

Anderson Serangoon Junior College 2023 JC2 Preliminary Examination H2 Economics 9570/02 Suggested Answers and Marker's Comments

Section A

1. The cocoa buyers' deal, which sets a minimum price on cocoa beans at US\$2,600 per ton, aims to reduce income gaps between farmers and traders. However, it may affect cocoa beans prices and export revenues. Consequently, chocolate producers specialising in mass-produced chocolate and those focusing on artisanal creations may be prompted to look for cocoa beans substitutes such as carob beans.

- (a) Explain two unintended consequences for the government resulting from the implementation of a minimum price on cocoa. [10]
- (b) Discuss how the implementation of a minimum price on cocoa beans may affect the revenue of chocolate and carob beans producers. [15]

Suggested answer part a)

- R1: Allocative inefficiency [Can consider resources are overallocated to cocoa production]
- R2: Worsening of other macro goals or government budget



| At the same time, due to higher price, producers allocated more resources into the production of cocoa beans. The quantity produced increased from Q ₀ to Q ₂ . This represents an overallocation of resources and under allocation of resources to other sectors with potentially higher economic returns. This misallocation distorts the economy's overall production structure and hinders its ability to maximise societal welfare. To address the surplus, the government may need to intervene by purchasing and storing excess cocoa. This incurs storage costs, which represent an additional opportunity cost. Resources used for storage could have been utilised more productively elsewhere in the economy. Moreover, if the government decides to subsidise farmers to ensure they receive the minimum price, it diverts financial resources that could have been directed toward public services like education, healthcare, or infrastructure. This diversion compromises the potential benefits that could have been achieved by allocating funds to alternative societal needs. R2 : Worsening of Other Macroeconomic Goals - Fall in Real National Income and worsening of trade balance. R2 : Worsening of trade balance. The implementation of minimum price on domestic cocoa is intended to benefit domestic cocoa producers by ensuring they receive a higher income per unit of cocoa. However, this policy can have unintended consequences. Assuming that the price of domestic cocoa is above the world price, it means that it is less price competitive in the global market. Importers may start seeking out cheaper alternatives, such as cocoa from country's total exports, the introduction of a minimum price policy will likely lead to a decrease in the quantity of cocoa exported. This decrease in cocoa exports will, in turn, result in a reduction in the country's net export revenue (X-M), causing decline in AD. When AD decreases, it triggers a multiplier effect, causing successive rounds of decreased in spending and re-spending throughout the economic growth. The | When a minimum price (P ₁) is set above the equilibrium price (P ₀), producers are willing to produce at Q ₂ . However, due to the higher price, consumers are only willing to consume at Q ₁ . The implementation of minimum price will result in surplus (Q ₂ Q ₁) as the quantity supplied (Q ₂) exceeds the quantity demanded(Q ₁), leading to deadweight loss (ACE ₀). Deadweight loss reflects the value of transactions that do not occur due to the minimum price. These are the mutually beneficial transactions that that would have taken place in a free market at the equilibrium price but are now lost because the price is artificially high. | |
|---|---|--|
| To address the surplus, the government may need to intervene by purchasing and storing excess cocoa. This incurs storage costs, which represent an additional opportunity cost. Resources used for storage could have been utilised more productively elsewhere in the economy. Moreover, if the government decides to subsidise farmers to ensure they receive the minimum price, it diverts financial resources that could have been directed toward public services like education, healthcare, or infrastructure. This diversion compromises the potential benefits that could have been achieved by allocating funds to alternative societal needs.R2:Explain the negative impactR2: Worsening of Other Macroeconomic Goals - Fall in Real National Income and worsening of trade balance.R2:Explain the negative impact on macro performanceThe implementation of minimum price on domestic cocoa is intended to benefit domestic cocoa producers by ensuring they receive a higher income per unit of cocca. However, this policy can have unintended consequences. Assuming that the price of domestic cocoa is above the world price, it means that it is less price competitive in the global market. Importers may start seeking out cheaper alternatives, such as cocoa from countries where prices are not artificially elevated by a minimum price policy. Assuming cocoa exports constitute a substantial portion of the country's total exports, the introduction of a minimum price policy will likely lead to a decrease in the quantity of cocca exported. This decrease in cocca exports will, in turn, result in a reduction in the country's net export revenue (X-M), causing a decline in AD. When AD decreases, it triggers a multiplier effect, causing successive rounds of decreased in spending and re-spending throughout the economy, leading to a multiplied fall in the country's rea | At the same time, due to higher price, producers allocated more resources into the production of cocoa beans. The quantity produced increased from Q_0 to Q_2 . This represents an overallocation of resources and under allocation of resources to other sectors with potentially higher economic returns. This misallocation distorts the economy's overall production structure and hinders its ability to maximise societal welfare. | |
| R2: Worsening of Other Macroeconomic Goals - Fall in Real National Income and worsening of trade balance.R2: Explain the implementation of minimum price on domestic cocoa is intended to benefit domestic cocoa producers by ensuring they receive a higher income per unit of cocoa. However, this policy can have unintended consequences. Assuming that the price of domestic cocoa is above the world price, it means that it is less price competitive in the global market. Importers may start seeking out cheaper alternatives, such as cocoa from countries where prices are not artificially elevated by a minimum price policy. Assuming cocoa exports constitute a substantial portion of the country's total exports, the introduction of a minimum price policy will likely lead to a decrease in the quantity of cocoa exported. This decrease in cocoa exports will, in turn, result in a reduction in the country's net export revenue (X-M), causing a decline in AD. When AD decreases, it triggers a multiplier effect, causing successive rounds of decreased in spending and re-spending throughout the economy, leading to a multiplied fall in the country's real national income and fall in economic growth.R2: Explain negative impact onR2: Worsening of budget balance resulting in negative impact on macroeconomic performance.R2: Explain negative impact on | To address the surplus, the government may need to intervene by purchasing and storing excess cocoa. This incurs storage costs, which represent an additional opportunity cost. Resources used for storage could have been utilised more productively elsewhere in the economy. Moreover, if the government decides to subsidise farmers to ensure they receive the minimum price, it diverts financial resources that could have been directed toward public services like education, healthcare, or infrastructure. This diversion compromises the potential benefits that could have been achieved by allocating funds to alternative societal needs. | |
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| R2 : Worsening of budget balance resulting in negative impact on macroeconomic performance. R2 : Explain negative impact on impact on negative impact on negative impact on impact | Income and worsening of trade balance. | R2 : Explain the negative |
| R2 : worsening of budget balance resulting in negative impact on negative macroeconomic performance. | Income and worsening of trade balance. The implementation of minimum price on domestic cocoa is intended to benefit domestic cocoa producers by ensuring they receive a higher income per unit of cocoa. However, this policy can have unintended consequences. Assuming that the price of domestic cocoa is above the world price, it means that it is less price competitive in the global market. Importers may start seeking out cheaper alternatives, such as cocoa from countries where prices are not artificially elevated by a minimum price policy. Assuming cocoa exports constitute a substantial portion of the country's total exports, the introduction of a minimum price policy will likely lead to a decrease in the quantity of cocoa exported. This decrease in cocoa exports will, in turn, result in a reduction in the country's net export revenue (X-M), causing a decline in AD. When AD decreases, it triggers a multiplier effect, causing successive rounds of decreased in spending and re-spending throughout the economy, leading to a multiplied fall in the country's real national income and fall in economic growth. | R2: Explain the negative impact on macro performance |
| The implementation of minimum price for domestic coca results in a surplus govt budget | Income and worsening of trade balance. The implementation of minimum price on domestic cocoa is intended to benefit domestic cocoa producers by ensuring they receive a higher income per unit of cocoa. However, this policy can have unintended consequences. Assuming that the price of domestic cocoa is above the world price, it means that it is less price competitive in the global market. Importers may start seeking out cheaper alternatives, such as cocoa from countries where prices are not artificially elevated by a minimum price policy. Assuming cocoa exports constitute a substantial portion of the country's total exports, the introduction of a minimum price policy will likely lead to a decrease in the quantity of cocoa exported. This decrease in cocoa exports will, in turn, result in a reduction in the country's net export revenue (X-M), causing a decline in AD. When AD decreases, it triggers a multiplier effect, causing successive rounds of decreased in spending and re-spending throughout the economy, leading to a multiplied fall in the country's real national income and fall in economic growth. The fall in export revenue, assuming no change to import expenditure, will also worsen the country's balance of trade. | R2: Explain the negative impact on macro performance |

| producers, the government will intervene by purchasing the excess cocoa Q_1Q_2 from farmers. While this intervention is aimed at stabilising cocoa prices and aiding the agricultural sector, it comes at a cost to the government. The purchase of surplus cocoa will lead to an increase in government expenditure (ABQ ₁ Q ₂). However, if there is no corresponding increase in government revenue, this situation leads to a worsening of the budget balance, resulting in budget deficit. | consequent neg impact on macro performance |
|--|---|
| To address budget deficits, the government might resort to increased borrowing. This, in turn, contributes to the accumulation of fiscal debt, which is the total amount of money the government owes to creditors. Increasing fiscal debt can undermine economic stability as there would be concerns about the government's ability to manage it finance. | |
| Furthermore, the accumulation of fiscal debt often results in a deterioration of the country's credit rating. A lower credit rating can erode investor confidence even further, potentially leading to decreased Aggregate Demand (AD) in the economy. This reduction in AD can trigger a multiplied decrease in rounds of spending and repeated spending throughout the economy, leading to an overall decrease in the country's real national income (NY). | |

| Level | Knowledge, Application/Understanding and Analysis | Mark |
|-------|---|--------|
| L3 | Detailed explanation with use of diagrams of the unintended consequences for the government resulting from the implementation of a minimum price on cocoa. Students are required to explain how the implementation of minimum price will result in allocative inefficiency. Students are required to explain how there is worsening of other macroeconomic goals/budget position. | 8 – 10 |
| L2 | Cursory explanation of the unintended consequences. | 5 – 7 |
| L1 | Shows some knowledge of the unintended consequences. | 1 – 4 |

b) Discuss how the implementation of a minimum price on cocoa beans may affect the revenue of chocolate and carob beans producers. [15]

- R1: Revenue of chocolate producers [PED concept]
- R2: Revenue of carob producers [XED concept]

| implications on the revenue of both chocolate and carob bean producers, as it directly influences the cost of a key ingredient in their products. | |
|---|---|
| it directly influences the cost of a key ingredient in their products. | |
| | |
| R1: Explain how the implementation of a minimum price on cocoa beans can affect the revenue of chocolate producer. | R1 : Explain how an increase in |
| The implementation of a minimum price on cocoa beans will impact the revenue of different types of chocolate producers differently, depending the price elasticity of demand for different types of chocolate. | the price of cocoa will affect chocolate |
| Cocoa beans is a major input in the chocolate production process. Increase in the price of cocoa beans due to the implementation of a minimum price policy will lead to an increase in the cost of production for chocolate producers. With the increase in cost of production, producers will be less willing and able to supply and supply will fall, the supply curve for chocolate will shift from S ₀ to S ₁ . At the original equilibrium price P ₀ , there will be a shortage of chocolate, resulting in upward pressure on its price. | producer TR |
| Given that manufactured chocolate is widely available in grocery stores, many people consider manufactured chocolate as an everyday indulgence. Many people may regard chocolate as a necessity due to its role in providing emotional comfort or satisfaction. Hence, demand for manufactured chocolate is considered as price inelastic. When there is an increase in price, there will be a less than proportionate decrease in quantity demanded. Hence, the increase in total revenue from the increase in prices (P_0 to P_1) is greater than the decrease in total revenue from the less than proportionate decrease in quantity demanded (Q_0 to Q_1). This will bring about an overall increase in total revenue from $0P_0E_0Q_0$ to $0P_1E_1Q_1$. | Impact on TR when PED<1 |





| If these innovative approaches successfully reduce production costs, they can enhance the non-price competitiveness of chocolate products. As a result, the demand for chocolate becomes more price-inelastic. In such a scenario, even if the price of chocolate increases due to the minimum price, the total revenue generated by chocolate producers might still increase. This would occur because the decrease in quantity demanded, though responsive to the price increase, would be proportionally smaller than the price increase itself. | |
|--|--|
| Summative conclusion: In conclusion, the introduction of a minimum price on cocoa beans has a substantial impact on the revenue of chocolate and carb beans producers. To maintain stable revenue, firms must adapt and make strategic decisions to navigate the challenges posed by minimum pricing policies. | |

| | Knowledge, Application, Understanding and Analysis | |
|----|---|--------|
| L3 | A well-developed answer that explains how the implementation of a minimum price on cocoa beans affect the revenue of chocolate and carob beans producers using PED and XED concepts, with consideration of different PED and XED magnitude. | 8 – 10 |
| L2 | An under-developed answer that explains how the implementation of a minimum price on cocoa beans affect the revenue of chocolate and carob beans producers. Limited explanation of PED and XED concepts. | 5 – 7 |
| L1 | May have many and/or serious conceptual errors. May have relevant demand and supply points but fail to link to elasticity concepts. | 1 – 4 |
| | Evaluation | |
| E3 | For an answer that builds on appropriate analysis to evaluate contemporary issues, perspectives, that recognises unstated assumptions and evaluates | 5 |
| | their relevance, and that synthesises economic arguments to arrive at well- reasoned judgements and decisions. | |
| E2 | their relevance, and that synthesises economic arguments to arrive at well- reasoned judgements and decisions. For an answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis. | 3-4 |

2. Globalisation spurs competition, compelling firms like Samsung to diversify and innovate to stay adaptable and grow amidst worldwide market changes.

- (a) Explain one reason why consumers might be better off and one reason why consumers might be worse off when firms are faced with increasing competition. [10]
- (b) Discuss whether diversification is the best strategy for firms when faced with increasing competition. [15]

| Question analysis | | |
|---|--|--------------|
| | | |
| Requirement 1 | Requirement 2 | |
| Consumers are better off in terms | Consumers are worse off due to | |
| of lower prices, more variety and | higher prices, poorer quality/variety | |
| better quality of products | as firms reduce the quality of | |
| 1. Increased competition -> more | goods to reduce cost | |
| choices and variety | 1. Not able to reap internal EOS | |
| Arising from revenue side | \rightarrow nigner AC \rightarrow <u>nigner prices</u> | |
| 1. Smaller market share 7 fall | 2. Less market power 7 lesser | |
| | supernormal profits (and | |
| | folle | |
| Clobalisation creates more compo | tition by opening up markets and | Introduction |
| facilitating the flow of goods serving | ces capital and information across | muouucuon |
| borders. This will cause the incumbent firms to lose their market dominance | | |
| and also cost savings from reduction in scale of operation. The increase in | | |
| competition can directly make the consumers better or worse off in terms of | | |
| prices, quantity and quality/variety of the goods they consume | | |
| | | |
| One reason that consumers might be | better off is that they are able to enjoy | R1: Explain |
| more affordable prices. Assuming that | t firms such as Samsung seek to profit | how |
| maximise. They will then produce a | at profit-maximising output Qo where | increase in |
| MR ₀ =MC ₀ . With increasing competition | on, there will be a fall the demand for | competition |
| Samsung's products as some of the | ne new entrants are able to attract | will make |
| consumers away from Samsung. Sa | msung suffers a loss in market share | consumer |
| and there is a fall in the demand for | its products as shown by the leftward | better off |
| shift of the AR and MR curves. In addit | tion, due to more substitutes available, | |
| the demand for Samsung's products becomes more price elastic. This is | | |
| shown by the gentler AR and MR curves. With the fall in demand, the new | | |
| profit maximising output falls to Q1 an | d the corresponding price falls to P ₁ . | |



| Level | Knowledge, Application/Understanding and Analysis | Mark |
|-------|---|--------|
| L3 | Detailed explanation, with accompanying diagram, that explains how consumers are better off in terms of fall in prices and how consumers are worse off due to changes in prices/quality of goods. | 8 – 10 |
| L2 | Cursory explanation of how consumers are better off in terms of fall in prices and how consumers are worse off due to fall in quality of goods. | 5 – 7 |
| L1 | Shows some knowledge of the impact on consumers. | 1 – 4 |

b) Discuss whether diversification is the best strategy for firms when faced with increasing competition. [15]



manufacturer, produces a wide products. range of includina semiconductors, digital displays and consumer electronics. By vertically integrating certain stages of production, such as producing its own semiconductors, Samsung can have greater control over the cost of key components needed for its production. This will save time and reduce transport and shipment costs since the semi-finished products no longer have to be moved from external firm to the manufacturing plant. As such firms like Samsung can enjoy significant internal economies of scale when they expand their scale of production, lowering their average costs per unit of output. Moreover, as it grows larger by producing a range of products, each individual product such as LCD TV or digital products can be produced more cheaply than it was produced in a single-product firm. Economies of scope is enjoyed when the various overhead costs and financial and organisational economies can be shared among the products. For example, Samsung can benefit from the shared marketing and distributional costs and bulk purchase of the intermediate components. Overall, cost of production will decrease substantially and together with the increased in revenue, domestic firms are able to maintain their supernormal profits in view of increased competition from globalisation. However. the decision-making complexity arising from vertical Explain the diversification can contribute to **diseconomies of scale**. When there is limitations of vertical diversification, coordinating activities across different segments of diversification the supply chain can be challenging. For example, ensuring that the production of components aligns with the manufacturing of finished products and their distribution can be complex. This will result in firms having an increase in average cost, resulting in further decline in supernormal profits. Samsung, like any large and diversified company, faces opportunity costs when choosing to integrate vertically. By committing resources to one area of the business, the company may miss out on other potentially profitable ventures that could have been pursued separately. For instance, if Samsung decides to invest heavily in its semiconductor manufacturing capabilities, it may forego revenue that could be earned in emerging technologies or new product categories. Engaging in **product and process innovation** is another strategy that **R2**: Explain firms can adopt to protect their profits when faced with increasing other competition. Firms can choose to differentiate their products to better cater strategies to the rapid changes in taste and preference. In the case of Samsung, in for example order to stay competitive in view of the highly contestable market, they are Product and able to innovate cutting-edge features into their digital products, with their Process existing supernormal profits. As a result, this product innovation can lead innovation to an increase in demand for Samsung's products resulting in a rightward address the shift in the AR curve from AR₀ to AR₁ improving their revenue. problem of falling Firms can also do process innovation where they optimise their supernormal operational processes to enhance efficiency and eventually reducing the profit due to average cost of production from AC_0 to AC_1 . For example, with the help of competition automation, it can replace manual labor with sophisticated machinery,

| lower every additional cost incurred for producing one more unit of the good, causing MC curve to shift to the right from MC_0 to MC_1 . | |
|---|--|
| Overall, process and product innovation will help to address the problem of falling supernormal profit. | |
| However, while innovation can enhance efficiency and product appeal, it often requires significant upfront investments. Developing new products incurs costs that can strain a firm's resources. These costs contribute to an increase in AC from AC_1 to AC_0 , subsequently increasing MC. | Explain the limitations of innovation |
| Moreover, introducing innovative products does not guarantee immediate success. There might be a lag before customers fully embrace the innovation. During this period, the firm may experience lower demand or even resistance from customers, impacting AR. Overall, it will limit the firm's ability to mitigate the fall in supernormal profit due to competition. | |
| Diversification has been a key strategy for Samsung, offering the potential for increased revenue and risk reduction. However, it is not without challenges and trade-offs, particularly in terms of resource allocation, risk management, and opportunity costs. To succeed, Samsung must strike a careful balance between pursuing diversification and maintaining a focus on core business operations and other strategic priorities. | EV1 : Evaluating diversification as a strategy |
| It is more feasible for monopolistic competitive firms to engage in product innovation to differentiate their products, more than to diversify, due to the lack of market share and low barriers of entry, they might not have the financial and the labour resources to venture into new markets. The success of product innovation is also affected by rival firms' actions. With innovation, it will also attract competitors' attention, leading to a race for imitation or counter-innovation. Rivals might swiftly introduce their own versions, triggering price competition or necessitating further innovation efforts. This intensified competition can negatively impact both AR and MC, as firm lower prices to retain market share. | EV2 : Evaluating innovation as a strategy |
| In conclusion, in an increasingly globalised world where markets are more contested, large firms should consider diversification especially when existing markets no longer offer opportunity for further growth while diversification can allow them to enjoy risk bearing economies of scale by breaking into new markets. Moreover, in view of increasing competition, if the existing market is saturated, firms with large financial resources – they should consider diversification as the opportunity cost is lower. Product differentiation might not be able to gain more substantial revenue when the market is saturated. | Summative EV |
| It is also important to recognise that real-world business decisions are influenced by a multitude of factors. The success of Samsung's diversification strategy and innovation would depend on its ability to navigate and adapt to these complexities. Collaborating with external partners, particularly those with specialised expertise, empowers firms like Samsung to address challenges and mitigate adverse effects arising from the competition due to globalisation. | |

| [Alternative examples of diversification] | |
|--|--|
| Firms can also choose to engage in geographical diversification . This is done by selling its products beyond its own domestic market. Opening up to global markets can provide means for firms like Samsung to expand its markets and spread its risks such as exporting its products, opening up factories abroad in the Asian countries or forming strategic alliances. As barriers to trade and international flow of capital has decreased due to globalisation, it is easier for firms to go multinational to tap on the external demand. Similarly, AR and MR will increase, boasting its revenue . | |
| At the same time, geographical diversification enables Samsung to lower its average costs by capitalising on marketing internal economies of scale. As Samsung operates on a larger scale across various countries, it gains the ability to engage in bulk purchasing such as negotiating favourable terms with suppliers for raw materials, resulting in lower average cost , shifting AC ₀ to AC ₁ . Since the decrease in average cost will also impact MC directly as MC is the additional cost generated from producing one more unit of the output, MC will shift to the right from MC ₀ to MC ₁ . | |
| [Alternative strategies – Pricing strategies] | |
| As Samsung enters new markets, it often faces intense competition from established global and domestic firms. Operating in an oligopolistic context where a handful of prominent firms dominate, Samsung's geographical diversification intensifies its rivalry with tech giants such as Apple and Huawei. In this competitive landscape, firms in oligopoly strategically observe competitors' actions and craft responses, often involving competitive pricing strategies. To expand its market share, Samsung might resort to initiating price wars , marked by substantial price reductions. In this scenario, assuming that demand for Samsung's products is characterised by price inelasticity due to the oligopoly market structure, a price reduction could lead to a less than proportional increase in the quantity demanded by consumers, resulting in a fall in revenue and consequently a fall in supernormal profit for Samsung. | |

| Knowledge, Application, Understanding and Analysis | | |
|--|---|--------|
| L3 | A well-developed answer that explains: R1: Explain how diversification address the problem of falling supernormal profits due to competition. Focus would be how diversification can increase AR and lower AC. [Geographical or horizontal/vertical diversification] R2: Explain how innovation [product and process innovation] or other strategy works to address the problem of falling supernormal profit due to competition. | 8 – 10 |
| L2 | An under-developed explanation of the strategies – lack of use of examples and or missing Limitations of the strategies. | 5 – 7 |

| L1 | Only demonstrates very basic knowledge, may have many and/or serious conceptual errors. | 1 – 4 |
|----|---|-------|
| | Evaluation | |
| E3 | For an answer that builds on appropriate analysis to evaluate contemporary issues, perspectives, that recognises unstated assumptions and evaluates their relevance, and that synthesises economic arguments to arrive at well- reasoned judgements and decisions. | 5 |
| E2 | For an answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis. | 3-4 |
| E1 | For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration. | 1-2 |

- 3. Home ownership in Singapore serves as a multifaceted tool that addresses housing needs, supports social cohesion and contributes to the nation's long-term development and stability. However, in recent years, housing prices have been rising and there are fears that low-and middle-income earners may find it difficult to afford housing.
- (a) Explain why there is inefficiency and inequity in the housing market for Singapore. [10]
- (b) Discuss the alternative policies that are adopted by the Singapore government to address the microeconomic issues in the market for housing. [15]

Suggested answer part a)

- R1: Explain why there is inefficiency in the housing market for Singapore (underconsumption due to +ve externalities)
- R2: Explain why there is inequity in the housing market for Singapore



| destination becomes even more appealing to foreign direct investment, ultimately contributing to economic growth. This causes marginal social benefits to be higher than marginal private benefits and is illustrated by the divergence between MSB and MPB in the diagram. Given that the socially optimal level of consumption is where marginal social cost (MSC) = marginal social benefit (MSB) at Qs. At Qs, it is allocative efficient because at that output, the society produces a combination of goods and services that maximises its welfare . They are producing the right type and right amount of goods and services from society's point of view. However, due to the presence of positive externality, there under- consumption of housing by the amount QeQs. At Qe, MSB is greater than MSC. Society values an additional unit of housing more than what it would cost society to consume it. By summing the excess of MSB over MSC for QeQs, we arrive to a monetary measure of total deadweight loss area ABE. Furthermore, there may be inequitable allocation of resources in the market for housing. Since the free market responds to "dollar votes", those with higher incomes are likely to determine which goods and services will be produced, as resources are allocated in order to satisfy the consumers' effective demand (i.e. both willingness and ability to buy). In this case, resources would inevitably be allocated to the production of housing demanded by consumers with higher income. Housing may thus be priced out of reach of the low- and middle-income earners due to the lack of ability to pay. In other words, housing despite being a necessity, if leave to the free market, it would not be provided to those who do not have effective demand even when they need it. The market forces in this case is allocating resources based on wants rather than needs which will leads to distributive failure. Resources are over-allocated to the rich and under- allocated to the poor, resulting in inequity. | R2 : Explain why there is inequity in the housing market |
|--|---|
| In conclusion, if housing is left solely to market forces, it may be allocated inefficiently with an inequitable distribution of resources. Government intervention is necessary to achieve more desirable outcomes. | Conclusion |

| Level | Knowledge, Application/Understanding and Analysis | Marks |
|-------|--|--------|
| L3 | For a well-developed answer that: | 8 – 10 |
| | provides a clear and developed explanation of positive externalities in the market for housing and how it leads to inefficiency in resource allocation | |
| | provides a clear and developed explanation of equity in the market for housing | |
| L2 | For an under-developed answer that: | 5 – 7 |
| | explain the inefficiency that arises from the housing market | |
| | explains the inequity that arises from the housing market | |
| | contains multiple gaps in conceptual accuracy or rigour. | |
| L1 | For an undeveloped answer that is generally descriptive in nature, has | 1 – 4 |
| | serious misconceptions or with limited reference to any economic | |
| | framework. | |

Suggested answer part b)

- R1: Explain how subsidies that helps to address the inefficiency and inequity in the housing market
- R2: Explain how cooling measures helps to address the inequity in the housing market

| The housing market presents two primary microeconomic challenges, revolving around issues of inefficiency and inequity, as discussed earlier. To address these concerns and promote both efficiency and equity within the housing market, the government has implemented a combination of subsidies and cooling measures. | Introduction |
|--|---|
| Cost/Benefit MPC = MSC MPC with subsidy MSB MPB | R1 : Explain how subsidy address the problem of inefficiency and inequity |
| 0 │ Quantity of housing Q _e Q _s | |
| Housing is often under-consumed due to positive externalities. In Singapore, the government not only provides public housing but also subsidises it. The subsidy is designed to equal the marginal external benefit at the socially optimal level of housing consumption (Qs) As shown in figure above, the MPC curve shifts downwards from MPC to MPC with subsidy. The subsidy will reduce the cost of production as seen in the downward shift of the MPC curve and this will leads to a rise in supply of housing. As a result, the price of housing will fall and the quantity of housing consumed will increase to socially optimum quantity of housing, Qs. Thus, the subsidy corrects the market failure by eliminating the deadweight loss. At the same time, as subsidies also help to lower the price, it would make if more affordable to low and middle income earner. This allows them to have better access which might have previously been beyond their means. Furthermore affordable housing through subsidies can a;sp free up financial resources for other essential needs, such as education, healthcare, and savings. This, in turn, can improve the economic prospects and mobility of individuals and families, further contributing to equity. | |
| However, it may be difficult to provide the right amount of subsidies as there may not be sufficient information to accurately assess the value of the positive externality. If the subsidy provided is too little, the market failure will only be partially corrected while over-subsidising may instead result in greater deadweight loss. For example, if the amount of positive externality is not significant but governments fully subsidise housing such that it is provided free at Qz, it will cause the area of deadweight loss to be larger at B as compared to the original area A as shown above. To reduce | Explain the limitations of subsidy – inefficiency and inequity. |

government failure, more research needs to be conducted to estimate the size of MEB more accurately before the government could calibrate the amount of subsidy to be given out for housing. However, this could mean that it would put a further strain on the government budget and more resources would need to be diverted from other areas, incurring opportunity cost.



approach ensures a more equitable distribution of resources. In recent years, the escalating housing prices in Singapore have prompted R2: Explain the government to introduce a range of cooling measures aimed at both how cooling curbing this upward trend and enhancing housing affordability for its citizens. measures helps to One of the strategies employed has been the reduction of the Loan-to-Value address the (LTV) limit. The LTV limit determines the maximum percentage of a inequity property's appraised value or purchase price that a lender is willing to finance through a mortgage loan. Since housing expenses are mainly financed through mortgage loans, any changes in the LTV limit directly impacts the amount households can borrow for their housing purchases. When the LTV limit is lowered, it translates into households being able to secure a reduced amount of funds for the purchase of housing. This diminished borrowing capacity can prove discouraging for potential homebuyers, particularly those who possess limited savings for down payments. Consequently, it often leads to a fall in demand for housing, as individuals find it increasingly difficult to enter the property market.

| Another approach employed to mitigate excessive demand for housing has been the elevation of both the Additional Buyer's Stamp Duty (ABSD) and the Seller's Stamp Duty (SSD). ABSD is a form of property tax imposed on individuals who own properties in Singapore, encompassing both residential and commercial real estate. Conversely, SSD is a tax levied on properties that are sold within a short holding period. These measures effectively discourage property flipping and short-term speculation, thereby curbing the demand in the housing market. | |
|---|--|
| The reduction in demand subsequently leads to an oversupply of housing units on the market. To clear this excess inventory, sellers often find it necessary to lower housing prices. This reduction in prices makes housing more affordable and accessible to a broader range of potential buyers, addressing the issue of rising prices and improving housing affordability for all.In recent years, housing prices in Singapore have been on the rise, prompting the government to implement various cooling measures to mitigate this trend and make housing more affordable. | |
| While these measures can be effective in the short term, there are underlying concerns. Lowering the Loan-to-Value (LTV) may inadvertently lead to a situation where many people are unable to own a house and are forced to rent instead. Renting a place, in the long run, can become more costly than owning a property because homeownership represents an asset that can appreciate over time. | Explain the limitations of cooling measure |
| As people age, having an owned property can offer a safety net for their financial well-being. For example, homeowners can sell their property or downsize to a smaller one, freeing up funds that can be used to cover healthcare expenses or improve their quality of life. This financial flexibility may not be available to those who are unable to enter the housing market due to high LTV limits. | |
| Additionally, raising SSD and ABSD, although effective in deterring speculators in the short term, may not entirely counteract speculative sentiment, particularly when investors remain optimistic and anticipate continued property value increases. | |
| Therefore, to ensure that housing remains accessible to low and middle- income earners, it is essential to complement demand-reduction measures with supply-side strategies. One effective approach is to release more land for residential property development. This can increase the supply of housing, balance the market, and make homeownership more attainable for a broader range of citizens. | Intermediate EV – make recommenda tion to address limitations |
| In conclusion, supply-side measures play a pivotal role in enhancing both efficiency and equity within the housing market. These measures contribute to increased housing consumption and affordability for individuals across various income groups. However, it's important to acknowledge that expanding housing supply is a time-consuming process. Therefore, short-term demand-side strategies remain essential to ensure continued housing accessibility for all. Singapore's housing journey serves as a testament to the government's ongoing challenge in striking the right balance between efficiency and fairness. Effective policies should be tailored to address diverse needs, ultimately fostering a housing market where homeownership is widespread and equity is upheld. | Conclusion: Summative EV |

| Level | Knowledge, Application/Understanding and Analysis | Marks |
|------------|---|--------|
| L3 | For an answer that shows well-developed analysis on the effectiveness of two policies in addressing the 2 microeconomic issues (efficiency and equity) | 8 – 10 |
| | Relevant, clear and accurate economic analysis, grounded by economic concepts, frameworks and principles Supported by relevant examples, with clear and accurate application to the context of the market for housing | |
| L2 | For an answer that shows an under-developed analysis on the effectiveness of the policies in addressing the 2 microeconomic issues (efficiency and equity) | 5 – 7 |
| | Relevant economic analysis, but lacking clarity and accuracy at times (e.g; diagrams drawn were not linked to analysis and question) Some application to context Limitations of policies are not well explained | |
| L1 | For an answer that shows limited knowledge on policies taken by the government to address the 2 microeconomic issues (efficiency and equity) | 1 – 4 |
| | Mere listing of policies and definitions. Serious conceptual errors Fails to address guestion requirement | |
| Evaluation | | |
| E3 | A well-explained evaluative judgement about both requirements PLUS an overall summative conclusion leading to a well-explained evaluative judgment about what is the likely success of the policies | 5 |
| E2 | A well-explained evaluative judgement about both requirements. | 3-4 |
| | OR | |
| | Well-explained evaluative judgement about one requirement PLUS a learned evaluative statement for the second plus a summative conclusion. | |
| | Well-explained evaluative judgement about one requirement PLUS a learned evaluative statement for the second. | |
| E1 | A learnt evaluative statement for two requirements | 1-2 |
| | OR a well-explained evaluative judgement about one requirement. | |
| | A learnt evaluative statement for one requirement. | |

4. In 2021, Singapore's economy performed well with GDP at 2005 prices growing by 7.6%, the inflation rate was at 2.1 %, and the unemployment rate was at 2.6%. This likely came

about due to Singapore government's efforts to invest heavily in infrastructure and human capital.

Source: www.singstat.gov.sg, accessed August 2023

- (a) Explain how the Singapore government's effort to invest in infrastructure and human capital might help its economy grow. [10]
- (b) Discuss the extent to which these statistics are useful in determining the change in Singapore's standard of living in 2021. [15]

Suggested answer part a)

- R1: Explain how investment in infrastructure and human capital can bring about actual economic growth.
- R2: Explain how investment in infrastructure and human capital can bring about potential economic growth.

| When an economy grows, it signifies an increase in a country's real national income or output. This growth can occur due to two essential factors: an increase in Aggregate Demand (AD), which contributes to actual economic expansion, and an expansion of Long Run Aggregate Supply (LRAS), which contributes to potential growth. Government investments in infrastructure and human capital are pivotal drivers that can promote both actual and potential economic growth. | Introduction |
|--|--|
| Assume that the economy is operating way below the full employment level and it experiences an increase in autonomous government investment of \$100m for the infrastructure and human capital. This will cause the income of the first group of recipients affected by this investment to rise by \$100m. This first group of recipients can include the workers and the suppliers of raw materials for the large-scale infrastructure project. As this first group of recipients experiences an increase in income of \$100m, they will increase their consumption. Assuming that the Marginal Propensity to Consume (MPC) is 0.5, this group of people will increase their consumption by \$50m and the rest is withdrawn as spending on imports | R1: Explain how govt's investment in infrastructure and human capital brings about actual growth |
| savings and payment of taxes. This will lead to an increase in income for the second group of recipients, mainly the retailers, by \$50m. This group of retailers (and also their workers) will also increase their consumption by 0.5X\$50m=\$25m which increases the income of the third group of recipients. The third group of recipients would increase their consumption by 0.5X\$25m = \$12.5m and this leads to an increase in income for the fourth group of recipients and so on. This process will go on until eventually the original increase in injection of spending leads to an equal increase in withdrawals and the multiplier process stops. | |
| The increase in AD due to the increase in autonomous government investment on infrastructure and human capital is shown by the rightward shift of the AD curve from AD_0 in Figure 1. Due to the multiplier effect as shown from the rightward shift from AD_0 to AD_{01} and AD_{02} and eventually to AD_1 the original increase in autonomous government expenditure will result in a multiplied increase in the national income from Y_0 to Y_1 , which is equal to the product of the multiplier size and the original increase in government | |



| Level | Knowledge, Application/Understanding and Analysis | Marks |
|-------|--|--------|
| L3 | For an answer that shows a well-developed and well-balanced analysis (including use of diagram) to illustrate How investment in infrastructure and human capital brings about | 8 – 10 |
| | actual growth How investment in infrastructure and human capital brings about potential growth | |
| L2 | Answer lacks depth of analysis (weak use of ADAS analysis, multiplier process not well developed). OR, answer lacks breadth either actual/potential growth explained | 5 – 7 |
| L1 | Answer is irrelevant to the question. OR Answer is descriptive or a mere listing of points, and/or contains major conceptual errors. | 1 – 4 |

- R1: Explain how real GDP growth rate is useful in determining change in standard of living in Singapore in 2021 and its limitations.
- R2: Explain how inflation and unemployment rate is useful in determining change in standard of living in Singapore in 2021 and its limitations.

| The standard of living encompasses both material and non-material well- being, with material well-being measured by goods and services consumed, and non-material well-being by factors like leisure time and pollution levels. Economic indicators like GDP growth, inflation, and unemployment rates can help gauge a country's economic performance and its impact on the standard of living. | Introduction |
|--|---|
| National income serves as a common gauge for determining country's standard of living, primarily based on the quantities of goods and services consumed, with real GDP figures serving as an indicator. For instance, a 7.6% growth in GDP at 2005 prices signifies a 7.6% increase in the value of real output after accounting for inflation. As real incomes rise, it often translates to improved well-being, driven by the increased availability of goods and services, thereby enhancing the material standard of living for the population. | R1: Explain how GDP at 2005 prices growth rate is useful |
| Nevertheless, real GDP growth may not accurately reflect changes in the material standard of living. A 7.6% increase in real GDP doesn't necessarily equate to a 7.6% increase in the average person's access to goods and services since it doesn't account for population changes. If the population growth rate surpasses the rate of real GDP growth, individuals may have access to fewer goods and services, resulting in a decline in the material standard of living. | |
| To provide a more meaningful measure of living standards, we should consider real GDP growth per capita. For example in 2021, Singapore experienced a population decrease of -4.1%, which was lower than the 4.9% growth in real GDP. This implies that real GDP per capita increased by 9%, indicating an improvement in individual access to goods and services. | Intermediate EV: suggest more useful statistics (GDP per capita growth rate) |
| Moreover, real GDP growth alone fails to account for changes in the quality of goods and services or the non-material aspects of the standard of living. Even if quantitative output improves over time, the overall quality of life may deteriorate due to factors like a faster pace of life, urban congestion, and environmental degradation. For example, with the increased output may have come at the expense of longer working hours. This reduces the rest and leisure time available and thus lower one quality of life. Nonmaterial standard of living is negatively affected as such. | |
| To gain a more comprehensive understanding of the standard of living (SOL), it's essential to supplement real GDP per capita growth with demographic indicators like infant mortality rate and life expectancy, as well as social indicators such as literacy rate and crime rate. One approach to achieving this is using the Physical Quality of Life index (PQLI). | Intermediate EV: suggest other useful statistics (PQLI) |

25

(b)

| Inflation is another factor that is useful in determining changes in the material standard of living. The inflation rate reflects shifts in the general price level and is calculated based on the percentage change in the consumer price index. In the case of Singapore, with an inflation rate of 2.1%, it indicates that, on average, prices increased by 2.1% in 2021. Consequently, the cost of living in Singapore rose. Assuming no change in income, an average citizen would now be able to afford fewer goods and services, potentially leading to a lower material standard of living in the country. | R2 : Explain how inflation and unemployment rate are useful. |
|--|--|
| However, in the same year, real GDP growth stands at 7.6%. This positive real GDP growth suggests that income has increased at a faster rate than prices, indicating an improvement in the material standard of living. This underscores that the inflation rate has limitations in assessing changes in standard of living because it doesn't account for income changes. In contrast, the real GDP growth rate provides a more comprehensive picture as it considers both income and price changes. | Intermediate EV : real GDP growth a better indicator than inflation |
| Unemployment is another factor that can be used to determine changes in material standard of living. Unemployment occurs when individuals who are willing, able to work, and actively seeking employment cannot find jobs. Consequently, the absence of employment opportunities directly affects individuals' capacity to earn income, which in turn impacts their ability to access and enjoy goods and services. A lower unemployment rate, when compared to the previous year, serves as a clear indicator of an improved material standard of living. Furthermore low unemployment is also associated with reduced crime rates. When more people have access to stable employment, they are less likely to engage in criminal activities driven by economic desperation. Safer communities contribute to a higher non-material standard of living by fostering a sense of security and trust among residents. | |
| However, unemployment rates only measure the number of people without jobs but do not consider the quality of those jobs. People may be employed but in low-paying or part-time positions that do not provide a high material standard of living. Real GDP accounts for the income generated by all jobs, including their quality, giving a more accurate reflection of material standard of living. | Intermediate EV : real GDP growth a better indicator than unemployment |
| In conclusion, statistics such as GDP growth, inflation rate, and unemployment are useful in determining changes in material SOL to a certain extent. However, to fully assess standard of living, one must also consider the non-material aspects of SOL, such as environmental factors and quality of life. Hence a more holistic indicator for measuring SOL such as Human Development Index (HDI) could be used, as it provides a composite measure of three key dimensions of human development: living a long and healthy life (measured by life expectancy), access to education (measured by adult literacy and gross enrollment in education), and the ability to maintain a decent standard of living (measured by purchasing power parity, PPP, income). | Summative EV |
| Additionally, issues regarding the accuracy and reliability of data can hinder a fair assessment of SOL changes. In many countries, obtaining complete and precise information for these calculations can be challenging. Nonetheless, in the case of Singapore, a developed country | |

with a high level of statistical sophistication and data availability, a more accurate assessment of changes in material standard of living becomes feasible.

| Level | Knowledge, Application/Understanding and Analysis | Marks |
|-------|---|--------|
| L3 | For an answer that shows well-developed analysis on the usefulness of the given statistics in determining standard of living | 8 – 10 |
| | Statistics is well explained and there is clear link make to either material or non-material standard of living. Limitations of statistics is well developed and specific to statistics discussed. | |
| L2 | For an answer that shows an under-developed analysis on the usefulness of the given statistics in determining standard of living | 5 – 7 |
| | Relevant economic analysis, but lacking clarity and accuracy at times (e.g; concept of real / per capita / gini coefficient not well explained) Limitations generic and not specific to given statistics | |
| L1 | For an answer that shows limited knowledge on the usefulness of the given statistics in determining standard of living | 1 – 4 |
| | Mere listing of the useful of the statistics and definitions. Serious conceptual errors | |
| | Fails to address question requirement Evaluation | |
| | Evaluation | |
| E3 | A well-explained evaluative judgement about both requirements PLUS an overall summative conclusion leading to a well-explained evaluative judgment about the usefulness of the statistics given. | 5 |
| E2 | A well-explained evaluative judgement about both requirements. | 3-4 |
| | OR | |
| | Well-explained evaluative judgement about one requirement PLUS a learned evaluative statement for the second plus a summative conclusion. | |
| | Well-explained evaluative judgement about one requirement PLUS a learned evaluative statement for the second. | |
| E1 | A learnt evaluative statement for two requirements | 1-2 |
| | OR a well-explained evaluative judgement about one requirement. | |
| | A learnt evaluative statement for one requirement. | |

- **5.** Fiscal sustainability is the ability of a government to maintain public finances at a credible and serviceable position over the long term. Many countries are increasing indirect taxes such as Goods and Services Tax (GST) to offset cuts in direct taxation to maintain fiscal sustainability.
 - (a) Explain two reasons why governments want to maintain fiscal sustainability over the long term. [10]
 - (b) Discuss the possible impact of a reduction in direct taxes and an increase in indirect taxes on the Singapore economy. [15]

Part (a)

| Requirement 1: | Requirement 2: |
|-------------------------------------|--|
| To achieve sustained economy growth | To maintain high level of standard of living |

| and diverted away from productive investments. Many countries continue to face rising public debt-to-GDP ratios since the financial and economic crisis. For example, in 2022, the US's general government debt as a percentage of GDP was 144% and in Japan, it was 255% of her GDP. The costs associated with addressing the current economic slowdown, as well as projected increases in ageing-related spending, present serious challenges for the sustainability of public finances. | |
|--|---|
| In today's globalised world, fiscal sustainability is increasingly more critical as it enables a reasonable pool of government resources (save for rainy days) so that countries can use to navigate the negative impact of possible external shocks in the future. For example, strong government reserves due to Singapore's prudent fiscal policy has allows Singapore to engage in expansionary fiscal policy effectively- minimising the time lag in the implementation of the policy. The increase in government expenditure (G) brings about an increase in Aggregate Demand (AD) from AD ₀ to AD ₁ . | 0 |
| When AD increases, the increase in production will lead to a rise in factor payment to workers and increase in household income. This increase in income causes a rise in induced consumption on domestically produced goods and services. There will be rounds of spending and re-spending but also increase in savings, payment of taxes and expenditure on imports. This is the multiplier process whereby the increase in AD causes a multiplied increase in real national income/output from Y_0 to Y_1 . As such, when government ensures that there is fiscal sustainability, it gives the government the ability to implement expansionary policies to help the economy ride out of recession. The large increase in G also helps to compensate the small size of her multiplier enabled her to achieve the desired increase in real national income during the global financial crisis as well as during the recent covid | |

country that came out of the recession in 2009 and was able to swiftly achieve positive economic growth post pandemic. Also, government aims to have fiscal sustainability because with a healthy fiscal position and consistent budget surpluses, credit rating will also improve, leading to higher investor confidence.

Economies with the highest credit rating at S&P Global Ratings, Fitch and Moody's Investors Service include Germany, Denmark, Netherlands, Sweden, Norway, Switzerland, Luxembourg, Singapore and Australia as maintaining large general government surpluses is one of the main considerations for credit ratings. With better business climate and outlook, this will attract inflow of MNCs into the country. This increase in FDI might lead to an increase in investment expenditure (I) and the subsequent rise in AD will result in actual growth. Due to the transfer of skills and technology from the FDI, there will be an improvement in the efficiency due to higher performing workers and capital equipment. This will increase the productive capacity bringing about an increase in LRAS leading to higher potential growth.



Fiscal sustainability is crucial for countries with an aging population, particularly when considering the standard of living. As the population ages, there is an increased demand for healthcare, social security, and other support services. Ageing-related public spending in many countries facing an ageing population such as Japan, Singapore and China is expected to increase. With fiscal sustainability, countries can meet these growing needs by providing for the necessary healthcare facilities, maintaining the standard of living for older adults. Adequate funding ensures access to quality healthcare, affordable housing, and robust social programs, which are essential for maintaining a high material standard of living. Moreover, fiscal sustainability enables countries to invest in infrastructure, education, and economic development, creating opportunities for older adults to stay active, engaged, and financially secure. There will also be less social unrest, older people can maintain high self-esteem and enjoy high life expectancy leading to higher non-material standard of living.

In conclusion, sound strategic forecasting that consider demographic changes and possible external shocks requires governments to maintain fiscal sustainability over a long term to maintain sustained growth and high standard of living.

R2: To maintain high standard of living

| Level | Knowledge, Application/Understanding and Analysis | Mark |
|-------|--|--------|
| L3 | Detailed explanation of two reasons why governments want to maintain fiscal sustainability over the long term with links to economic objectives. | 8 – 10 |
| L2 | Cursory explanation of two reasons why governments want to maintain fiscal sustainability over the long term with links to economic objectives. OR Well-developed analytical explanation of one reason why governments want to maintain fiscal sustainability over the long term with links to economic objectives. | 5 – 7 |
| L1 | Shows relevant knowledge of why governments want to maintain fiscal sustainability over the long term. | 1 – 4 |

| Question analysis | | | |
|--|--|---|--|
| [Key words] Possible impact on economy means both positive and negative impact; end point | | | |
| will be on the key macro objectives. | | | |
| [Context] Singapore economy | | | |
| Requirement 1 | Requirement 2 | | |
| The impact of a reduction in direct tax rates | The impact of a rise in indirect | t tax rates on | |
| on the Singapore economy | the Singapore economy | | |
| Taxes can be either direct or indirect. A direct profits and wealth - is one that the taxpayer pa These taxes cannot be shifted to any other per such as GST is a value-added tax (VAT) levier sold for domestic consumption. The GST is remitted to the government by the firms selling | Introduction | | |
| A fall in direct tax rate such as a fall in income ta in disposable income and hence higher purcha consumption expenditure. Also, a fall in corpora after-tax profits, creating more incentive for firm to Singapore will also increase long term capit financial and capital account. | ax rates will lead to an increase asing power, leading to higher ate tax rates will lead to higher is to invest. Inward investment al flow and would improve the | R1 : Explain the impact of a reduction in direct tax rates on SG's macro performance | |
| The increase in consumption and investment e in AD as shown by the rightward shift of the A There will be unplanned stock depletion and the This will lead to increase in income and factor increase in induced consumption on domes services. There will be rounds of spending and in savings, payment of taxes and expenditure of process whereby the increase in AD causes national income. The multiplier effect is shown AD_0 to AD_1 and eventually to AD_2 . The increase actual growth of the country. | | | |
| However, the extent of the impact on real national the size of multiplier is small. This is because Si of imports is large as Singapore is a small eccessuch, she is highly reliant on imported rapropensity to save is high in Singapore due to here fore, there is large leakages out of the cirr a small multiplier effect. | Intermediate EV | | |
| General Price Level | S LRAS AD2 AD1 AD0 Y1 Real National | | |

| Apart from actual growth, investment in technology also improves quality and quantity in capital goods, facilitating business transactions. This would mean improved productivity and would increase the productive capacity of the country shifting the LRAS to the right, increasing potential growth. | |
|--|--|
| Also, at the existing general price level, there is an unplanned depletion of stocks, as such, firms will employ more factors of production to produce more goods and services, as labour is a derived demand, there is an increase in the demand for labour, leading to a fall in demand deficient unemployment. | |
| However, there could be negative impact on the Singapore economy due to the reduction in direct taxes. As Singapore is a small economy that lacks resources, she faced a tight labour market and is likely to be producing near or at the full employment level. In the short run, the fall in direct tax might lead to an increase in AD might lead to demand pull inflation. | Negative impact |
| As the Singapore economy is operating near full employment, resources are becoming increasingly scarce. With a further increase in Aggregate Demand such as from AD_0 to AD_1 , the resultant shortage causes firms to turn to using inefficient resources to increase production. Thus the cost of producing each additional unit of output rises. Higher prices must hence be offered in order to induce the producers to increase production. Prices will rise until new equilibrium is reached at P ₁ where AD=AS once again. Thus, the general price level rises from $0P_0$ to $0P_1$. | |
| When full employment (Y_f) is reached, and there are no idle resources, any further increase in aggregate demand e.g. from AD ₁ to AD ₂ will only cause a significant rise in the general price level (i.e. high inflation) from P ₁ to P ₂ , without any corresponding increase in the real national output where Y1=YF. The economy would be overheating. | |
| General Price Level AS P_1 P_0 P_0 AD_2 AD_1 AD_1 AD_1 AD_1 AD_1 AD_1 AD_1 AD_1 AD_2 AD_1 AD_2 AD_1 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_1 AD_2 AD_2 AD_1 AD_2 AD_2 AD_2 AD_2 AD_2 AD_1 AD_2 | |
| On the other hand, an increase in the indirect tax such as the GST will increase the cost of production of goods and services, firms from many industries are less willing and able to supply goods and services and will cut back on production. Furthermore, the increase in price of intermediate goods, which are used for the production of final goods and services will further | R2 : Explain the impact of an increase indirect tax rates on SG's |

increase the cost of production. Thus short un aggregate supply (SRAS) will macro econ fall and this is illustrated in the figure below where there is a leftward shift of performance the SRAS curve from $SRAS_0$ to $SRAS_1$ as firms reduce production due to rising costs of production. The resultant shortage of goods and services leads to tax push inflation shown by an increase in the general price level from P_0 to P₁ General Price Level LRAS SRAS SRAS₀ P₁ \leftarrow P_0 AD 0 Y₁ Y٥ Real GDP Yf The fall in SRAS will also lead to a fall in real national income as shown by the decrease in the real GDP from Y_0 to Y_1 as firms will be cutting down on production given higher costs. The increase in indirect tax rates on raw materials will also mean that there is an increase the cost of production, this will lead to a fall in supply of the exports, making exports less price competitive. Since there are many close substitutes for Singapore exports, we assume that PEDx >1, an increase in price of the exports will lead to a more than proportionate fall in the quantity demanded of Singapore's exports, leading to a fall in total revenue of exports. Keeping import expenditure constant, there will be a fall in net exports which will worsen our balance of trade and current account respectively. In conclusion, for Singapore to maintain her ranking in global competitiveness Evaluation index, direct taxes need to be competitive to attract investment and foreign talent especially for a small and open economy such as Singapore that lack resources and allows freer mobility of labour and capital. Although the increase in GST might be regressive, the increase in real national income due to the fall in direct taxes helps to generate more tax revenue which will in turn distributed to the poor. Also, the investment also brings about more spare capacity which will in turn alleviate inflation, minimizing the issue of inflation caused by indirect tax. Also, Singapore's exports focus more on non-price rather than price competitiveness. Overall, the impact of both a fall in direct taxes and an increase in indirect Weigh taxes on balance of payment is indeterminate. On one hand, the relatively lower corporate tax rates will create more incentive for foreign firms to invest in Singapore improving her financial and capital account, on the other hand, the investment income will be repatriated back to the home country and therefore, leading to a worsening of Singapore's current account in the future. Although, Singapore's export might lose her export price competitiveness due

to the increase in the indirect tax, however, GST in Singapore as compared to the indirect taxes of her trading partners are still relatively low, as such, Singapore's export might not be adversely affected.

Upon evaluation, the combined impact of this reduction in direct taxes to a gradual increment in the indirect taxes has more benefits than costs to the Singapore economy as it will enable Singapore to maintain her fiscal sustainability. The broadening of the tax base by increasing Indirect taxes, such as goods and services tax (GST). GST from 7% to 9%. GST are typically applied to a wider range of goods and services which helps to capture a larger portion of the population. This broadens the tax base, reducing reliance on a smaller group of taxpayers and distributing the tax burden more equitably. At the same time, the stability of tax revenue is ensured. Indirect taxes tend to be more stable and predictable compared to direct taxes, which can fluctuate based on income levels and economic conditions. By relying more on indirect taxes, she can have a more consistent revenue stream, ensuring stability of funding for public services and reducing budgetary volatility.

Marking Scheme

| L3 | To enter L3, well developed analysis of the possible impact of a reduction in direct taxes and an increase in indirect taxes on the Singapore economy. | 8-10 |
|----|---|------|
| L2 | Cursory - undeveloped explanation of the possible impact of a reduction in direct taxes and an increase in indirect taxes on the Singapore economy. Undeveloped explanation of the possible impact of a reduction in direct taxes or an increase in indirect taxes on the Singapore economy. | 5-7 |
| L1 | The answer shows some knowledge of the possible impact of a reduction in direct taxes and an increase in indirect taxes on the Singapore economy. Where the answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. | 1–4 |

Evaluation marks are always out of 5:

| E3 | Well-argued evaluative judgements should be made about of the possible impact of a reduction in direct taxes and an increase in indirect taxes on the Singapore economy with a summative judgement about the overall impact | 5 | |
|----|--|-----|--|
| | Singapore economy with a summative judgement about the overall impact. | | |
| E2 | For an answer that makes some attempt at evaluation or a conclusion that | 3–4 | |
| | answers the question but does not explain the judgement or base it on | | |
| | analysis. | | |
| E1 | For an answer that gives superficial evaluative statement(s) without | 1 | |
| | supporting analysis and elaboration. | | |

6. From 2009 to 2021, the United States implemented the highest number of trade policy measures deemed as harmful to global trade liberalisation, with 7,376 policies. China was ranked second, with 5,915 such policies registered in the same period.

Source: www.statista.com

- (a) Explain the different types of protectionist measures adopted by countries. [10]
- (b) Using economic theory, discuss whether protectionism is ever justifiable for large economies such as China and the US. [15]



| The total quantity demanded of good A will decrease from 60 to 40 units. At the same time, the quantity supplied by the domestic producers increases from 10 to 30 units. This increase in domestic output will lead to a rise in derived demand for workers and thus, leads to a rise in domestic employment , addressing the issue of higher unemployment caused by trade. | |
|---|----------------------------------|
| Quantity of imports also falls from 50 units to 10 units. This reduces import expenditure and improves trade balance . | |
| With an import tariff, government gains tax revenue that is equal to \$20 (\$2x10). This may allow the government to engage in policies to address any immobility of factors of production. | |
| Subsidies are given to domestic producers to lower costs of production thus allowing them to charge a lower price than import substitutes. This will increase the price competitiveness of domestically produced goods. The rise in production of domestic goods and services will lead to a rise in derived demand for workers and improve employment level in the economy. Agricultural subsidies are given in many countries to protect domestic producers. By doing so, it makes it difficult for foreign firms to compete in terms of price, thereby lowering the demand for imports as imports are now relatively more expensive. | R2 : Explain subsidies |
| Subsidies can also be in the form of technical assistance to firms to improve efficiency in production which will lead to lower costs of production which allows the domestically produced goods to compete with the foreign imports. | |
| Subsidies may also be given for exports (export subsidies). Domestic producers are given a competitive edge over foreign producers in order to boost exports, assuming that demand for exports is price elastic (PEDx >1), improving the balance of trade and also leading to higher national income and employment in the domestic economy. | |
| The ability to provide a subsidy to domestic producers depend on the financial health of a government, and this policy cannot be sustained in the long run due to limited financial resources of a government. | |
| Other forms of protectionist measures are also accepted. | |
| Import quotas: Countries set limits on the quantity of certain goods that can be imported, effectively restricting the amount of foreign competition faced by domestic industries. Regulatory barriers: Governments impose stringent regulations, standards, or certifications that foreign products must meet in order to enter the domestic market, creating additional hurdles for foreign competitors. Embargoes and sanctions: These measures involve prohibiting or restricting trade with specific countries or entities due to political, economic, or security reasons. | |
| | |

| Level | Knowledge, Application/Understanding and Analysis | Mark |
|-------|---|--------|
| L3 | Detailed explanation of tariff and non-tariff protectionist measures using real world examples. | 8 – 10 |
| L2 | Cursory explanation of tariff and non-tariff protectionist measures | 5 – 7 |
| | Or | |
| | Cursory explanation of tariff or non-tariff protectionist measures | |
| L1 | Shows relevant knowledge of protectionist measures | 1 – 4 |

(b)

Requirement 1: One argument for and against protectionism for a large economy - China Requirement 2: One argument for and against protectionism for a large economy- US A country is said to have *comparative advantage* in the production of R1: In the long a good if it can produce that good at a *lower opportunity cost* than term. another country. According to the theory of comparative advantage, protectionisim is even if one country is more efficient than another in producing all goods, not justifiable as trade is mutually beneficial when opportunity costs of producing the there are goods differ between the two countries. Both countries will gain if each significant specialises in the production of the good in which she has the benefits to trade comparative advantage and trade with each other, such that world ouput according to the will increase and each country can consume outside the PPC. This theory of CA. shows that society's welfare in both countries have improved after trade. Thus, both countries have benefitted from specialisation and trade. Therefore, protectionism is not justifable as it will deny countries the benefits of trade. Infant industry argument Reason 1: An infant industry can be defined as an industry which is in its early Protect Infant stages of development and have potential comparative advantage. For industry as a example, the solar panel industry was deemed as an infant industry in reason for China in the 2010s. They are considered in need of some form of protectionism protectionist measures in order to survive and successfully compete against foreign established firms that are bigger, long-standing and more efficient. Infant industries being in the early stage of growth, are often small, unable to reap economies of scale and have limited access to finance. As such their average costs of production are high and they cannot produce as cheaply as the mature foreign producers. In this case, large economies such as China should tap on existing large domestic demand to increase the scale of production of her infant industry enjoy internal EOS to offset the EOS generated by existing wellestablished foreigner competitors that have access to the global market. For example, Chinese industrial policies focusing on solar PV as an infant industry sector and on growing domestic demand have enabled economies of scale and supported continuous innovation throughout the supply chain. These policies have contributed to a fall in average cost of production leading to a cost decline more than 80%, helping solar PV to become the most affordable electricity generation technology in many parts of the world. In reality, it is not only difficult to identify the industry that has potential comparative advantage but also to determine how long it takes for the industry to mature. For resource rich economies, there are changing Intermediate EV factor endowments making it more difficult for the government to narrow down on an infant industry to protect. Furthermore, the government would have to decide which industries will eventually be profitable and decide whether the benefits of protectionism exceed the costs. However, the increase in derived demand for PV for solar panel they have also led to supply-demand imbalances in the PV supply chain affecting other PV related industries in China- these industries might already have CA in the production of goods (for examples - low end

manufactured goods) but resources are diverted away from these

industries. Hence, protectionism is not justifiable as it distorted the true opportunity costs. Maintaining home employment during a world-wide recession Maintaining employment is likely to be a major reason for protectionism during a worldwide recession. A worldwide recession such as the 2009 Reason 2: Maintaining global financial crisis and the recent covid 19 pandemic means a fall in world incomes leading to a fall in the purchasing power of households home in most countries. This will lead to a fall in demand for imports. The fall employment in net exports (in which they might have a CA in the production of these export) will lead to a fall in aggregate demand leading to a rise in demand deficient unemployment. Thus, large economies such as the US might have more ability to look inwards (C% of GDP large) and protectionist measures are used to ensure that income is spent on domestically produced goods, thus maintaining the level of employment in the country. The increase in consumption on domestically produced goods and a fall in imports will lead to an increase in AD and therefore, an increase in demand for labour to produce the goods and services, leading to a fall in demand deficient unemployment. Domestic employment for the domestic market are likely to be large. Clearly, this argument for protection is unjustifiable since protecting the R2[.] high-cost import-competing industries would only incur higher In the short term opportunity costs and perpetuate the problems of inefficiency and - one argument misallocation of resources. Domestic firms that are unable to compete for and against with the foreign producers should reallocate their resources to other protectionism industries in which they have a comparative advantage. for large economv-China/US. DD dom SS dom SS world + tariff Pw+ С В D Α 00 Quantity of steel Figure 1: Effects of a Tariff on Domestic Production During worldwide economic recession, the use of protectionist policies Evaluation: cannot be justified in the long run as it will cause a loss in consumer Time Period surplus and deadweight loss for the society. From figure 1, the loss in Global situation consumer surplus is shown from area A,B,C and D. On the other hand, the loss to society is shown in area B and D as deadweight loss, leading to inefficient allocation of resources. Therefore, use of protectionist measures are not justifiable as consumers and society lose out with the use of tariffs. Also, if the tariff is imposed on factor of production, for

example, US impose a tariff on steel, it might worsen the bad situation as now domestic producers would have to produce at a higher cost, making their goods less price competitive. In this case, both domestic producers and consumers.

In conclusion, as the assumptions of the theory of CA such as constant return to scale and constant opportunity costs are not fulfilled in reality, protectionism in large economies is justifiable in the short run. However, in the long run where the conditions for free trade are met, protectionism is no longer justifiable. Furthermore, this is a 'beggar-thy-neighbour' policy that potentially invites retaliation from other countries. When other countries especially large economies such as China and US were to retaliate by imposing trade barriers to protect their own domestic economies, both may end up worse off than before as it is clearly impossible to decouple from each other. In fact, the ensuing trade war will result in a fall in world output, hence, world incomes. Many economists have cited that the increase in trade restrictions after the great depression had prolonged the worldwide recession.

Marking scheme

| L3 | To enter L3, well developed analysis of the theory of CA to justify that large economies should not practice protectionism in the long term and one economic case on the argument for and against protectionism for large economies in the short run. | 8-10 |
|----|---|------|
| L2 | Cursory - undeveloped explanation of the theory of CA to justify that large economies should not practice protectionism in the long term and one economic case on the argument for and against protectionism for large economies. | 5-7 |
| | Undeveloped explanation of the theory of CA to justify that large economies should not practice protectionism in the long term or one economic case on the argument for and against protectionism for large economies. | |
| L1 | The answer shows some knowledge of CA and reasons for and against protectionism. | 1–4 |
| | Where the answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. | |

Evaluation marks are always out of 5:

| E3 | Well-argued evaluative judgements with a summative judgement (SR vs LR) | 5 |
|----|--|---|
| | on whether protectionism is ever justifiable. | |
| E2 | For an answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis. | |
| E1 | For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration. | 1 |