-10) | explain both requirements. | | | | |
| | Accurate and precise explanations of two types of considerations and how it will influence the choice of government policy adopted, given the time constraints of the examination. | | | | |
| | Understands the workings of different policies and explains it with ADAS analysis. | | | | |
| L2 | Answer is mostly relevant to the questions, but the explanation of the two | | | | |
| (5-7) | requirements is either underdeveloped or largely descriptive. | | | | |
| L1 | Answer shows some knowledge of both requirements but inadequately explains | | | | |
| (1-4) | the relevant economic concepts/ contains conceptual errors. | | | | |
| , , | Or | | | | |
| | The answer may be mostly irrelevant or inaccurate. | | | | |
| | Evaluation | | | | |
| E3 | Well explained evaluative judgements about both requirements, with a | | | | |
| | summative conclusion. | | | | |
| E2 | Well explained evaluative judgement about either requirement | | | | |
| E1 | For evaluative statements which were not supported by arguments presented | | | | |
| | in the answer or linked to the context of the question. | | | | |

- **6 (a)** Explain possible reasons why an economy's comparative advantage might change over time. [10]
 - (b) Discuss whether, on balance, the use of protectionist policies can ever be justified. [15]

| Command Word | Explain | |
|---------------------|---------------------------|--|
| Concepts | Comparative Advantage | |
| Context | Any economy, change in CA | |

Schematic Plan

| Introduction: - Define CA | |
|--|---|
| Requirement 1: Changes in quality of resources i. How change in technology available changes the opportunity costs of producing the same good/service over time. | Requirement 2: Changes in technology available to the economy i. How change in quality of labour changes the opportunity costs of producing the same good/service over time. |
| Conclusion: Provide a quick summary. | |

INTRODUCTION

- i. Country A is said to have CA in the production of a good over Country B is it incurs a lower opportunity cost of production of that good than Country B.
- ii. Country A can either gain or lose CA if it experiences changes in quality/quantity of factors of production or changes in technology it employs in the production of the good over time.

BODY

Changes in technology employed

- Country A may have developed better technology in the production of a good. This
 may then reduce the opportunity cost of producing this good so much so that it has
 become lower than Country B's opportunity cost. In this case, Country A is said to
 have gained the CA in the production of this good.
 - E.g. The development of the carrot harvesting machine, which required very few labour to operate, in the US has made the production of carrot highly efficient. The opportunity cost of producing a unit of carrot in the US therefore could have dropped to that level (giving up very little output of other crops) below Country B which still relies on manual harvesting. Hence, the US would have gained CA in carrot production compared to Country B.

[Note: Country B should therefore devote the farmland/farmers to the production of another crop (e.g. coffee) which it may enjoy lower opportunity cost than the US.]

Changes in quality of factors of production (e.g. labour)

- The labour in Country A may have experienced a higher level of education over time. Where most labour in Country A used to leave school after attaining primary school education, most of its labour are now degree holders after many years. This means that it is increasingly costly (in terms of output foregone) for Country A to continue to produce low value-added products such as basic garment materials such as cloth.
 - E.g. In the early 1960s, Singapore's manufacturing output included garments, and wigs. These were relatively low-valued added output the opportunity costs of producing such goods were low. If workers were not producing garments and wigs, there was nothing much that they could produce. As Singapore's workforce began to be more highly educated, production of such goods would mean the loss of output such educated workers will need to forego higher valued-added electronics, petrochemicals, etc. When the opportunity cost of producing garments and toys became higher than that in Country B, Singapore lost its CA in the production of garments and wigs.

CONCLUSION

The above are the two common reasons why a country may experience changes in CA over time.

| Level | Knowledge, Application, Understanding, Analysis |
|------------|--|
| L3 8-10 | Thorough knowledge of the facts and theory with an excellent ability to describe & explain in a precise, logical and reasoned manner. Two requirements of the questions focusing on the possible reasons on why a country's comparative advantage might change over time. This is done and supported with an appropriate tool of analysis. Able to apply to the context with appropriate examples. |
| L2 5-7 | Accurate although undeveloped explanation of the two requirements of the questions- the possible reasons on why a country's comparative advantage might change over time. There should be evidence of an ability to identify facts, some ability in applying the appropriate tool of analysis in explanation. |
| L1 1-4 | Answer shows a very basic knowledge of what constitutes CA. Basic errors of theory or an inadequate development of analysis may be evident. Where the answer is mostly irrelevant and only contain a few valid points made incidentally in an irrelevant context. |

| Command Word | Discuss | |
|--------------|------------------------------|--|
| Concepts | Protectionist policies | |
| Context | Justification for protection | |

Schematic Plan

| <u>Introd</u> | <u>lucti</u> | on: |
|---------------|--------------|-----|
| | | |

| - Define protectionism in context of international trade | | | |
|--|---|--|--|
| Requirement 1: Use of protectionist policies may be justified | Requirement 2: Use of protectionist policies may not be justified | | |
| [any one of the following] | [any one of the following] | | |
| i. Infant industry argument ii. Promote economic growth iii. Against unfair trade practice (dumping) | i. Over-reliance on protection (infants refuse to grow up) ii. Cost of production may rise iii. Beggar-thy-neighbour argument | | |

INTRODUCTION

Evaluation

Define what is meant by protection in the context of international trade.

Provide a couple of examples of such protectionist policies (tariff, quota, etc).

BODY

Requirement #1 – Protectionist policies **may be** justified.

Infant industry

- i. Firms in the nascent industry tend to lack the necessary expertise and economies of scale to compete with global players (e.g. DBS in 1970s). However, such firms may have the potential to gain comparative advantage in that industry in time to come. Hence, the government may be keen to protect such infants <u>limiting imports via tariff/quota and thereby allowing infants to gain greater access to domestic market</u>. In so doing, the infant is likely to expand its scale of production (especially after the merger with POSB), <u>reap various EOS</u> as well as necessary operating/marketing expertise to produce and sell its products/services that are competitive with those imported.
- ii. If successful, i.e. the infants grow to become strong competitors in their own right, the firms and industry may even begin to gain comparative advantage and become the next engine of growth for the economy, thereby creating rise in income and jobs for the well-being of its people (DBS now has branches in more than 18 markets including the Philippines, China, Malaysia). The protection granted could then be considered justified as otherwise, such rise in income and employment opportunities may not have been possible.
- iii. If such infant industries are producing goods of strategic importance (food, utilities, defence), then, it is even easier to justify such protection. Over-reliance on imports for such important aspects of an economy risks the malfunctioning of the entire economy when the imports no longer become viable/available during crunch time such as natural disasters, worldwide pandemic (Covid-19), war, etc. With little to no expertise on its

<u>own</u>, a country may quickly find itself unable to provide for itself, causing widespread social and economic distress (loss in employment, real output).

[To accept any other possible reasons such as (i) against dumping; (ii) protect sunsetting industry, etc.]

Requirement #2 – Protectionist policies may not be justified

Infant industry may not 'grow up'

- i. Some infants may refuse or take a long time to 'grow up'. Under the protection given by the government, the infants may enjoy large (domestic) market share and be complacent in its production process such that they remain uncompetitive over a period of time. When threatened to be exposed to international competition, such infants may protest against the government and demand for an extension of protection. Each time such protection gets extended, it means that the economy is suffering from the deadweight loss that comes with the protection. The government may then be caught in a dilemma to risk severe unemployment when withdrawing the protection or to continue to indulge in the infant's refusal to 'grow up'.
- ii. In addition, such protection usually also mean that the price of the goods (final or intermediate) is higher than that sold by international firms. Consumers thus suffer from Iower consumer surplus (lower consumer welfare). Firms using such intermediate goods suffer from higher-than-necessary cost of production, which makes them less competitive in the market for final goods/services. This may Cost the economy in terms of employment of labour and economic growth prospects due to the reduced export price competitiveness by such firms.

EVALUATION

| Stand | Protectionist policies can be justified at times. |
|----------------|--|
| Substantiation | So long as the necessary safeguards are in place – (i) clearly communicated, non-negotiable expiry date of protectionist policies; (ii) appropriate assistance given to affected economic agents such as consumers and producers – the economy may stand to reap long-term net gain of such protection in future. |
| Suggestion | The government could also hasten the process of the growth of infants by providing assistance, financial or otherwise, to minimise the deadweight loss that accompanies such protection. The shorter the amount of time the infant takes to grow up, the less DWL the economy will need to incur. Such subsidies, if given, may be clawed back from the economy should the infant industry gains CA and be profitable in the future and start to contribute back to the government budget in the form of corporate income tax. |

| Level | Knowledge, Application, Understanding, Analysis | |
|---------------|--|--|
| L3 (8-10) | Accurate although undeveloped explanation of the two requirements of the questions- whether the use of protectionist policies can ever be justified. There should be evidence of an ability to identify facts, some ability in applying the appropriate tool of analysis in explanation. | |
| L2 (5-7) | Accurate although undeveloped explanation of the two requirements of the questions- whether the use of protectionist policies can ever be justified. There should be evidence of an ability to identify facts, some ability in applying the appropriate tool of analysis in explanation. | |
| L1 (1-4) | | |
| | | |
| | Stand is provided and justified. Justification is based on sound economic analysis and reveals a thoughtful treatment of issue at hand. | |
| E3 (4 – 5) | E.g. Protectionism is justified but only on certain stringent conditions based on economic arguments after considering perspectives of different economic agents or timeframe. Such could include consideration of circumstances different economies could be facing at the point of implementation of protectionist policies. | |
| E2 (2-3) | Stand is provided and justified. Economic analysis that accompanies such justification could be further developed and sound more convincing. | |
| | E.g. Protectionism is justified based on a <u>narrower range of factors/perspectives</u> being considered. | |
| E1 (1) | Stand is provided but weakly justified. | |