2018 Preliminary Exams H2 Economics Paper 2 Microeconomics Suggested Answers

1. The price of water in Singapore will be increased by 30%. Rising costs of resources and the use of more complex development approaches have exerted upward pressure on the costs of producing and delivering water.

Source: Minister for the Environment and Water Resources Masagos Zulkifli, 2017

Discuss the <u>demand and supply factors</u> that determine the <u>price of water</u> and **assess** which is the <u>most important factor</u>. [25]

Question Requirement:

Command word: Discuss

Concept: Demand, supply and relevant elasticities concept Context: Singapore Explain why price of water increased by a large extent due to demand and supply factors

and the relevant elasticities concept. Conclude which factor is the most important factor contributing to the large increase in price of water.

| Requirement | Suggested Answer |
|--|---|
| Introduction: State the variables and market to be analysed as well as the demand and supply factors. | The price of water in the water market is affected by the increase in cost of production of water, increase in income and increase in Singapore's population size. The extent of large increase in price of water is determined by the price elasticity of demand, income elasticity of demand and price elasticity of supply. |
| Body 1: Analyse how increase in COP affects price of water | As mentioned in the preamble by the Minister for the Environment and Water Resources, there is an increase in cost of producing water due to more complex ways of producing water. With an increase in cost of production, producers find it less profitable to produce water, hence supply of water falls, leading to an increase in price and a fall in quantity. To find out the extent of increase of price of water, we need to look at the Price Elasticity of Demand (PED). PED of water measures the |
| | degree of responsiveness of a change in quantity demanded of water due to a change in price of water, ceteris paribus. Given that water has a high degree of necessity as households require water in their daily activities and certain industries such as the wafer fabrication industries require the use of water in its production process, PED of water is price inelastic. Hence, an increase in price of water leads to a less than proportionate fall in the quantity demanded for water. |

| Requirement | Suggested Answer |
|---|--|
| | P of water P_1 P_2 P_1 P_2 $P_$ |
| | explaining the large extent of the increase in price of water. |
| Body 2: Analyse how increase in income affects price of water | Another possible factor that could have caused an increase in price of water is the increase in income of households. Since there is an increase in income, purchasing power increases hence demand for water also increases. This leads to an increase in price and quantity of water. In order to determine the extent of increase in price of water, we will need to look at the Income Elasticity of Demand (YED). YED of water |
| | measures the degree of responsiveness of the change in demand of water due to a change in income, ceteris paribus. |
| | Given that water is a normal necessity, since water is required for many daily activities, YED is positive and between 0 and 1. Thus, an increase in income will lead to an increase in demand for water by a small extent. This can be seen in the figure below where demand increases from D0 to D1. Hence price of water increased by a small extent from P0 to P1. |
| | |



| Requirement | Suggested Answer |
|--|--|
| | As seen in the diagram above, the original price is at P0. When demand increases from D0 to D1, given the price inelastic supply curve, Si, price has increased by a larger extent to Pi as compared to the price elastic supply curve, Se. |
| | Since price increased by a large extent due to the increase in demand and the price inelastic supply curve, this factor is likely to be important in explaining the large extent of the increase in price of water. |
| Conclusion Explain which is the most important factor which led to the increase in price of water by a large extent. | The price of water is going to increase by a large extent. This is likely due to the increase in cost of production of water. This is so as the increase in demand of water might be mitigated by campaigns by the government as well as the installation of water-saving showerheads, washing machines and taps that are adopted by more households. Furthermore, for businesses, as they want to maximise profits, they will put in place water-saving measures to reduce their cost of production. Thus, even though demand for water may increase, it is unlikely going to increase by a large extent. |
| | However, as the reservoirs in Malaysia are drying up due to inclement weather and the water agreement in Malaysia coming to an end soon, Singapore is urgently trying to find methods of producing water that requires lesser reliance on Malaysia. These methods of production likely require new and improved technology, e.g. improving the process of NEWater. Hence, the increase in cost of production coupled with the price inelastic demand curve and the price inelastic supply curve is a more important factor resulting in a large increase in the price of water. |

| Level | Descriptors | Mark |
|-------|---|---------|
| | | Range |
| L3 | High L3 (18 – 20) | 15 – 20 |
| | For a clear explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. The extent of increase in price of water is explained using relevant elasticity concepts for each demand and supply factor. Answer has no misconceptions and errors and it explains the importance of each factor in resulting in the increase in prices all the time. | |
| | Low L3 (15 – 17) | |
| | For a clear explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. The extent of increase in price of water is explained using relevant elasticity concepts for some demand and supply factors. Answer has minor misconceptions and errors and it attempts to explain the importance of each factor in resulting in the increase in prices most of the time. | |
| L2 | High L2 (13 – 14) | 10 – 14 |
| L2 | Low L3 (15 – 17) For a clear explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. The extent of increase in price of water is explained using relevant elasticity concepts for some demand and supply factors. Answer has minor misconceptions and errors and it attempts to explain the importance of each factor in resulting in the increase in prices most of the time. High L2 (13 – 14) | 10 - 14 |

| | For an underdeveloped explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. There may be some missing gaps in the explanation. There is a lack of scope – either explanation of demand OR supply factors, or only 2 factors are discussed. Answer used elasticity concepts to explain the extent of increase in price of water, however, the elasticity concepts used are limited in scope (only 2 elasticity concepts used). Answer has minor misconceptions and errors and it attempts to explain the importance of each factor in resulting in the increase in prices some times. | |
|----|--|-------|
| | Low L2 (10 – 12) | |
| | For an underdeveloped explanation of how each demand and supply factor results in an increase in price of water using demand and supply analysis. There may be some missing gaps in the explanation. There is a lack of scope – either explanation of demand OR supply factors, or only 2 factors are discussed. Answer used only 1 relevant elasticity concepts to explain the extent of increase in price of water. Answer has minor misconceptions and errors and it did not explain the importance of each factor in resulting in the increase in prices. | |
| L1 | High L1 (5 – 9) | 1 – 9 |
| | Answer identifies the demand and supply factors and attempted to use demand and supply analysis to explain the impact of each factor on the increase in price of water. Answer may not have used elasticity concepts to explain the increase in extent of price. However, answer may have combined the effects of change in demand and supply to explain the increase in price. Or, in using the elasticity concepts, there are major misconceptions and errors. Answer did not explain the importance of each factor in resulting in the increase in price of water. | |
| | Max 5m for well explained demand and supply factors. | |
| | Low L1 (1 – 4) | |
| | Answer identified the demand and supply factors but there are large gaps in terms of using demand and supply analysis and the relevant elasticity concept in explaining the large extent of increase in price of water. | |
| E3 | Evaluation with sound justification, synthesising economic arguments in a summative conclusion, where a comparison of the importance of each factor was made based on the Singapore context. | 4 – 5 |
| E2 | Evaluation with limited justification. Some attempt at comparing the importance of each factor, but comparison was not based on the Singapore context. | 2 – 3 |
| E1 | Evaluation with no justification. Stating which factor is most important. | 1 |

 In 2016, Australia-based TPG Telecom won the rights to become Singapore's fourth telco operator after the three incumbents — Singtel, Starhub and M1 — had the market locked up for 15 years. Players such as Colt (a United Kingdom Telecom) are also looking to enter the market.

Source: CNBC, 17 July 2017

- (a) Explain how firms in the above market rationally make price and output decisions. [10]
- (b) Discuss how the <u>entry of new firms</u> will <u>affect</u> existing <u>telco operators</u> and <u>consumers</u>.
 [15]

Suggested answer for part (a)

Question Requirement:

Command word \rightarrow Explain how Concept \rightarrow Cost revenue framework, price rigidity (oligopoly) Context \rightarrow telecommunication market in Singapore

Explain how firms in the telecommunication market in Singapore, which is an oligopoly industry, make price and output decisions in the short run and long run.

| Requirement | Suggested Answer |
|---|---|
| Introduction: Explain the market structure telecommunication firms are in | The firms in the telecommunications industry in Singapore is considered to be in an oligopoly market structure. This is because there are a few firms with a large market share. Given that there are high set-up costs involved in terms of setting up of the infrastructure for the wireless and 4G mobile data network, there is also high barriers to entry to the telecommunication industry. Thus, the demand for each firm in the telecommunication industry is likely to be high and the demand curve is likely to be price inelastic. |
| Body 1: Explain why telco firm sets price or output where MC = MR | The demand curve for an oligopolist is also its Average Revenue (AR) curve and its Marginal Revenue curve will lie below its AR curve. A rational firm will make pricing and output decisions based on comparing the MR and MC of producing one more unit of output. $P_{0} = AR_{0}$ $P_{0} = AR_{0}$ $Figure 1: Price and output of a profit-maximising oligopoly$ With reference to Figure 1, profit is maximised when Marginal Cost (MC) = Marginal Revenue (MR) at P_{0} and Q_{0}. At any quantity less than Q_{0}, MC is less than MR. Thus, producing an extra unit of output adds more to revenue than to cost. Total profit will increase if more is produced. As long as MR exceeds MC, profits can be increased by |

| Requirement | Suggested Answer |
|--|---|
| | increasing production. At any quantity more than Q_0 , MC is more than MR. Thus, producing one less unit of output will create more cost savings than foregone revenue. Total profits will increase if less is produced. As long as MC exceeds MR, profits can be increased by decreasing production. Hence, P_0 and Q_0 where MC = MR is where profit is maximised. |
| Body 2: Explain why telco firms do not change prices | The telcos in Singapore are competitive oligopolies. They have a distinct pricing behaviour – once a price is set, competitive oligopolists do not change them. That means that the prices are rigid. |
| change prices once prices are set. | Once a price has been set, oligopolists do not change their prices because of the rival consciousness brought about by mutual interdependence. For example, if Singtel considers reducing its price, it knows that its rivals (Starhub, M1 and TPG Telecom) will also react by reducing their prices. Thus, Singtel's reduction in price will only lead to a less than proportionate increase in quantity demanded of its product as few customers would switch over from its rivals. This would cause its total revenue to decrease. Hence, Singtel would not decide to decrease its price. If Singtel considers increasing its price, it knows that its rivals will maintain their prices in response. Thus, its increase in price will lead to a more than proportionate decrease in quantity demanded of its product as many of its customers would switch over to its rivals. This would also cause Singtel's total revenue to decrease. Hence, Singtel would not increase or decrease its price, there will be price rigidity. Hence, prices will be more stable in an oligopoly. |
| Body 3: Explain price and output of telco in the long run. | In the long run, since oligopolies have high barriers to entry that prevents new firms from entering, they are able to maintain the high prices and low output level. |
| Conclusion | Telecommunication firms who profit-maximise will set a high price where $MC = MR$. Once the price is set, it does not change due to price rigidity. In both the short run and the long run, they will earn supernormal profits due to the high barriers to entry. |

| Level | Descriptors | Mark Range |
|-------|---|---------------|
| L3 | For a clear explanation of how an oligopolist sets price or output using economic framework in both the short run and long run. Answer explains price rigidity clearly. | 8 – 10 |
| L2 | For an underdeveloped explanation of how an oligopolist sets price or output using the cost revenue framework. Answer attempts to explain | 5 – 7 |

| | price rigidity and short run and long run price and quantity. | |
|----|--|-------|
| | Max 5m for explaining price rigidity only. | |
| | Max 6m for explaining profit-maximising price and output only. | |
| L1 | For an answer that shows some knowledge of an oligopolist and attempts to explain how it sets price or output. | 1 – 4 |

Suggested answer for part (b)

Question Requirement: Command word: Discuss how → Put forward both sides of a case before coming to a conclusion Concept: Profits of incumbent firms, performance of oligopolist affecting the firms and consumers Context: Singapore's telecommunication industry

| Requirement | Suggested Answer |
|---|---|
| Introduction: State the relevant performance indicators | The entry on new firms will affect existing telco operators' profits and hence productive efficiency. Since telco operators' profits may change, it will also affect consumers in terms of dynamic efficiency, variety and equity. |
| Body 1: Explain how profits of incumbent firms will be negatively impacted due to a fall in demand | With the entrance of a new firm who is likely to be selling the same products (mobile data plans) as the incumbent firms, the demand for the incumbent firm's mobile data plans will fall. With the increase in number of substitutes, the demand for the incumbent firm's product will also become more price elastic. |
| | Rev/Costs (s) (s) (p) (p) (p) (p) (p) (p) (p) (p |
| | As seen in Fig. 2 above, entrance of new firm has led to the fall in AR and MR curves from AR ₁ and MR ₁ to AR ₂ and MR ₂ respectively. At the original output of Q ₁ , MC is now higher than the new MR that is illustrated by the new MR ₂ curve. There is a fall in profits. Hence, a profit-maximising firm will be incentivised to reduce output towards Q ₂ , where MR = MC again, where profits are maximised. Given the fall in |

| Requirement | Suggested Answer |
|---|--|
| | AR curve, at the new profit-maximising output Q2, price of the firm's product has fallen to P2, and profit has fallen from [(P1 – AC1) X Q1] to [(P2 – AC2) X Q2]. |
| | Evaluation: |
| | However, given that the incumbent firms have a large market share and mobile data plans usually have a contract of 2 years, the fall in demand may be by a small extent since consumers may not be willing to switch to the new entrant's products before the end of their contract as consumers may be penalised for doing so. Thus, the fall in profits may be by a small extent. |
| Body 2: Explain how the incumbent firms will be more productive efficient and hence may enjoy some increase in | With the possible fall in profits, incumbent firms may try to prevent the fall in profits by reducing costs and cutting wasteful spending. Before the entrance of the new firm, due to the high barriers to entry, incumbent firms may have lax cost controls such as overstaffing and excessive spending on unnecessary equipment and expensive buildings. Thus, they may not producing on the LRAC (i.e., they may be x-inefficient) as illustrated below where the oligopolist produces Q_0 at an actual average cost of AC ₁ when the lowest possible average cost is AC ₀ . |
| profit | |
| | AC ₀ X-inefficiency |
| | |
| | However, due to the entrance of the new firm which may erode their profits, incumbent firms will cut on wasteful spending. Hence the average cost will be at AC0 instead. With a fall in AC, assuming that AR decreases by a lesser extent, profits may still increase. |
| Body 3: | Due to the entrance of the new firm, price of products fell from P1 to P2. Thus, consumers enjoy a fall in price and hence increase in consumer |
| Explain how | surplus. |
| benefit from decrease in price and improved equity. | As profits of incumbent firms fall, lesser supernormal profits are made as explained earlier. Thus, this mean that lesser profits are made at the expense of the consumers, hence equity is improved. |
| Body 4: | The entrance of new firms may also incentivise existing firms to further differentiate their product. For example, SingTel and Starhub may offer |

| Requirement | Suggested Answer |
|--|--|
| Explain how consumers benefit from increased variety | new plans catering to more specific groups of consumers. This increases the variety of telecommunication services and benefits consumers. |
| Body 5: | However, product differentiation may take time. This is especially so |
| Explain how consumers may not experience an increase in | the differentiation takes place in the form of faster wireless connection or wireless connection that has greater coverage across Singapore. Hence, the effects of an increased in variety may not be evident in the short run. |
| variety | Additionally, the reduction in profit of firms may make them less able to carry out product differentiation. This would also prevent the increase in variety. |
| Conclusion Is the impact positive or negative? What does it depend on? | In conclusion, for consumers, the impact of the entrance of a new firm seems to be largely positive. This is because the reduction in price and the strategies the incumbent firms may undertake to maintain its market share are generally beneficial to the consumers. The only question is whether the benefits are to a large or small extent, which will depend on the PED of telecommunication services and how the incumbent firms react. |
| | However, for the incumbent firms, whether the impact will be positive or negative depends on whether the incumbent firms are able to successfully reduce their cost and increase their revenue through the strategies they undertake. If they are able to do so successfully, then, they will more likely experience a more positive impact. |

| Level | Descriptors | Mark Range |
|-------|--|---------------|
| L3 | Answer clearly explains the positive and negative impacts of a new entrant into the telecommunication industry on both existing producers and consumers using economic analysis. | 8 – 10 |
| L2 | For a clear explanation on the positive OR negative impacts of a new entrant into the telecommunication industry on either the existing producers OR consumers using the cost revenue analysis. OR For an answer that explains the positive and negative impacts of a new entrant into the telecommunication industry on both existing producers and consumers using the cost revenue analysis. However, there are some gaps in the analysis. | 5 – 7 |
| L1 | For a descriptive answer of the positive and negative impact on the existing firms and consumers. Economic analysis is scant and/or has | 1 – 4 |

| | major gaps and errors. | |
|----|--|-------|
| E3 | Evaluation with sound justification, synthesising economic arguments in a summative conclusion in the context of a telecommunication industry. | 4 – 5 |
| E2 | Evaluation with limited justification | 2 – 3 |
| E1 | Evaluation with no justification | 1 |

- 3. Prior to 2013, entrance to national museums and heritage institutions required admission fees. However, in 2013, the Singapore government announced free admission fees for all Singaporeans and Singapore Permanent Residents to national museums and heritage institutions.
- (a) **Explain why** the <u>Singapore government</u> <u>changed its approach</u> in the intervention in the <u>market for national museums</u>. [10]
- (b) **Assess** the <u>relative effectiveness</u> of the <u>current approach</u> to encourage the consumption of the <u>arts and culture in Singapore</u>. [15]

Suggested answer for part (a)

Question Requirement:

Command word \rightarrow Explain why Concept \rightarrow sources of market failure (in particular, the extent of change in source of market failure) Context \rightarrow National museums in Singapore

Explain why government subsidises the market for national museums. Explain why government now fully subsidises the market for national museums.

| Requireme nt | Suggested Answer |
|---|--|
| Introductio n: State the reasons for government to increase subsidises for entry ticket to national museums | National museums are considered a merit good by the government. It is a good where the government believes is good for the people but there is an under-consumption of visits to national museums because of positive externalities, underestimation of true private benefits and inequity. The Singapore government changed its approach and full subsidised the entrance fees to national museums because of an increase in positive externalities generated, an increase in underestimation of true private benefits and an increase in inequity. |
| Body 1: Explain that government is giving full subsidises because of | Prior to 2013, Singaporeans and Singapore Permanent Residents pay a lower entry fee into national museums than foreigners. This is due to the existence of positive externalities in the market for national museums. Positive externalities are external benefits enjoyed by someone other than the consumers or producers of the product, for which no compensation occurs. |
| an increase in the MEB such that the social optimal price is 0. | Museums help to reinforce the sense of belonging to national identity which promotes national bonding. This helps to strengthen the social fabric and lead to more harmonious living which benefits almost all segments of the population, including those who do not partake in the consumption of museums. |
| | In figure 1 below, Marginal Private Benefit (MPB) refers to the additional enjoyment to the consumer from an additional visit to the national museum. Marginal Private Cost (MPC) refers to the additional cost visiting the national museum. |
| | The Singapore government has changed its approach to full subsidies as the |

| Requireme nt | Suggested Answer |
|---|---|
| | marginal external benefit has increased such that the social optimal price is |
| | B/C/Price |
| | |
| | |
| | S=MPC=MSC |
| | |
| | |
| | P _e MEB2 MSB2=MPB+MEB2 |
| | P _{S1} |
| | Pos= 0 D=MPB |
| | Q _e Q _{S1} Q _{S2} Q _{ly} of visits to national museums |
| | Figure 1: Positive Externalities in the market for national museums |
| | Since the individual consumer and producer will only consider the private benefits and costs, he will consume and produce up to the point where MPB = MPC, at Qe. The external benefit generated (MEB1) creates a divergence between MPB and MSB1. Assuming there is no external costs incurred, MPC = MSC. Hence, at the market equilibrium output, Qe, MSB1 is greater than MSC, meaning that the society values an additional visit to the national museum more than the additional costs of it. The socially efficient level of output should be where MSB1 = MSC, at output Qs1 and the social optimal price is at Ps1. Since Qe is greater than Qs1, there is under-consumption of visits to national museums. There is deadweight loss incurred to the society. |
| | However, due to the increase in marginal external benefit from MEB1 to MEB2, the social optimal price is now at Ps2 = 0. Hence, the government provides full subsidy such that Singaporeans and Singapore Permanent Residents do not need to pay entrance fees to national museums. |
| Body 2: Explain that government is giving full subsidies because of an increase in private benefits. | Prior to 2013, in the market for national museums, there is a misunderstanding of true private benefits by Singaporeans and Singapore Permanent Residents. They may be short term utility maximisers and hence ignore the long term private benefits of visiting national museums such as broadening one's mind and boosting creativity. As such, the demand for visits to national museums is at D imperfect info, where equilibrium quantity is at Qe1 and equilibrium price is at Pe1. However, if they had perfect information, the demand will be at Dperfect info where the social optimal quantity is at Qs1 and the social optimal price is at Ps1. Since Qs1 is lesser than Qe1, there is under-consumption of visits to the national museums. |

| Requireme nt | Suggested Answer |
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| | $\begin{array}{c} P\\ $ |
| Body 3: Explain that the government is giving full subsidies | Another reason for the change in intervention is due to the increase in income inequality due to inequity. Prior to 2013, there was inequity in the market for national museums. If we allow market forces to work, only those who are willing and able to pay to enter national museums will visit them. However, there are some people who may not be able to pay to enter national museums. Hence, the government provides subsidies to allow more |
| because of an increase in income inequality leading to higher inequity. | people to be able to afford visiting the national museums. After 2013, the income inequality might have worsened, thus, there are more people who may not be willing and able to pay to visit national museums. Hence, to ensure that every Singaporean and Singapore Permanent Resident is able to visit the national museum, the government decides to provide free entrance to all national museums in Singapore. |

| Level | Descriptors | Mark |
|-------|---|--------|
| L3 | For a clear explanation of the reasons (at least two) for the change in government intervention in terms of how the market failure has worsened such that free provision is now optimal. Students must explain that there is an increase in the extent of market failure in the market for national museums | 8 – 10 |
| L2 | For a clear explanation of only 1 reason for the change in government intervention in terms of how the market failure has worsened such that free provision is now optimal. Students may not have clearly explained that there is an increase in the extent of market failure and may have simply explained the reasons for market failure in the market for national museums. (Note: max 6 marks for such answers) | 5 – 7 |
| L1 | For an answer that shows some knowledge of the reasons of market failure in the market of national museums. | 1 – 4 |

Suggested answer for part (b)

Question Requirement:

Command word: Assess \rightarrow Put forward both sides of a case before coming to a conclusion

Concept: Policies to increase consumption of arts and culture in Singapore and their limitations. One policy must be on full subsidy or free provision as this is given in the preamble as the current approach.

Context: Singapore's market for arts and culture

| Requirement | Suggested Answer |
|--|--|
| Introduction : State the policies the government can adopt to correct market failure in the market for arts and culture. | In order to increase the consumption of arts and culture in Singapore, the government can provide entrance to national museums for free as well as educating the young on the benefits of their involvement in arts and culture. |
| Thesis 1: Explain how a full subsidy corrects the market failure in the market for arts and | By providing a full subsidy which is equal to MEB2 to producers of arts and culture, their cost of production decreases and hence supply increases to S2. As such, the external benefits are now internalised. Where S2 intersects with demand, quantity increases to the social optimal output level, Qs2 hence correcting the market failure in the market for national museums. |
| culture. | |
| | S=MPC=MSC |
| | Pe Pe Ps1 S2 MEB2 MSB2=MPB+MEB2 |
| | MSB1=MPB+MEB1 |
| | $P_{S2}=0$ Qty of visits $Q_e Q_{S1} Q_{S2}$ to national museums |
| | Figure 3: Subsidies for national museums |
| Anti-thesis 1: | However, if the MEB is actually smaller at MEB1 instead of MEB2, there will be a case of over-consumption instead as the social optimal output level |

| Requirement | Suggested Answer |
|--|--|
| Explain the limitations of a full subsidy in Singapore's context | should be at Qs1 as seen in Figure 3 above. In addition, given that Singapore is facing an aging population where healthcare needs are a rising concern and the infrastructure needs upgrading, there is high opportunity cost incurred in providing full subsidies to increase consumption of the culture and the arts. Furthermore, providing full subsidies may exacerbate inequity as all Singaporeans and Singapore Permanent Residents will be able to enter the museum whether they are able to afford the entry ticket of not. |
| Thesis 2: Explain how educating the young on the benefits of participation in the arts and culture corrects market failure | The government can also partner with schools and the community to educate the public on the benefits of art and culture education. For example, providing the young with exposure to the arts and culture through school organised museum visits, participating in heritage trails and taking part in hands-on art workshops. Through these, students may experience the benefits of such programmes for themselves. This may increase the demand curve from D imperfect info to D perfect info 2 in figure 2. Thus, the level of consumption is now at Qs2 which is the social optimal level. Hence, market failure is corrected. |
| Anti-thesis 2: Explain limitations of educating the young on the benefits of participation in the arts and culture in correcting market failure | However, we may not be able to see the immediate results of such a policy. Furthermore, parents may place more emphasis on academics or sports instead of the arts and culture. Thus, educating the parents on the benefits of the arts and culture is equally important as well. |
| Conclusion | The relative effectiveness of the policy depends on whether the policy solves the root cause of the issue. Providing free museum entry fees address the issue of positive externalities. It may work in the short run to increase visitor numbers. However, to sustain the increase, museum experience for visitors must be positive for them. In the long run, it is important to complement this policy with educating the public about arts and culture so that they see the benefits of consuming arts and culture. |
| | A bigger question will be whether the government is putting too much funds into the arts and culture sector in Singapore. Given that Singaporeans are becoming more affluent, they are likely to be well-travelled and hence more exposed to the arts and culture. At the same time, with the advancement of technology and extensive use of social media to publicise such cultural events, demand for arts and culture will increase even without the need for government intervention. |

| Level | Descriptors | Mark |
|-------|--|--------|
| | | Range |
| L3 | Answer clearly explains how providing free entrance to museums and | 8 – 10 |
| | one other policy corrects market failure in the market for arts and culture | |
| | and their limitations. There are examples given in the Singapore context. | |
| | | |
| L2 | For a clear explanation on how providing free entrance to museums and | 5 – 7 |
| | one other policy corrects market failure in the market for arts and culture, | |
| | without limitations | |
| | | |
| | OR | |
| | | |
| | For an underdeveloped answer that explains how providing free entrance | |
| | to museums and one other policy corrects market failure in the market | |
| | for arts and culture and their limitations. | |
| | | |
| | OR | |
| | | |
| | For a clear explanation on how ONE policy corrects the market failure | |
| | and its limitations (max 6 marks) | |
| | | |
| L1 | For a descriptive answer of how policies correct market failure. | 1 – 4 |
| | | |
| E3 | Evaluation with sound justification, synthesising economic arguments in | 4 – 5 |
| | a summative conclusion. Comparison of which policy works better must | |
| | be evident. | |
| E2 | Evaluation with limited justification | 2-3 |
| E1 | Evaluation with no justification | 1 |

4 Improving productivity has taken on an added urgency as it affects wage growth and global competitiveness. As alternative ways of achieving growth— particularly growth induced by the influx of foreign workers— run out, a successful productivity campaign becomes ever more salient.

Discuss whether policies to improve labour productivity are the only way to maintain global competitiveness and sustain growth for Singapore.

[25]

| Requirement | Suggested Answer | |
|---|--|--|
| Requirement Suggested Answer Question Requirement: Command word → Discuss Concept → labour productivity, global competitiveness, sustained growth Context → Singapore economy Outline • Intro: Define labour productivity, global competitiveness and sustained growth and briefly state how labour productivity may be improved – education & training • Thesis: Policies to improve labour productivity are the only way to maintain global competitiveness and sustain growth for Singapore • Anti-thesis 1: Policies to improve labour productivity are not the only way - limitations • Anti-thesis 2: Policies to improve labour productivity are not the only way - other policies available • Conclusion: Synthesise arguments on both sides and determine whether Singapore should only depend on raising labour productivity to achieve its aims. | | |
| Introduction: Define key economic concepts and give an overview of the essay | Labour productivity is defined as the output per man-hour. Global competitiveness refers to the ability to compete globally in terms of cheaper or better quality exports and being able to attract FDI. To achieve sustained economic growth, there must be both actual and potential growth. While raising labour productivity is crucial in maintaining global competitiveness and sustaining economic growth, there are limitations and trade-offs that could result. Besides, there are other policies that the Singapore government can implement to achieve these economic aims. These include, adopting a modest and gradual appreciation stance to mitigate inflation and the use of expansionary fiscal policy to promote economic growth. | |
| Body 1: Thesis 1: Improving labour productivity helps to maintain global competitiveness | Policies to improve labour productivity An increase in labour productivity may be achieved through improving the quality of labour via training and upgrading of skills, increasing capital intensity through capital investments, as well as technological improvements or process innovations. Government may adopt supply-side policies like giving grants/subsidies for education & training, tax incentives/subsidies to encourage firms to upgrade existing physical capital & do R&D etc. For example, Workforce Singapore (WSG) provides a range of training programmes which aims to build up the foundational and industry-specific skills. Funding is also available to firms when they send their older low-skilled workers for training and individuals can use their SkillsFuture Credit to pay for training courses. In addition, there is the | |

| Requirement | Suggested Answer |
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| | Productive Solutions Grant, which funds up to 70 per cent of qualifying costs for small and medium-sized enterprises seeking to adopt off-the-shelf technologies. With relevant & better skills, more sophisticated machineries and better production processes, workers would be able to produce more output per man hour, thereby increasing labour productivity. |
| | Improving labour productivity leads to cheaper exports In the long run, assuming that the rate of productivity growth exceeds the rate of wage growth, unit labour cost would fall, leading to a fall in COP. Hence SRAS increases and SRAS curve shifts downwards. The productive capacity of the economy also increases, leading to an increase in the LRAS, shifting the LRAS curve to the right. Hence the AS curve shifts from ASO to AS1 as shown in the figure below. This results in a fall in GPL from P0 to P1, ceteris paribus. |
| | General ↑ Price Level AS ₀ AS ₁ |
| | P_0 P_1 P_1 Y_0 Y_{f0} Y_1 Y_{F1} Real national |
| | With a given quality of exports, this decrease in the GPL will improve export price competitiveness and hence global competitiveness. |
| | Improving labour productivity leads to inflow of FDI and increase global competitiveness Assuming the wage growth lags behind productivity growth, the lower unit cost due to raising productivity also makes Singapore more attractive to foreign investors as there is expectation of future increase in profits, thereby attracting more FDI. MNCs will also bring in technology improvement and lead to our exports becoming more competitive both in terms of price and quality. |
| | Improving labour productivity leads helps Singapore move up the value chain and increase global competitiveness of such goods With increasing globalization, Singapore has to develop new niche industries that are higher up the value chain to maintain export competitiveness. Improving labour productivity supports firms and attract MNCs to develop higher-value activities in Singapore as such industries like biomedical engineering and digital media which require specialised skills |

| Requirement | Suggested Answer | |
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| | set. Hence the country would be able to acquire comparative advantage in producing goods higher up in the value chain, hence maintaining global competiveness. | |
| Body 2: Thesis 2: Raising labour productivity helps to sustain growth | Improving labour productivity leads to both actual and potential growthAs explained earlier, improved labour productivity leads to both an increasein SRAS and LRAS, shifting the AS curve to the right. The inflow of FDI alsoincreases productive capacity (↑ in LRAS) and if they bring with thembetter technology/management practices etc., SRAS and LRAS increase andthe AS curve shifts further to the right, leading to higher actual andpotential economic growth.Also through more innovative production processes, quality of exports may | |
| | and net exports, ceteris paribus. The increase in I and (X-M) increase AD and thus RNY via the multiplier process, achieving actual growth. | |
| | As shown in the figure below, a persistent increase in AD from AD_0 to AD_1 without a corresponding increase in LRAS will only lead to demand-pull inflation as the general price level rises from P_0 to P_1 with no further rise in real national income after Yf. | |
| | $\begin{array}{c} GPL\\ P_1\\ P_2\\ P_0\\ P_0\\ P_0\\ P_0\\ P_1\\ P_2\\ P_0\\ P_0\\ P_1\\ P_2\\ P_2\\ P_0\\ P_1\\ P_1\\ P_2\\ P_2\\ P_1\\ P_2\\ P_2\\ P_1\\ P_1\\ P_2\\ P_2\\ P_1\\ P_1\\ P_2\\ P_2\\ P_1\\ P_1\\$ | |
| | However, with improved labour productivity and potential growth takes place, AS curve shifts rightwards from AS_0 to AS_1 , the general price level decreases from P_1 to P_2 and real national income increases from Y_f to Y_2 . Thus with both actual growth and potential growth, non-inflationary sustained economic growth is achieved. | |
| Body 3: Anti-Thesis 1: Limitations of raising labour productivity in | Difficult to change workers' mindset Policies to increase labour productivity growth takes time and the outcome is dependent on the aptitude and attitude of workers. The less educated or older workers may not have the ability to learn new skills and the more educated ones may not be receptive towards the need for re-training. | |

| Requirement | Suggested Answer |
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| helping Singapore maintain global competitiveness and sustain economic growth (at least 1) | Some may just be resistant to the idea of a job change. With an ageing population in Singapore, there could be many older workers who may be less receptive to training and retraining. Also, if the improvement in labour productivity is focused on low-skilled jobs, the extent of FDI inflow may not be substantial as Singapore, a knowledge-based economy, mainly attracts high-value added FDIs. However, with public campaigns advocating lifelong learning, workers' mindset might be changed over time. Hence such policies may only be more effective in the LR but not in the short run. |
| | <u>May not solve the root cause of slow growth or inflation</u> Achieving full employment level of NY requires that AD is sufficiently high to absorb the potential output produced. However, a policy focusing on raising labour productivity is a long term supply-side policy aimed primarily at shifting the LRAS and cannot effectively counter fluctuations in AD. If growth of AD does not keep pace with potential growth due to weak external demand, growth cannot be sustained. For example, falling world national income due to the Eurozone debt crisis caused a decline in trade and demand for Singapore's exports. As export revenue falls, there would be a drop in net exports. Since (X-M) constitutes 32% of Singapore's GDP, there would be a significant fall in AD and hence national income in Singapore. This would stifle economic growth in the short run. In this case, boosting labour productivity alone would not be enough to boost exports and attract FDI with weak business expectations. |
| | Global competitiveness may be eroded by imported inflation. As Singapore lacks natural resources; we are highly reliant on imports for both finished and semi-finished goods. Any global supply shocks and import price hikes may have a larger impact on cost of production compared to labour. In such a case, improving labour productivity will not be very effective in maintaining global competitiveness as imported FOPs may take up a large portion of production costs in Singapore. Thus, even though improving labour productivity can help to reduce cost of production, it cannot fully mitigate the effects of imported inflation. Thus, policies to improve labour productivity are not the only way to maintain global competitiveness and sustain economic growth. There is thus a need to use complementary policies such as the exchange rate policy. |
| Body 4: Anti-Thesis 2: Other policies that can help to maintain global competitiveness and sustain growth | Expansionary fiscal policy to achieve growth In order to achieve sustained growth, especially in periods of recession, expansionary fiscal policy should be used to increase AD. Reduction in personal income tax would stimulate consumer spending through an increase in disposable income and purchasing power. Reduction in corporate tax increases the after-tax profits and thus encourages investment, both local and foreign, and maintains global competitiveness. The increase in C, I and G will increase AD which in turn causes RNY to increase by multiple times through the multiplier process, achieving positive actual growth. |
| | Inis expansionary fiscal policy also as supply-side effect due to capital accumulation from the infrastructure development. Hence increasing the |

| Requirement | Suggested Answer |
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| | productive capacity and LRAS, achieving potential growth. With both increase in AD and LRAS, sustained economic growth is achieved. |
| | Expansionary FP to achieve international competitiveness Expansionary FP can also achieve international competitiveness. The lower corporate tax rates would also make Sg more attractive to FDI as their post- tax profits in Sg increase. Additionally, if the increased government spending is on improving infrastructure, the attractiveness to FDI would also increase. |
| | Limitations of EFP in achieving growth However, the effectiveness of EFP in promoting growth depends on the size of the multiplier k. Singapore's multiplier effect tends to be small due to a high marginal propensity to withdraw (MPW) as a result of a high MPS and MPM. Her compulsory savings scheme, the Central Provident Fund (CPF), results in a high MPS and her lack of resources and hence import- dependence for both finished goods and raw materials lead to a high MPM. The final increase in RNY and hence the impact on economic growth is limited. |
| | In addition, there may be resource crowding-out. As government spends on building infrastructure projects and engages scarce resources, resources such as labour will be drawn away from the private sector. The shortage of labour will drive up wages hence increase cost of production, leading to higher prices as producers pass on the higher costs to the consumers and hence lower global competitiveness. Firms in the private sector may cut down on their investment, and the fall in I may offset the rise in G, hence the increase in RNY is limited. |
| | Limitations of EFP in achieving international competitiveness Also, EFP may not be very effective in achieving international competitiveness as it would also depend on the tax rates in other comparable economies. A reduction in corporate tax rates may have a limited effect on FDI if Hong Kong (a competitor) also reduces corporate taxes at the same time. |
| | Exchange rate policy The modest and gradual appreciation of SGD makes exports more expensive in terms of foreign currency and imports cheaper in terms of SGD. Assuming Marshall-Lerner condition PEDx+PEDm >1, net exports will fall, resulting in fall in AD and GPL, curbing demand-pull inflation. It also makes imported raw materials cheaper in terms of SGD, reducing cost of production and curbing cost-push inflation, enhancing global competitiveness. |
| | The modest and gradual appreciation of SGD also reflects strong economic fundamentals of the Singapore economy due to strong export growth and stable economy, hence boosting business confidence. With the strong business confidence, together with the fall in inflation, Singapore attracts FDI due to the rise in expected profits, resulting in increase in I. This |

| Requirement | Suggested Answer |
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| | increases AD and RNY multiple times via the multiplier process, achieving positive actual growth. |
| | In the long run, a rise in FDI leads to capital accumulation in the economy. In addition, FDIs may bring in better quality machinery, technology, skills and expertise which will enhance quality of capital and labour. Productive capacity is thus expanded, increasing LRAS and achieving potential growth. With both increase in AD and LRAS, sustained economic growth is achieved. |
| | Limitation of ERP Managing the ER has some challenges as the government needs to know when to intervene, what ER they should aim to maintain, and how persistently they should try to maintain that rate. However, they may not have up-to-the-minute and reliable information about the state of the global economy and the various interactions in the foreign exchange market. If the SGD is too strong, it will erode its export competitiveness and worsen the BOP and reduces RNY. |
| Conclusion: | In conclusion, increasing labour productivity is important in helping Singapore maintain global competitiveness and sustain growth. As Singapore is a small economy which lacks resources, it has very limited quantities of factors of production which restricts its ability to produce a large amount of output. If aggregate demand increases without increases in aggregate supply, the economy will have actual growth with high inflation. This is detrimental to her global competitiveness. Furthermore, Singapore is facing an ageing population and stricter foreign worker policy which will lead to a fall in the availability of labour and raise labour costs in future as the supply of workers decreases. By improving labour productivity, Singapore can increase the quality of labour, thereby allowing her economy to increase the maximum amount of output and reduce GPL. Export competiveness can be maintained and FDI continue to flow in. This is crucial for Singapore which depends on trade and FDI for growth. Hence, increasing productivity is a good long term strategy for Singapore. However, the root cause of loss of global competitiveness and slow growth may be due to external factors such as rise in prices of raw materials and weak external demand. Hence, in order to resolve Singapore's vulnerability to external factors, it is necessary for the government to use a combination of policies of increasing productivity, modest and gradual appreciation stance to mitigate imported inflation and demand-management policies to stimulate growth. In addition, continued ability to attract FDI lies not only in our productivity drive but other policies such as a low corporate taxes and & other pro-business policies. Improving productivity is a necessary but not only way to achieve international competitiveness and economic growth. |

| Level | Description | Marks |
|-------|--|-------|
| 3 | High L3 (18-20) | 15-20 |
| | Answer covers sufficient scope in terms of showing how improving labour | |
| | productivity may affect Singapore's global competitiveness (in terms of exports | |
| | & FDI) and ability to sustain growth (both actual & potential growth) as well as at | |
| | least 2 other policies and limitations | |
| | Explanations are well-developed and make rigorous use of economic | |
| | frameworks (AD/AS analysis) Arguments are sufficiently illustrated by the use | |
| | of examples | |
| | | |
| | Low L3 (15-17) | |
| | Answer covers sufficient scope in terms of showing how improving labour | |
| | productivity may affect Singapore's global competitiveness and ability to sustain | |
| | growth as well as at least 2 other policies and limitations. | |
| | However, answer lacks scope in terms of global competitiveness or growth. | |
| | Explanations are well-developed and make rigorous use of economic | |
| | frameworks (AD/AS analysis). Arguments are sufficiently illustrated by the use of | |
| | examples. | |
| 2 | High L2 (12-14) | 9-14 |
| | Answer shows understanding of how improving labour productivity may affect | |
| | Singapore's global competitiveness and ability to sustain growth as well as at | |
| | least 1 other policy. May be lacking in scope (eg limitations) | |
| | Explanations are underdeveloped and makes insufficient use of economics | |
| | framework and examples. | |
| | • | |
| | Low L2 (9-11) | |
| | Answer shows understanding of how improving labour productivity may affect | |
| | Singapore's global competitiveness or ability to sustain growth as well as at least | |
| | 1 other policy. May be lacking in scope (eg limitations) | |
| | Explanations are undeveloped and lacking in use of economics framework or | |
| | examples. | |
| | Or | |
| | One-sided answer. | |
| 1 | High L1 (5-8) | 1-8 |
| | Answer covers sufficient scope (thesis vs anti-thesis) but lacks sound arguments. | |
| | Answer is descriptive. | |
| | | |
| | Low L1 (1-4) | |
| | A descriptive answer with insufficient scope. | |
| E3 | A well-elaborated conclusion that considers the nature of the Singapore | 4-5 |
| | economy and justifies the stand taken convincingly. | |
| E2 | An explained conclusion with a justification for a judgement which is not | 2-3 |
| | sufficiently convincing. | |
| E1 | An unexplained conclusion. | 1 |

- **5** The Monetary Authority of Singapore's primary goal is ensuring price stability and maintaining confidence in the domestic currency. Monetary policy in Singapore is centred on the exchange rate.
 - (a) Explain how the exchange rate can be used to maintain price stability in Singapore.

[10]

(b) Discuss whether price stability should remain the top priority of the Singapore government given the gloomy world outlook.

[15]

(a) Explain how the exchange rate can be used to maintain price stability in Singapore. [10]

Question Requirements Command → explain Concept → exchange rate, price stability Context → Singapore

| Requirement | Suggested Answer | | |
|--|--|--|--|
| Introduction Define key terms and set | The exchange rate is defined as the rate at which one currency trades for another on the foreign exchange (forex) market. Price stability refers to situation when there is zero or small rise or fall in the general price level. Bein | | |
| the context | a small and open economy largely reliant on FDI & trade for its growth and being very reliant on imports due to the lack of resources, the Singapore economy is significantly affected by its exchange rate. MAS, therefore, has actively pursued an exchange rate policy that lead to a trend of <u>gradual and</u> <u>modest appreciation of the S\$</u> in order to neutralise both demand-pull and imported cost-push inflation. | | |
| Body1(Demand-pull inflation)Explainhow appreciationappreciationof exchange rate reducesdemand-pull inflation | On the AD side, an appreciation of the Singapore dollar will cause exports to become more expensive in foreign currency and imports to be cheaper in domestic currency. This will cause a fall in the quantity demanded of exports as foreigners buy less of our exports and a rise in quantity demanded of imports as locals switch to buy more of the cheaper imports. Assuming the Marshall-Lerner condition holds, that is, $ PED_x + PED_M > 1$, the appreciation of the currency will cause net exports (X-M) to decrease. This in turn reduces AD causing a leftward shift of the AD curve from AD ₀ to AD ₁ in the figure below. The general price level falls from P ₀ to P ₁ , offsetting some of the inflationary pressure. | | |
| | AD I Real NY | | |

 Y_1Y_f



| Level | Description | Mark |
|-------|---|--------|
| | | Range |
| L3 | Well-developed explanation of how exchange rate can be used to tackle both demand-pull and cost-push inflation with the use of diagrams. | 8 - 10 |
| L2 | Under-developed explanation of how exchange rate can be used to tackle both demand-pull internal and cost-push inflation. Diagrammatic analysis is missing. OR Well-developed explanation of how exchange rate can be used to tackle either demand-pull internal or cost-push inflation. | 5 – 7 |

| L1 | Answer is descriptive and shows basic knowledge of relationship between | 1-4 |
|----|---|-----|
| | exchange rate and inflation rate. | |

(b) Discuss whether price stability should remain the top priority of the Singapore government given the gloomy world outlook. [15]

| Question Requirement: |
|---|
| Command word Discuss |
| Concept → price stability, other macro aims, gloomy world outlook |
| Context 🗲 Singapore |
| |
| Outline: |
| Intro: State the 4 macro aims of the government and explain im. |

- Intro: State the 4 macro aims of the government and explain implications of gloomy world outlook on Singapore economy
- Thesis: Explain why price stability should remain the top priority benefits linking to the other macro aims
- Anti-thesis: Explain why price stability should not remain the top priority conflicts with other aims, more important aims given the gloomy world outlook

Evaluative conclusion

• Explain which of the macro aim should be the top priority considering the current state of the economy and the severity of the other macroeconomic problems

| Requirement | Suggested Answer | | |
|--------------------------------|--|--|--|
| Introduction: | Besides price stability, the Singapore government has 3 other | | |
| State the 4 macro | macroeconomic aims which they consider when making macroeconomic | | |
| aims of the | policy decisions. These are sustained economic growth, low unemployment | | |
| government and | and healthy balance of payments. | | |
| explain implications | | | |
| of gloomy world | A gloomy world outlook usually stems from a general slowdown in | | |
| outlook on | economic activities, resulting in declining national income and loss of | | |
| Singapore economy | business and consumer confidence. As Singapore is a small and open | | |
| | economy, such a situation will have huge macroeconomic impacts on the | | |
| | Singapore economy. FDI to Singapore and demand for Singapore's exports | | |
| | will fall, worsening the BOP and reducing AD leading to a multiplied fall in | | |
| | real NY. | | |
| | The Cineman environment since the unionity to project inits which the | | |
| | The Singapore government gives top priority to maintaining price stability | | |
| | because it helps to achieve the other alms. However, given a gloomy world | | |
| | other sime | | |
| Rody 1: | Price stability will allow the country to achieve other macroeconomic | | |
| DUUY I. Thesis: Explain why | chiectives such as promoting a sustained economic growth reducing | | |
| nrico stability should | objectives, such as promoting a sustained economic growth, reducing | | |
| romain the ten | | | |
| priority – benefits | Price stability promotes Investment and hence systained economic growth | | |
| linking to the other | With stable prices firms are better able to estimate the returns on their | | |
| macro aims | invoctment with more cortainty. This will shift the marginal efficiency of | | |
| macro alms | investment with more certainty. This will shift the marginal efficiency of | | |



| Requirement | Suggested Answer |
|---|---|
| | Price stability stimulates actual economic growth. |
| | Price stability (low inflation) could cause domestic inflation rate to be lower than the foreign countries'. Thus, domestic exports would be relatively cheaper than foreign countries' domestically produced goods. Likewise, the relatively cheaper domestic goods will discourage domestic consumers from switching to imported substitutes. This helps to maintain C_d and X and possibly these two components of AD would increase over time if prices of goods and services in other countries remain relatively higher. Increase in both C_d and X will boost AD and stimulate EG and employment of labour, assuming country is below full employment. For a small and open economy like Singapore where exports account for over 200% of her GDP and is a key driver of economic growth, ensuring export competitiveness through price stability should therefore be the priority of the government. <u>Price stability also improves the BOP.</u> |
| | From the above analysis, price stability leads to an increase in export revenue while import expenditure will not rise excessively. Thus net exports will rise leading to an improvement in the current account of the BOP. In addition, price stability encourages FDI as well and this will result in an improvement in the financial and capital account. Therefore, with improvements in current, capital and financial accounts, the BOP improves. |
| Body 2: Anti-thesis: Explain why price stability should not remain the top priority – conflicts with other aims, more important aim given the gloomy world outlook | Explain how the pursuit of price stability may bring about conflicts with other macroeconomic goals In order to pursue price stability, Singapore chooses to pursue a gradual and modest appreciation of SGD as explained in part (a). However, an appreciation of the currency will erode Singapore's export competitiveness, worsen the BOP and reduce RNY instead with a gloomy world outlook as countries dependent on trade tend to devalue their currencies to boost export demand. If Singapore continues with the appreciation stance, it will not only reduce export revenue, FDI will also be discouraged, worsening the BOP. AD and AS decrease and hence fall in employment and actual growth. Potential growth will also be affected as FDI falls and this has implications on the general price level in the long term as demand-pull inflation may result when the economy recovers (when AD finally rises) and the lack of investment presently prevents AS from accommodating to the increase in AD. Hence, faced with a weak external demand, price stability should not remain the top priority of the Singapore government. |
| | Explain why other aims are more important With a gloomy world outlook, as net exports and FDI fall, AD falls from AD1 to AD2 and real NY falls via the multiplier effect from Y1 to Y2 as shown in the diagram below. Firms reduce their output and some workers get retrenched. This will bring about social unrest and if the unemployed cannot get re-employed in the short-run, it will bring about further decline in the economic growth. This will lead to possible cyclical unemployment. |

| Requirement | Suggested Answer | | |
|-------------|---|--|--|
| | Net exports and FDI make up a large proportion of Singapore's AD and a fall in these components result in serious impact on the Singapore economy. For example, in the global financial crisis of 2007 -2008, with gloomy world outlook, Singapore was the first Asian country to slip into a recession. Her export-oriented and service industries suffered and jobs were at stake. This shows that Singapore is very vulnerable to external shocks and if she continues to ensure price stability via a gradual and modest appreciation of SGD, her internal economy will suffer serious consequences of negative growth, high unemployment and an unfavourable BOP. | | |
| | General Price Level P1 P2 AD1 AD2 Real National incomo/output | | |
| | Y ₂ Y ₁ Income/output Prolonged or long-term high unemployment rate is also devastating as it will lead to an eventual lowering of skills level of the country. It may take a substantial sum of money and time to improve the skills and employability of these people who have been out of job for a substantial period of time. Although Singapore might experience general price level to fall, it is not the primary concern during a recession. Instead, the Singapore government should change her policy stance and make actual growth and full employment her top priority instead. | | |
| Conclusion: | Whether price stability should be the top priority of the government is dependent on the nature of the economy and the severity of the other macroeconomic problems. With the increasing flow of goods and services, foreign direct investment and capital due to globalization, countries are facing greater challenges in achieving their macroeconomic aims. Small and open economies like Singapore should prioritise price stability over other macroeconomic aims because it helps the economies to maintain their export price competitiveness over time and to sustain their export- driven economic growth and achieve the other macro aims at the same time. | | |
| | However, if world incomes are falling and actual economic growth and employment are going to be severely affected, the government may need to take a more immediate and direct approach of tackling growth and unemployment and hence prioritise these other aims rather than price stability as the benefits of growth and lower unemployment outweighs the costs of a greater price instability. | | |

| Level | Description | Marks |
|-------|--|-------|
| 3 | For a well-developed explanation of the benefits of achieving price stability and conflicts with other macroeconomic aims during gloomy world outlook. Answer that applies to the Singapore context. For answers with limited references to the gloomy world outlook, award max. 8m | 8-10 |
| 2 | For an under-developed answer on the benefits of achieving price stability and conflicts with other macroeconomic aims. The explanation of the conflicts does not necessarily include how the policy used to achieve one aim entails sacrificing another aim. Does not make reference to Singapore economy One-sided answer: Max 6m | 5-7 |
| 1 | For a descriptive answer that merely shows knowledge of price stability, and some references to other macroeconomic goals. However, there are severe gaps/lack of economic analysis. | 1-4 |
| E3 | A well-elaborated conclusion with a convincing justification for a judgement on whether price stability should remain the Singapore government's top priority given the gloomy world outlooks. | 4-5 |
| E2 | An explained conclusion with a justification for a judgement on whether price stability should remain the Singapore government's top priority. However, the justification is not sufficiently developed. | 2-3 |
| E1 | An unexplained conclusion. | 1 |

- 6 (a) Explain the internal and external causes of a trade deficit.
 - (b) Discuss the factors that governments should consider when adopting policies to tackle this problem.
 [15]
 - (a) Explain the internal and external causes of a trade deficit.

Question Requirements

Command 🗲 explain

Concept \rightarrow internal and external causes, trade deficit Context \rightarrow not specified

| Requirement | Suggested Answer |
|--|---|
| Introduction Define trade deficit | A trade deficit refers to a situation where the import expenditure (Pm x Qm) is greater than the export revenue (Px x Qx). The causes may be internal, that is, factor arising from within the country, or external, that is, arising from outside the country. |
| Body (internal factors) Explain how internal factor causes a trade deficit – relatively higher domestic inflation rate | Internal factors such as a relatively higher domestic inflation rate will cause a trade deficit. A rise in a country's inflation rate will cause her exports to be more expensive and imports to be relatively cheaper. Assuming demand for exports is price elastic due to the availability of substitutes, a rise in price of exports will cause the quantity demanded of exports to fall more than proportionately and the export revenue will fall. If the imports are substitutes deemed by consumers to be alternatives to satisfy similar wants, a rise in price of domestic goods will cause the demand for imports to rise, leading to a higher import expenditure. As a result, a fall in export revenue together with a rise in import expenditure will worsen the balance of trade. Therefore, if the domestic inflation rate remains persistently higher than the foreign inflation rates, a trade deficit may result. |
| Body (internal factors) Explain how internal factor causes a trade deficit – high rate of economic growth | Another internal factor that causes a trade deficit is a relatively high rate of economic growth in the domestic country. A relatively high growth rate indicates that the real national income of a country has risen relative to other countries and her residents have greater purchasing power. This will increase the consumption of both domestically produced goods as well as imported goods. Assuming most of the imports they purchase are positive income elastic, the demand will increase more than proportionately when income increases. This higher demand for imports will worsen the trade balance as Import expenditure rises, ceteris paribus. |
| Body (external factors) Explain how external factor causes a trade deficit – loss of | External factors such as a loss of comparative advantage causes a trade deficit. With globalisation and freer trade flows, competition from emerging economies may lead to the loss of comparative advantage of the more developed countries. Trade is basically governed by the law of comparative advantage which states that countries should specialize in the production of goods for which it has a lower opportunity cost. Over time, patterns of trade |

[10]

[10]

| comparative advantage | are likely to change as costs of production change. For example, the abundance of labour, land and other raw materials in China has resulted in a lower opportunity cost than the developed countries when it comes to production of low-end manufactured goods. If other countries like China are able to gain comparative advantage in the production of a good which used to be exported by the more developed domestic country, this will mean that the similar product produced by foreign countries is now cheaper than that produced by the domestic country. The domestic country will experience a fall in export demand and a rise in import demand. A loss in comparative advantage will thus cause the trade balance of a country to worsen. |
|--------------------------|---|
| Conclusion | Thus, both internal and external factors may cause a trade deficit. |

| Level | Description | Mark Range |
|-------|---|---------------|
| L3 | Well-developed explanation of internal and external factors that cause a trade deficit. | 8-10 |
| L2 | Under-developed explanation of internal and external factors that cause a trade deficit. OR Well-developed explanation of internal OR external factors that cause a fall in trade deficit. | 5 – 7 |
| L1 | Answer is descriptive and shows basic knowledge of factors that cause a trade deficit. | 1-4 |

(b) Discuss the factors that governments should consider when adopting policies to tackle this problem. [10]

Question Requirement:

Command word \rightarrow Discuss Concept \rightarrow macro policies, decision-making framework Context \rightarrow trade deficit

Outline:

- State the policies that government can adopt to tackle trade deficit
- Identify and explain factors that governments may consider when deciding which policy to adopt to tackle trade deficit. For each factor, there is a need to show how the differences in the factors lead to different tools implemented by the governments.
 - Root cause of problem eg. unfair trade practices vs loss of comparative advantage
 - Nature of economy small & open vs large & less open
 - Unintended consequences on the economy
 - o Financial constraints

Evaluative conclusion

• Explain which of the considerations likely played the greatest role in influencing a government's decision and justify why

| Requirement | Suggested Answer |
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| Introduction: Briefly state the various policies available to tackle trade deficit and give an overview | In general, governments can use either expenditure-reducing or expenditure-switching policies to tackle a trade deficit. Expenditure- reducing policies aim to reduce the expenditure on imports through the use of contractionary monetary and/or fiscal policies. Expenditure- switching policies aim to increase the price of imports by making domestic goods/exports cheaper and/or making foreign goods/imports more expensive. This is to switch the expenditure of domestic households from foreign to domestic goods to reduce imports and/or switch the expenditure of foreign households to goods produced by the country to increase its exports. Protectionist measures, supply-side policies and devaluation of the domestic currency are expenditure-switching policies. However, in deciding on the choice of macroeconomic policies, governments often have to consider whether the policies address the root causes of the problem, the nature of the economy and the unintended consequences of the policies adopted. |
| Body 1: Factor to consider – root causes of problem | If the reason for the trade deficit is a loss of comparative advantage, government should adopt supply side policies to regain a country's comparative advantage or to seek out new areas of comparative advantage. Supply side policies that include measures to encourage firms to invest and engage in research and development can increase the competitiveness of a country's goods. The resultant lowering of cost of production or increase in quality of goods produced could help the country regain comparative advantage, thus boosting its export revenue and reducing its import expenditure and enabling it to correct its trade deficit. However, one limitation of supply side policies is that the results of R&D is not always guaranteed. Furthermore, the results of such policies can only |

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| | be seen in the long term. |
| | The government may therefore deem it necessary at least in the SR to adopt protectionist measures like imposing tariffs if the cause of the trade deficit is due to industries losing CA (sunset industry) and new industries are not able to build CA given the intense competition (infant industry). Temporary protectionism gives time for industries to restructure and develop CA. Protectionism can then be removed when restructuring has been completed. However, such firms may become complacent and fail to develop comparative advantage over time. In this case, protectionist measures would not be suitable to solve the trade deficit problem arising from a loss of comparative advantage as trade deficit will persist when the protectionist measures are removed. |
| | On the other hand, if the trade deficit is caused by unfair trade practices of trading partners. Example, dumping, which refers to selling of the same good to a foreign country at a lower price than that charged to the domestic buyers and often below the marginal cost of production. The objective is to drive out rival producers in the importing country and eventually monopolize the market. Import-substituting industries in the domestic market may not be able to compete against such foreign exporters and hence may be forced to shut down in the long run. The biggest concern of the government is that, after the competitors are destroyed, the foreign monopolist will now charge a higher price to its domestic consumers, making consumers worse off. Hence, given this root cause of the problem, protectionism is therefore justified. |
| Body 2: Factor to consider – nature of economy | For a small and open economy without natural resources and has a small domestic market, it is dependent on foreign markets for sale of its products as well as imports of raw materials and necessities. Engaging in protectionism might invite retaliation and the domestic country would suffer a reduction in export revenue, which could undo any positive effects from the reduction in import expenditure that the protectionist measure was supposed to create on trade balance and economic growth. Also, the demand for imported raw materials and necessities is price inelastic. The imposition of tariffs would raise the price of imports and the quantity demanded would fall less than proportionately, resulting in an increase in import expenditure. This would worsen the trade balance. |
| | It is more crucial for small and open economies to improve their export competitiveness (both price and non-price competitiveness) with the use of supply-side policies. The government needs to continually create external demand through maintaining competitiveness of exports with R&D and innovation efforts to improve on the quality and attractiveness of its exports. For example, direct government spending on specific infrastructure to attract R&D, spending on training to improve labour productivity will shift both SRAS and LRAS curves to the right and hence achieving both actual and potential growth and lower GPL which results in cheaper exports and if PEDx > 1, export revenue rises and the trade balance becomes more |

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| | favourable, assuming ceteris paribus. |
| | Large economies with large pool of natural resources and domestic market, in contrast, do not have such constraints and may consider imposing protectionist measures as they are able to depend on domestic production and domestic engines of growth. |
| Body 4: Factor to consider – unintended consequences | Expenditure reducing policy such as contractionary fiscal and monetary policy could be used to deflate the economy and reduce import expenditure. Contractionary fiscal policy influences the level of aggregate demand through an increase in income tax and reduction in government expenditure. The increase in income taxes will reduce households' disposable income and hence cause consumers to reduce consumption of imported goods. A reduction in government expenditure will also mean that less may be spent on imported goods by the government. This would reduce import expenditure. Net exports will improve (assuming no change in export revenue) reducing the rising trade deficit. This could reduce the problem of trade deficit. |
| | However, contractionary fiscal policy may give rise to cyclical unemployment. A reduction in disposable income would cause not only import expenditure to fall but also expenditure on domestically produced goods to decrease. Hence, domestic production would decrease and may lead to higher level of demand deficient unemployment. Thus demand- management policies may not be an appropriate policy to resolve a trade deficit. |
| | Similarly, protectionist measures aimed to reduce import expenditure may have unintended consequences. A fall in import expenditure by the domestic consumers also means a reduction in the export revenue of the trading partner, causing a fall in the AD and hence national income of trading partners. This in turn reduces the trading partner's expenditure on the exports of the domestic country which practised protectionism first. When this happens, the domestic country's AD and hence national income then decreases again, reducing the positive effect of the protectionist measures. |
| Conclusion: Explain which is the most significant consideration | Multiple factors need to be taken into consideration simultaneously. The more comprehensive set of factors considered, the less unintended consequence or the more effective the set of policies will be. For example, if the government only considers the nature of the economy but not the root cause of deficit, the chosen policy may have limited impact on correcting the trade deficit. |
| | Timely and constant review of policies may be needed as such weights of factors in influencing effectiveness of policies may also change over time. For example, domestic consumers and firms may not be so reliant on imports but are now heavily relying on imports. Hence, import-restricting policies may become more effective in reducing trade deficit. |

| Level | Description | Mark |
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| | | Range |
| L3 | For an answer that thoroughly analyses the factors that may influence the government's decision. Answer demonstrates rigour and scope in analysis. | 8–10 |
| | At least 3 factors are provided in the analysis. | |
| L2 | For an answer that has good knowledge of the factors that may influence the government's decision. However, analysis is undermined by insufficient rigour and scope. | 5 - 7 |
| | Answers that provide analysis of 2 or fewer factors. | |
| L1 | Answer may have some knowledge of the factors to be considered. However, the answer has significant conceptual errors or is very descriptive. | 1-4 |

| E3 | Well-explained conclusion/judgement on the importance of the factors in determining | 4 – 5 |
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| | the government's decision. | |
| E2 | Explained conclusion/judgement on the importance of the factors in determining the | 2 – 3 |
| | government's decision. | |
| E1 | Unexplained conclusion/judgement. | 1 |