Question 1

1	Prices of chicken in Malaysia increased drastically in 2022. To stabilise prices, Malaysia implemented a temporary export ban of fresh chicken to Singapore. Fresh chicken prices in Singapore are expected to rise since 34% of the fresh chicken in Singapore is imported from Malaysia. Source: The Strait Times, 24 May 2022
(a)	Explain how an export ban on chickens from Malaysia will impact the revenue of chicken rice stall owners and other meat sellers in Singapore. [10]
(b)	In view of Malaysia's export ban, discuss the measures that the Singapore government may adopt to stabilise the price of fresh chicken in Singapore. [15]

<u>Question 1(a)</u>

Introduction

- When Malaysia implemented an export ban on chicken to SG, it will reduce SS of chicken into Singapore.
- Indirectly the revenue of chicken rice stall owners while increasing the revenue of other meat sellers in Singapore.

Require 1: impact on the revenue of chicken rice stall owner.

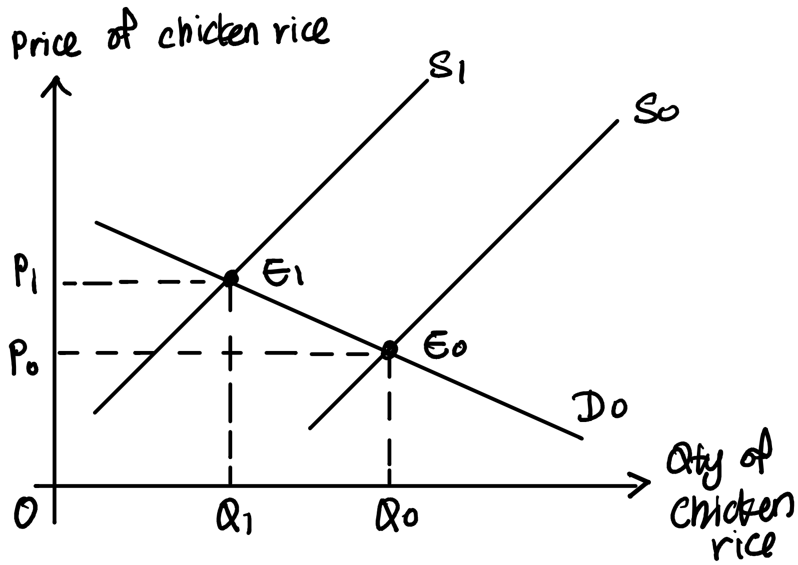
[Topic sentence] An export ban on chicken from Malaysia will reduce the TR of chicken rice stall owners.

- When Malaysia implemented an export ban on chicken to SG, it will reduce SS of chicken into Singapore. This is especially so when 34% of SG's chicken comes from Malaysia.
- A **significant fall** in **SS** of chicken → **shortage** of chicken at **original price** → **upward pressure** on P of chicken → price of chicken in SG.
- Fresh chicken is a **factor of production** for chicken rice. Given that price of fresh chicken increase → chicken rice stall owners will see an increase in their **average COP** → the chicken rice stall owners will be **less willing and able** to supply the same amount of chicken rice at **every price** → decreasing the **SS** of chicken rice from S0 to S1, with reference to the diagram below.
- At the **original price**, P0, there is a **shortage** of chicken rice from Q0 to Qs → **upward pressure on price** of chicken rice → price of chicken rice will increase from P0 to P1.
- As **prices increase**, **Qdd will fall** from Q0 to Q1 while **Qss will increase** from Qs to Q1 according to the **Law of DD** and **Law of SS** respectively.
- This is because as prices of chicken rice increase, consumers will be **less willing and able** to consume chicken rice. On the other hand, producers will be **more willing and able** to produce chicken rice as prices increase.
- Qdd will continue to fall while Qss will continue to increase until **Qss=Qdd** at the new output Q1.
- But for general population, the DD for chicken rice is **price elastic**. This is because there are **other local dishes** to **substitute** chicken rice.

Note: students can also identify the DD for chicken rice as price inelastic given that chicken rice is an iconic dish in SG where there is little substitute for this dish. Even other local dishes such as Fried Kway Teow and Hokkien Prawn Mee are not close substitutes.

- Given that there are other **substitutes**, for example Fried Kway Teow and Hokkien Prawn Mee, an increase in P of chicken rice will lead to a **more than proportionate** decrease in Qdd of chicken rice.
- The **increase in P will increase TR**. But this is **less than the decrease in TR due to decrease in Qdd** (alternatively, students can also make reference to the diagram for the change in TR).
- Overall, TR of the chicken rice owner decrease from OP0EoQ0 to OP1E1Q1.

[Link] Thus, an export ban on chickens from Malaysia will reduce the revenue of chicken rice stall owners.



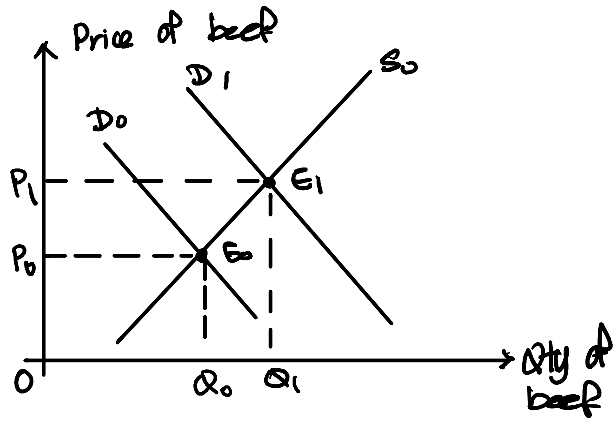
Require 2: impact on the revenue of other meat sellers.

[Topic sentence] An export ban on chicken from Malaysia will increase the TR other meat sellers.

- Due to the export ban → prices of chicken in Singapore increase → consumers will **switch from chicken to other substitutes**.
- Given that other meat such as pork, fish and beef have a **positive cross elastic DD** with chicken, an **increase in price** of chicken will **lead** to **an increase in Qdd for substitutes** as consumers **switch to relatively cheaper** meat.
- Thus, **DD** for other meat such as beef would **increase** from D0 to D1, with reference to the diagram below → **shortage** of beef, QdQ0, at **original price** P0 → **upward pressure** on price of beef → P of beef increase from P0 to P1.
- As prices increase, Qdd will decrease from Qd to Q1, according to **Law of DD** as consumers are **less willing and able** to consume beef.
- On the other hand, Qss will increase from Q0 to Q1 with an increase in P of beef, according to **Law of SS** as producers are **more willing and able** to produce the meat at higher prices.
- When DD for meat increase, the new equilibrium quantity will also increase.
- As **TR = P x Q**

- An increase in both P and Q will increase TR.

[Link] Thus, overall, there is an increase in TR for other meat sellers.



Conclusion

Thus, an export ban will benefit other beef seller by increasing their TR while harm the chicken rice stall owners by decrease the TR.

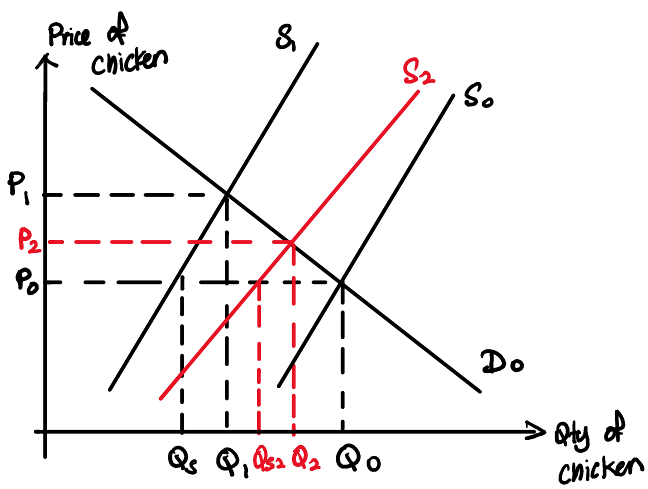
Analysis	Marks
First requirement: Explain how export ban on chickens from Malaysia will impact the revenue of chicken rice stall owners. Candidates are required to use relevant economic analysis (demand-supply and PED) to explain impact on the TR of the chicken rice stall owners. **Second requirement: Explain how export ban on chickens from Malaysia will impact the revenue of other meat sellers.** Candidates are required to use tools of analysis (demand-supply and XED) to explain the impact of export ban on the TR of the other meat sellers. Note: the meat sellers can also be loosely defined as cooked meat sellers (e.g. steaks).	**L3 Band [8m – 10m]** **L2 Band [5m – 7m]** **L1 Band [1m – 4m]**

Question 1(b)

Introduction
- Due to the Malaysia's export ban, prices of fresh chicken in SG increase.
- To stabilise the price of fresh chicken in SG, the government could diversify the source of fresh chicken and encourage residents in SG to turn alternative source of meat protein.

Requirement 1: diversification
[Topic sentence] To stabilise prices of fresh chicken in SG, the government can diversify the country's source of chicken.
- 34% of the fresh chicken in Singapore is imported from Malaysia. This is approximately one third of the overall SS. Thus, a change in SS of chicken will have significant impact on price stability.
- To stabilise prices, SG government can source of alternative source of chicken. For example, SG government could turn to Indonesia and Thailand to import fresh chicken.
- Thus, in the face of falling SS of Malaysia chicken from S0 to S1, allowing import of chicken from Thailand and Indonesia would prevent the SS from falling significantly.
- Thus, SS of fresh chicken would fall from S0 to S2 instead of S1 → smaller shortage, Q0Qs2, at the original price P0 instead of QsQ0→ weaker upward pressure on P → thus, P will increase by a smaller extent.
- At the same time, with more sources of chicken → greater spare capacity to provide chicken for SG → SS of chicken in SG will be more price elastic. This means that when price increase → Qss will be able to increase more than proportionately.
- Thus, when there is a shortage at original price, P0 → price will only have to increase by a small extent to get the Qss to respond.
- This will avoid a sharp increase in price to P2 instead to P1 → price will be less volatile → ensuring price becomes more stable.
- Further, should there be panic buying in response to the chicken ban → shortage of chicken at original P, a more price elastic SS (less price inelastic SS) will make sure that only a small increase in P is needed to increase Qss to resolve the shortage → price increase by a smaller extent → stabilise the price of chicken.

Thus, prices will be stabilised when government diversify the source of chicken.



<u>Evaluation of Requirement 1</u>

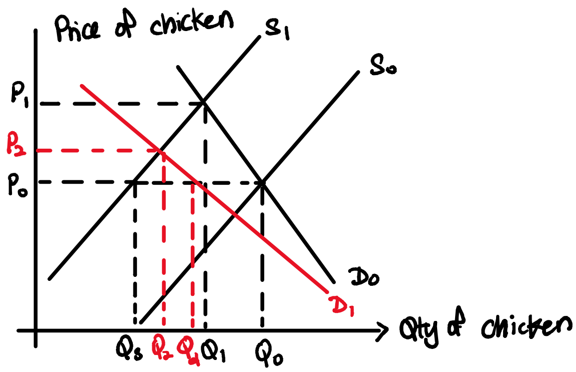
- Thailand and Indonesia are located further away from SG than Malaysia. This means that cost of transporting chicken to SG will be higher → SS may remain high → price of chicken may be high → unable to address the issue to sharp increase in P.
- While diversification will ensure price stability. It might take a while to see the impact of such measures. There are certain regulations in place for countries to export food into SG. The poultry farms will have to meet certain hygiene requirements and regulations in order for them to export their chicken into SG. While farmers in Indonesia and Thailand may want to, they may not be able to export their chicken into SG because they did not meet the requirement. Thus, it might take a while for those farms to adapt and change in order to meet SG requirements. Hence in the short term, this strategy may not be able to ensure price stability and address the problem caused by Malaysia export ban. But in the long term, prices will be more stable.
- Thus, there is a need for more immediate measure such as encouraging consumers to switch to alternative source of protein.

<u>Requirement 2</u>

[Topic sentence] Rather than waiting for diversification to take effect, Singaporeans could be encouraged to find alternative source of protein such as eggs and alternative meat such as beef and pork.

- Eggs, beef and pork are considered substitutes of chickens and they have a **positive cross elasticity of DD**.
- Thus, when Singaporeans are encouraged to turn to **alternative source of protein** such as eggs → **decrease the DD** for chicken meat.
- In view of the export ban, where it causes a shortage of chicken of Qs – Q0 at original price, P0, the **fall in DD will reduce the extent of shortage to only Qs – Qd → smaller shortage** → **upward pressure** is weaker → P will increase by a **smaller extent** from P0 to P2, instead of P0-P1 → **preventing sharp increase** in P → ensure **price stability**.
- Furthermore, by getting consumer to consider alternative source of meat and protein as suitable substitutes, or informing the consumers that such substitutes of protein and meat are available → **increase the closeness and availability of substitutes → DD become more price elastic**.
- This means that when P increase → Qdd will decrease by **less than proportionate**.
- Thus, when there is a **shortage** of chicken at **original price** → the P will only have to **increase by a smaller extent** to get Qdd to fall → **reducing the shortage quickly**.

[Link] Thus, overall, price changes by a smaller extent, ensuring price stability.



Evaluation of Requirement 2

- Such measures would be able to deal with the sudden implementation of export ban → ensure price stability immediately.
- But this highly depend on the perception of consumers, whether they perceive chicken and eggs as close substitutes of protein and chicken and other form of meat as close substitutes.
- If consumers do not perceive eggs and chicken as close substitutes, meaning that the DD is chicken as a source of protein is price inelastic, the switch to alternative of protein may not be significant → shortage may remain large and DD remains price inelastic → price will still change sharply → unable to ensure price stability.
- Furthermore, consumers such as chicken rice stall owners, would still require chicken as their factor input. This means that DD for this group of consumers is still relatively price inelastic. Despite the availability of other meat, they are unable to switch easily.
- However, having said that, at least some consumers, especially households, may still switch to alternative, reducing the pressure on P. Thus, this is better than no attempt to get Singaporeans to switch to alternatives.

Conclusion

Which policy is better, depends on the **time period** and **urgency of problem**.

- If the situation is **urgent** and **requires immediate** solution to volatile prices, getting consumers to switch to alternative source of meat and protein would be able to provide some form of **respite for the volatile prices**. Advertisement could be launch rather quickly to advise consumers to switch to substitutes. Diversification on the other hand, requires **longer time to implement**. Time is needed to negotiate the export and import of chicken and ensure the quality of poultry farms in other countries meet the requirements. Thus, this will take a while to see the impact.
- But to ensure that prices remain stable and less volatile **in the future**, diversification would be better as it ensures that there will always available sources of chicken. Getting people to switch to alternatives may not always work because chicken cannot fully replace eggs as source of protein. They may switch to substitutes for a while, when prices are high. But substitutes are not close substitutes. Thus, even if consumers are willing to switch, they may only switch for a short period of time. For eggs to fully replace chicken as the source of protein would not be possible and consumers will still switch back to the fresh chicken instead.

Analysis	Marks
First requirement: explain how the first policy can stabilize the prices of fresh chicken in Singapore. Candidates are required to use tools of analysis (demand-supply concept & PED/PES concept) to explain how the first measure stabilize prices of fresh chicken. **Second requirement: explain how the second policy can stabilize the prices of fresh chicken in Singapore.** Candidates are required to use tools of analysis (demand-supply concept & PED/PES concept) to explain how the second measure stabilize prices of fresh chicken.	**L3 Band [8m – 10m]** **L2 Band [5m – 7m]** **L1 Band [1m – 4m]**

Evaluation	Levels

• Two evaluative judgements that is well explained, supported by arguments in the answer using relevant economic analysis and linked to the context of the question.
  ○ Synthesise arguments/judgements to arrive a well-reasoned summative judgement and decision.
  ○ Recognise unstated assumptions and evaluates their relevance.
  ○ Evaluation is based on sound criteria.
<u>PLUS</u>
• Summative judgement/ decision is sound and explicit in the conclusion.
  ○ Shows ability to weigh up and make decisions about alternative options.
    ➢ Judgements on which are well-substantiated using conceptual analysis and real-world evidence relevant to the context of the question.
    ➢ Judgements are synthesised to arrive at an overall decision.
    ➢ Making recommendation on course of action based on the overall decision.
E.g., Summative conclusion regarding which measure is better at stabilizing prices in the long and short term.
	E3: 5m

• A well-explained evaluative judgement about both requirements OR • Lower end of E2 (3 marks) which is a well-explained evaluative judgement about one requirement. **<u>PLUS</u>** • A learned evaluative statement for the second	**E2: 4m**

<u>PLUS</u> • A summative conclusion.	
• A well-explained evaluative judgement about one requirement PLUS • 2. A learned evaluative statement for the second.	**E2: 3m**
• A 'learned' evaluative statement for the two requirements. **OR** • A well-explained evaluative judgement about the one requirement.	**E1: 2m**
• A 'learned' evaluative statement for one requirement.	**E1: 1m**
• No attempt at evaluation	**E0: 0m**

2	China's 50 electric vehicle (EV) battery manufacturers will be able to produce four times the demand of EV battery in the country and the top 10 manufacturers have a market share of 97 per cent. The industry is facing severe overcapacity leading to the closure of many small players. Yet every major EV battery producer is quickening their expansion pace to vie for a larger market share. Source: South China Morning Post, 20 July 2023
(a)	Explain how the level of competition in the EV battery industry in China influences firms' price and output decisions. [10]
(b)	Discuss whether Chinese EV battery manufacturers should continue their expansion to vie for a larger market share. [15]

Question 2(a)

<u>Introduction</u>

- EV battery industry is likely to operate in an oligopoly market structure. This is because the top 10 manufacturers have a market share of 97 per cent. This suggests that the market share is concentrated among few large firms → the level of competition is likely to be low.
- Thus, this means that they are price setter and would also produce at profit maximizing output.
- Given that they are in an oligopoly market structure, they are likely to behave in a mutually dependent manner.

<u>Requirement 1: strong price setting power and low output</u>

[Topic sentence] The low level of competition in the EV battery industry in China is likely to lead to setting of high prices and low output.

- There is likely to be low level of competition in the EV battery industry.
- This is because of the high BTE such as cost BTE. Firms in the EV industry face high BTE to enter the market. The cost of high end and precise technology would mean that firms have to have huge output before they can enjoy lower AC and enjoy large iEOS.
- Thus, given the high iEOS → it makes it difficult for new firms to enter, making the BTE to be high → few numbers of large firms in the industry and each firms taking a large market share. This explains why the ten largest firms have 97% of the market share → few large firms dominating the market low level of competition in the industry → strong market power → strong price setting ability.
- Furthermore, given that the firms in the EV battery industry have patents for their EV battery, the product could be differentiated → weak substitutes of each other → each firms have more control over the price level → strong price setter
- Given the strong price setting ability → each firms face a downward sloping DD and AR curve.
- Given the price setting behaviour of firms, firms would produce at the profit maxmisation output and set a price base on the output.
- When firms maximise profit at MC=MR → output is at Qm.
- At the given output, firms will set the price at Pm.

[Link] Thus, given the low level of competition, firms will set lower output with higher prices.

Requirement 2: mutually dependent
[Topic sentence] The low level of competition in the EV battery industry in China would mean that firms in the industry would be mutually dependent on each other when it comes to price and output decision.

- Assuming no collusion in the EV battery industry, firms will decide their price and output based on the decision of other firms.
- When one of the EV battery firms decrease the price of EV battery → other firms will also ↓ their price of EV battery.
- Because their products have similar functions, if other competing firms did not change the price → EV car manufacturers will switch to the firm with relatively lower price, a relatively cheaper substitutes → Qdd for competing firms' product will decrease by more than proportionate → TR will fall.
- Thus, competing firms will also decrease in price when the initial firms decrease the P.
- Similarly, should the first firm increase the price of EV battery → competing firms will NOT increase their price.
- Qdd for the first firm's product decrease as consumers switch to competing firms, a relatively cheaper substitutes → TR will fall.
- Thus, not firms will increase their price.
- Thus, prices in the EV battery industry will unlikely change → causing Qty of EV to remain stable as well.

[Link] Thus, the low level of competition in the EV battery industry in China will lead to stable prices and output.

Conclusion
Thus, the low level of competition will lead high prices with low output as well as the stable prices and output.

Analysis	**Marks**
First requirement: Explain how low level of competition leads to high price setting ability and low output. Candidates are required to use tools of analysis to explain how the low level of competition in the EV battery industry leads to strong price setting ability and low output. **Second requirement: Explain how level of competition leads to stable prices and output.** Candidates are required to use tools of analysis to explain how the low level of competition in the EV battery industry leads to stable prices and output (i.e. mutal dependent).	**L3 Band [8m – 10m]** **L2 Band [5m – 7m]** **L1 Band [1m – 4m]**

Question 2(b)
Discuss whether Chinese EV battery manufacturers should continue their expansion to vie for a larger market share. [15]

Introduction
- In order to capture larger market share, many Chinese EV battery manufacturers choose to expand the size of their manufacturing.
- Such strategy could allow them to capture a larger share. But whether they should continue or not depends if there are net benefits from such action.

Requirement 1: Chinese EV battery manufacturers may want to continue their expansion to vie for a larger market share.
[Topic sentence] Chinese EV battery manufacturers may want to continue their expansion to vie for a larger market share.
- When manufacturers continue to expand their firms' size → firms will be producing greater output → in the long run, be able to exploit greater iEOS such as technical iEOS.
- To produce EV battery, firms need large and expansive machine and production line. Cost of expansive manufacturing technology/machine could be spread over even larger output → reduce AC.
- Firms with lower AC has **greater** ability to reduce the price of the EV battery and engage in price competition while still maintaining at least normal (AR=AC) or supernormal (AR>AC) average profit. The price of one EV battery sold would be the revenue earned for one EV battery. Thus, price reflects the AR of the firms.
- When large firms are able to better exploit lower AC → ability to lower the price and engage in price competition to compete with other firms in the EV battery industry → EV car manufacturers may switch to buying EV batteries from cheaper alternatives → increase in DD for EV batteries from larger firms → larger market share.
- At the same time, smaller firms, who may not be able to exploit significant iEOS → AC might be higher. When consumers or EV manufacturers switch away from smaller firms to larger firms → DD=AR for EV batteries of smaller firms fall. If the fall in AR is significant enough, AR < AC → average profit will be subnormal → shut down in the LR & leave the industry.
- Fewer substitutes available & fewer firms in the industry obtaining larger market share.

[Link] Thus, Chinese EV battery manufacturers may want to continue their expansion to vie for a larger market share.

Evaluation of Requirement 1:
- Currently, there are 50 EV battery producers with 10 firms taking up 97% of the market share. This means that the 10 firms would be significantly large, while the remaining 40 EV battery manufacturers taking up only 3% of the remaining market share.
- While expansion of firms could lead to cost savings, it does not **always** translate to larger market share.
- The remaining 40 small firms took up only 3%. This means that they would need to expand **significantly** to enjoy similar level of cost saving that the existing 10 large firms, taking 97% of the market share, are enjoying now. It would require significant and rapid expansion to compete in terms of cost. If the smaller firms are not able to do that, they are unlikely to gain larger market share or see a significant increase in market share.

- While the smaller firms want to expand their size, so are the large firms, who currently have more cost advantages than smaller firms.
- If smaller firms are not quick enough, they might likely be pushed out of the market by larger firms when the larger firms engage in price competition.
- Thus, while firms could gain larger market share by growing larger, smaller firms will face more challenges than larger firms.

Requirement 2: Chinese EV battery manufacturers may NOT want to continue their expansion to vie for a larger market share.
[Topic sentence] Chinese EV battery manufacturers may not want to continue their expansion to vie for a larger market share.

- Should the firms continue to expand their production process → the output may go beyond the minimum efficiency scale (MES) → firms will experience internal diseconomies of scale → higher AC than before.
- If this higher AC is passed on to the consumers in the form of higher prices → consumers, EV manufacturer, may switch to relatively cheaper substitutes → DD for the firm's EV battery will fall → smaller market share.
- Furthermore, should other competitors engage in price competition by lowering the price of EV battery, the firm may find it hard to compete as their AC is high. Any attempt to lower the P could lead to their AR falling below the high AC → causing their average profit to fall → overall earning subnormal profit → leave the market.
- Yet should the firm keep their price high → consumers will switch to cheaper substitutes → firms losing market share when other firms engage in price competition.

[Link] Thus, firms may not want to continue their expansion as this will not help the firms in gaining more market share.

Evaluation of Requirement 2:

- There is a high likelihood of this occurring because the preamble mentions that the 50 firms are able to produce 4 times that of the DD. This means that there is severe over capacity. There is a high chance that the firms are close to MES. Thus, continue expansion may not be desirable.
- However, this undesirable effect of firms' expansion may more likely occur in the larger firms, especially those 10 firms who are currently taking 97% of the market share. These 10 firms are already producing at a large scale. The smaller firms are less likely to experience this because the remaining 40 firms only took up 3% of the market share.

Conclusion

- Whether firms should continue to expand depends on whether they are near the MES.
- Should the firms be far away from the MES, they could still expand and reap the benefit of lower cost and the possibility of capturing larger market share. If firms are near the MES, it is not advisable to continue their expansion.
- Secondly, even if they are far from the MES, any cost savings derived from the expansion need not necessarily lead to larger market share, especially for the 40 smaller firms who only took only 3% of the market share. But having said that, if those small firms are producing far from the MES, any expansion would still give them the benefit of cost savings and this cost

savings will still give them a chance to compete, though the outcome on the market share is less certain. Thus, it is better than keeping status quo in terms of expansion.

- Furthermore, instead, the firm may want to engage in alternatives ways to gain large market share. It could be through merger rather than through internal expansion. The merger could be better than just internal expansion as it could lead to more immediate outcome in terms of both TR and cost saving.

Analysis	Marks
First requirement: Explain how continued expansion by the Chinese EV battery manufacturers may lead to a larger market share. Candidates are required to use tools of analysis to explain how continue expansion by the firms will lead to cost saving and increase firms' ability to engage in price competition to obtain larger market share. **Second requirement: explain why continued expansion by the Chinese EV battery manufacturers may not lead to a larger market share.** Candidates are required to use tools of analysis to explain why continued expansion may not lead to larger share. This could be due to internal disEOS, which lead to higher price and thus, lower market share.	**L3 Band [8m – 10m]** **L2 Band [5m – 7m]** **L1 Band [1m – 4m]**

Evaluation	Levels
• Two evaluative judgements that is well explained, supported by arguments in the answer using relevant economic analysis and linked to the context of the question. o Synthesise arguments/judgements to arrive a well-reasoned summative judgement and decision. o Recognise unstated assumptions and evaluates their relevance. o Evaluation is based on sound criteria. **<u>PLUS</u>** • Summative judgement/ decision is sound and explicit in the conclusion. o Shows ability to weigh up and make decisions about alternative options. ➢ Judgements on which are well-substantiated using conceptual analysis and real-world evidence relevant to the context of the question. ➢ Judgements are synthesised to arrive at an overall decision. ➢ Making recommendation on course of action based on the overall decision. E.g., Summative conclusion regarding whether firms should continue expansion or only small firms should continue expansion.	**E3: 5m**

• A well-explained evaluative judgement about both requirements OR • Lower end of E2 (3 marks) which is a well-explained evaluative judgement about one requirement. **PLUS** • A learned evaluative statement for the second **PLUS** • A summative conclusion.	**E2: 4m**
• A well-explained evaluative judgement about one requirement PLUS • 2. A learned evaluative statement for the second.	**E2: 3m**
• A 'learned' evaluative statement for the two requirements. **OR** • A well-explained evaluative judgement about the one requirement.	**E1: 2m**
• A 'learned' evaluative statement for one requirement.	**E1: 1m**
• No attempt at evaluation	**E0: 0m**

3 (a) Explain why markets might fail in the case of public goods and where market dominance is present. [10]

(b) Discuss the policies which can be adopted by the government to safeguard consumers' interest where market dominance is present. [15]

<u>Suggested Answer (a)</u>

Market failure occurs when free market fails to allocate resources efficiently. Due to the unique characteristics of public goods – non-excludability and non-rivalry – free market will not allocate resources to the production of public goods and hence market fails. While on the other hand where market dominance is present, free market will under allocate resources in the production of goods. Hence market fails in the case where market dominance is present.

<u>Requirement 1: Explain how market may fail in the case of public goods</u>
Markets fail in the case of public goods due to the non-rivalry and non-excludable nature of the goods. Public goods such as street lighting is non-rivalry in nature as the consumption of the goods by one person does not diminish the quantity or quality for another person to consume. The usage of street lighting by one person does not diminish the quantity or brightness of the street lighting available for the next person. Since consumption of the goods by one person does not diminish the quantity or quality for another person, the cost of supplying the good to an additional consumer is zero i.e. MC=0. As the cost of producing for additional consumer is zero, it is not possible for producers to charge a price for the street lighting. Thus producers would not be willing to produce the goods and there will be zero allocation of resources in the production of public goods and hence market fails.

In addition to non-rivalry, public goods are also non-excludable as once the goods are produced, it is not possible or economically feasible to exclude someone from using the good even if he does not pay for it. Once the street lightings are produced, non-payers can also benefit from the lighting of the street lamps and it is impossible to prevent those non-payers from enjoying the lighting. Therefore there is no incentive for people to pay themselves and reveal their demand leading to free-rider problem. Firms are unable to charge a price for the good since there is no price signal for the good. Therefore it is unprofitable for private firms to supply the good. As the free market allocates zero resources to the provision of public good, there is complete market failure.

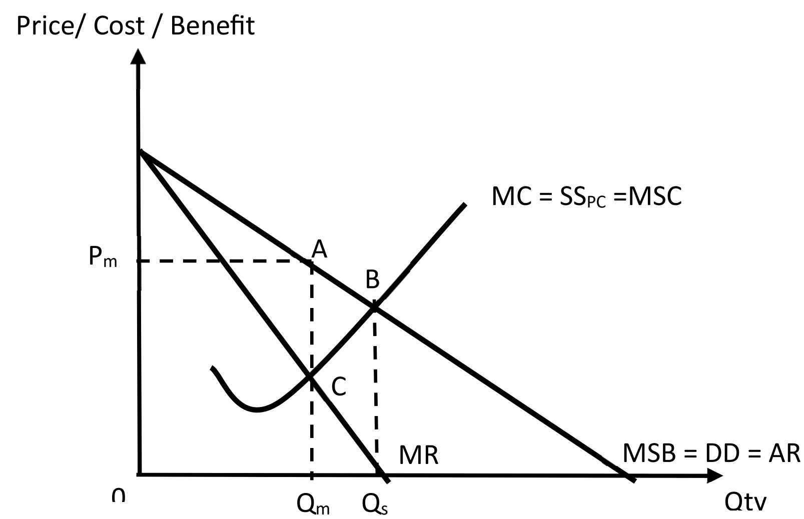
Due to characteristics of non-rivalry and non-excludability, no resources will be allocated to the production of public goods when left to the private sector. The problem of a complete market failure calls for the government to intervene to provide for such goods.

Requirement 2: Explain how market may fail in the case of market dominance

Firms in imperfect market structure exhibits market dominance which arises from the market power that they possess. Market dominance also equips the firm with price setting ability and hence they are price setters. Thus, the firm faces a downward sloping market demand curve. With market power to exert dominance, firms in the unregulated market fail to achieve Pareto Optimality in resource allocation. This leads allocative inefficiency. The analysis below will be done using the case of a monopoly (strongest market dominance among all market structures).

Allocative efficiency occurs when the society produces and consumes a combination of goods and services that allows it to attain the greatest level of satisfaction and maximizes its welfare. In the absence of externalities, this occurs when society's valuation of the last unit of the product (Price) is equal to the opportunity cost or value of resources that go into producing that last unit of good (Marginal Cost) i.e. P=MC. Assuming the monopolist's objective is profit maximisation, the monopoly will choose to produce at output Q_m (refer to Fig 1) where marginal revenue (MR) is equal to marginal cost (MC) and charges a price P_m. However, the socially optimal level of output is Q_s where MSC=MSB, as society's welfare is maxismised at this level of output. Hence, at the monopoly's output Q_m, there is under-allocation of resources since P_m>MC. This indicates that the value consumers place on an additional unit of the good exceeds the additional cost of producing it. Allocative inefficiency has also resulted in loss of societal welfare or deadweight loss indicated by the area ABC. To maximize societal welfare, the monopoly should have re-allocated resources from other uses into the production of this good and increased output up to Q_s where P=MC. This is because for each of the unit between Q_m and Q_s, the additional benefit surpasses the additional cost, hence the society will be better off producing these units.

Figure 1: Under-allocation of resources due to market dominance



Conclusion

Thus, markets might fail in the case of public goods and where market dominance is present.

Question	Answer	Marks
3(a)	**First requirement: Public Goods** – The market failure present in the context of public goods is due to its unique characteristics (non-rivalry and non-excludable). Due to the characteristics, it leads to the problem of free-ridership and allocative efficiency occurring at P=MC=0. **Second requirement: Market Dominance** – Market dominance stems from the barriers to entry present in the industry. This gives rise to firms' price setting ability in which they will restrict output to set high price in order to maximise profits. The output produced is not at the socially optimal level, leading to allocative inefficiency.	L3 [8-10 marks] L2 [5-7 marks] L1 [1-4 marks]

(b) Discuss the policies which can be adopted by the government to safeguard consumers' interest where market dominance is present. [15]

Suggested Answer (b)

With strong market dominance, firms possess strong market power and this gives rise to their greater ability to restrict output in der to set higher price. To safeguard consumers' interest, the government needs to implement policies which weakens firm's ability to set high prices. Such policies include pro-competition policies which opens up the market to greater competition as well as pricing regulation which restricts the price setting ability of firms.

Market liberalisation is a policy which can be adopted by government to safeguard consumers interest where market dominance is present. It involves bringing down barriers to entry into industries, making markets more competitive due to the increase in number of firms. Greater competition will drive firms to be more efficient in production and be more consumer-centred. Allowing foreign firms to operate in local markets will introduce new and dynamic firms into the market increasing the level of competition leading to lower prices, better quality of goods/services, and greater choices for consumers. An example would be the liberalisation of the telecommunication industry in Singapore in 2000. Prior to the market liberalisation, the monopolist Singtel would charge high price, and constantly raising subscription fees for users, citing increase in cost as the reason for higher price. Consumers have no other choice but to pay the high subscription fees. With the liberalisation of telecommunication industry, new firms e.g. Starhub and M1 entered. This reduces the market share of Singtel and weakens their market power. Today, TGP from Australia and CMLink SG from China can be seen in Singapore's telecommunication industry in Singapore.

With more competition, the AR and MR shifts left, with a higher PED value due to the increase in number of substitutes available. The profit maximising output falls from Q_1 to Q_2, resulting in price from P_1 to P_2. As a result, the gap between P_2 and MC_2 will now be smaller (as compared to the gap between P_1 and MC_1), reducing the extent of allocative inefficiency issue in society.

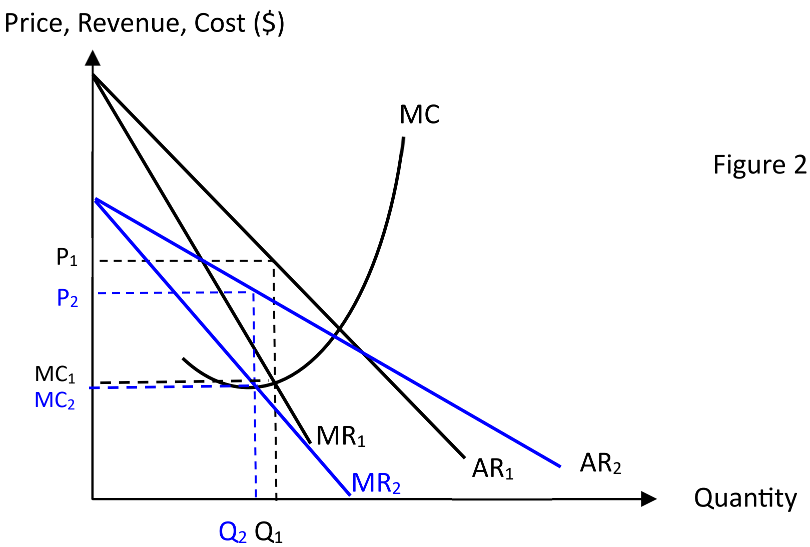


Figure 2: Market liberalisation

Market liberalisation directly curbs the market power of existing monopoly, weakening their ability to set high prices. It also requires less monitoring from the government since existing firms will have the incentive to be more efficient in order to remain profitable in the industry.

The nature of the industry also affects the type of policies which the government can implement to protect consumers' interest. E.g. for the case of a natural monopoly, market liberalisation might not be so suitable as the entry of new firms will lead to duplication of services and wastage of resources and the inability to reap the substantial internal economies of scale available, which can result in even higher price for consumers as compared to when there is a sole seller in the market. Instead, price regulations will be a more appropriate policy in the case of a natural monopoly.

Price regulations like marginal cost pricing can also be implemented. It may be imposed on both the normal monopoly as well as the natural monopoly such as corporations supplying electricity and other forms of utility and services. The objective of such pricing policy is to achieve efficiency of large scale production without permitting the high monopoly prices, low output and hence allocative inefficiency. Under Marginal Cost pricing policy, the monopolist is allowed to charge a price equal to MC, whereby the monopolist charge a price where his demand curve (AR) cuts the MC curve at the price of P_M. With reference to Figure 3 in the absence of any regulations, the monopolist will produce output Q_0 and charge P_0. With the adoption of MC pricing, the society enjoys a larger quantity of goods ($Q_M>Q_0$) and at a lower price ($P_M<P_0$) compared to the case of an unregulated monopoly. Consumer surplus will increase when lower price is charged. At the same time, allocative efficiency is also achieved as the monopolist is producing the socially optimal output level desired by consumers. Thus, MC pricing is able to prevent dominant firms

like the case of a natural monopoly from abusing their market power by charging a higher price producing at a lower output to consumers.

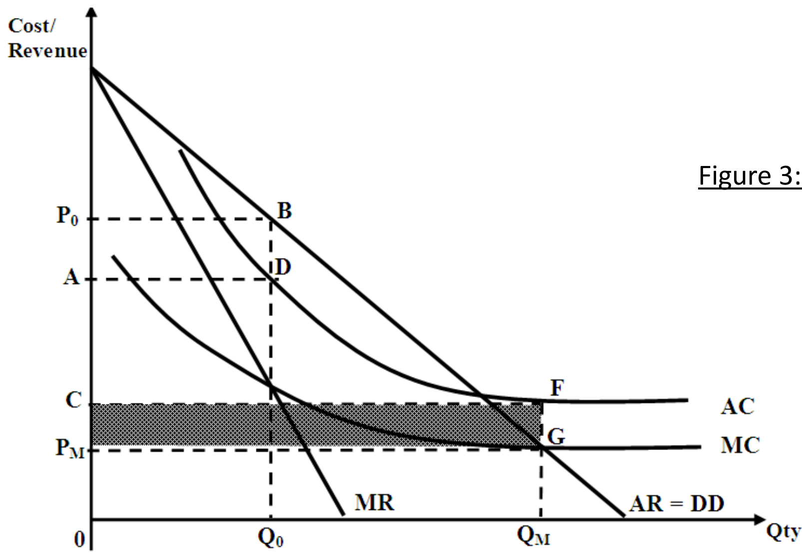


Figure 3: MC Pricing

However as a result of MC pricing, the monopolist incurs a subnormal profit given by area P_MCFG. This implies that the monopolist may go out of business in the long run unless it is subsidized by the government. *Nonetheless, if the government were to provide the subsidy, taxes will have to be raised in order to finance it. Ultimately, financing the tax burden may have to fall on the taxpayers which may not be favourable as it will result in a higher welfare loss. In addition, the government may have to forgo public spending in some other areas. In view of the strain on government budget and potentially higher tax burden the citizens, MC pricing should at best be a short term solution.*

In conclusion, depending on the nature of the industry and the cost to the government, the government have a wide array of policies available to implement and protect consumers interest.

Question	Answer	Marks
3(b)	The requirements are an analytically based explanation with the support of examples of at least two policies with a discussion of how they can help to improve consumers welfare. The choice of policies explained should be different in nature. A diagram can be used where relevant to aid the analysis **Evaluation marks:** Well-argued evaluation judgements should be made clear the relative effectiveness of the policies (e.g. sustainability, ease of	L3 [8-10 marks] L2 [5-7 marks] L1 [1-4 marks] E3 [5 marks] E2 [3-4 marks] E1 [1-2 marks]

	implementation etc) in the industries mentioned. Candidates can also recognise the implications of the policies.	

4 Rapid digital transformation during Covid-19 has accelerated job automation. While this is good news for those with the requisite skills, "it is bad news for individuals with lower levels of education as those jobs which they were once well-suited for are now fast disappearing", said National University of Singapore (NUS) senior lecturer Kelvin Sea.

Source: The Business Times, 27 June 2022

(a) Explain two causes of unemployment for an economy such as Singapore. [10]

(b) Discuss the relative effectiveness of any two policies adopted by the Singapore government to prevent high unemployment in the country. [15]

Suggested answer (a)

Introduction:

Unemployment occurs when a person is available and wiling to work but currently without a job. The unemployment rate is measured by expressing the number of unemployed individuals as a percentage of the labour force. Currently, Singapore is facing a tight labour market with unemployment rate hovering around 2%. In Singapore, industry transformation with increasing automation and use of technology causes rising structural unemployment while Singapore’s trade-reliant nature makes her vulnerable causes cyclical unemployment.

Requirement 1: Elaborate on the cause of structural unemployment in Singapore

One likely cause of unemployment in Singapore is structural unemployment which stems from a mismatch between the skills of job seekers vs the skills required for available jobs i.e. a skills gap exists because job seekers are not able to acquire skills fast enough to take on the new jobs being created. Often, older, low-skilled workers are more vulnerable to becoming structurally unemployed although in recent years, some professionals, managers, executives and technicians (PMETs) increasingly face such threats too.

The mismatch between skills vs jobs happens when there are changes in the structure of the economy. Structural changes may result because of globalization. A more intertwined world implies that it is easier for firms to relocate/ shift their production plants from one country to another lower-cost country. In the case of Singapore, this is evident from the hollowing out of some industries such as the production of low value electronics (e.g. assembly of hard disk drives). For example, US-based Seagate Technology previously closed its hard-disk drive manufacturing plant in Singapore and laid off about half of its 4,000 workers, and shared plans to move production to existing sites in other countries to cut costs. The staff who were retrenched may lack the relevant skills to move on into new industries and may remain structurally unemployed. Although Singapore has lost her comparative advantage in certain areas, she has gained comparative advantage in other areas such as the production of high value electronics, and biomedical sciences due to economic restructuring. Although jobs are being created in these new growth areas, it is likely that retrenched workers lack the appropriate skills to take it up immediately due the sophisticated skills required.

OR

Structural unemployment is also hastened by the government policies adopted in recent years in pursuit of quality growth i.e. productivity-driven growth. For e.g., Policies such as the Productivity Solutions Grants helps Singapore companies improve their productivity and automate existing processes through IT solutions and equipment through the provision of subsidies. These policies increases the speed of technological advancement, raises productivity and increases the use of automation, making Singapore attractive to MNCs due to the increase in efficiency in production. As a result, those jobs which they were once well-suited for the workers for are now fast disappearing, especially jobs which requires low level of skills and can easily be replaced by technology. If the unemployed worker does not possess the skills to move into new industries, he may remain structurally unemployed.

[NOTE: Students can also consider how Artificial Intelligence is increasingly replacing high skilled jobs e.g. script writing and financial advice services.]

Requirement 2: Elaborate on the cause of cyclical unemployment in Singapore

Another likely cause of unemployment arises because of Singapore's export-oriented and import-reliant nature. These features imply that we are likely to suffer from cyclical unemployment if there is a fall in AD. For example due to US-China trade war, Singapore is implicated as there is a fall in net export. With US imposing tariff on China's exports, the demand for China's exports by the US consumers will fall. Since China is one of Singapore's top trading partner and imports raw materials e.g. processed chips and semi-conductors from Singapore, the falling demand for China's exports will lead to a fall in demand for raw material from Singapore, causing a fall in Singapore net export subsequently. Referring to Figure 1 and assuming that the economy is at full employment output level, the fall in AD from AD_0 to AD_1 will lead to an accumulation of inventory stocks which signals to firms to reduce their output by hiring less factors of production. This will cause an equivalent fall in household income and hence a further fall in consumption from AD_1 to AD_2 via the reversed multiplier effect. The fall in consumption will trigger further fall in national income. This cycle of falling household income, falling consumption and falling national income will continue until there is no more fall in consumption. As a result, the real national income falls by a multiple of the initial fall in net export (from Y_F to Y_2). As firms cut back production, fewer workers are employed and cyclical unemployment results. Besides affecting the manufacturing sector, our service sector (e.g. F&B/ tourism) is also affected as outlook remains bleak.

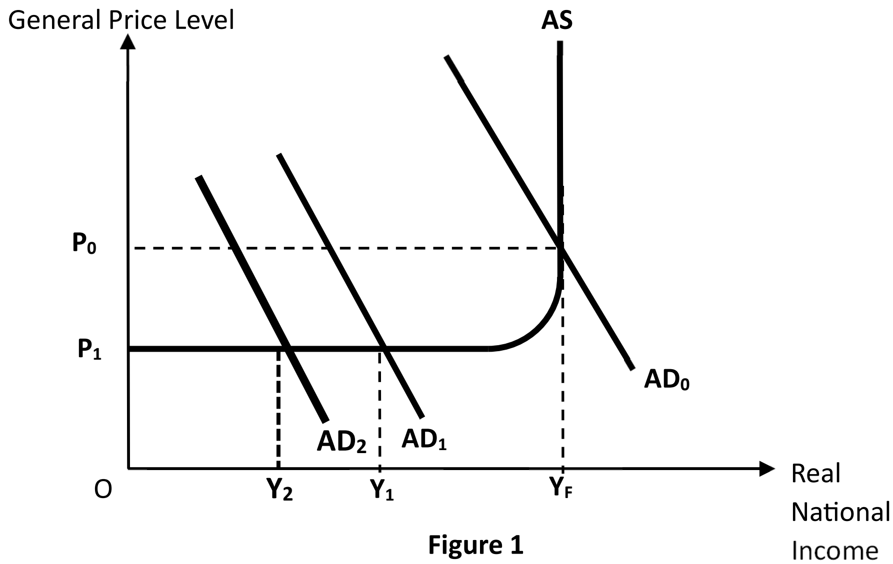


Figure 1

Conclusion:
In the current context, unemployment is likely to be largely attributed to structural reasons. Cyclical unemployment may increase should worldwide conditions take a turn for the worse while recognizing the causes of unemployment will aid the government in formulating the relevant policies to tackle it.

Question	Answer	Marks
4(a)	**First requirement – Structural unemployment** – Industry transformation promoted by government policies which involves the rising usage of technology replaces labour. Rising unemployment results and if worker lacks the relevant skills to move into new industries, they will remain structurally unemployed. **Second requirement – Demand-deficient unemployment** – Covid-19 pandemic which affected both internal and external demand causes a fall in demand for labour. A diagram should be used to illustrate the impact of the events which resulted in demand-deficient unemployment.	L3 [8-10 marks] L2 [5-7 marks] L1 [1-4 marks]

(b) Discuss the relative effectiveness of any two policies adopted by the Singapore government to prevent high unemployment in the country. [15]

Suggested Answer (b)

Introduction:
High unemployment can lead to adverse consequences on the economy which includes negative economic outlook, causing economy to spiral downwards as well as worsening of government budget position. In view of that, the Singapore government needs to prevent high unemployment in the country through policies e.g. expansionary fiscal policy and supply side policies. The effectiveness of these policies is then dependent on several factors e.g. sustainability of the policies and significance of government intervention.

Requirement 1: Discussion of how expansionary fiscal policy can be used to prevent high unemployment in Singapore

During the economic recession in 2009, the Singapore government adopted expansionary fiscal policy to prevent high unemployment in the country. Since this is essentially a demand-management policy, it is thus more effective at tackling unemployment due to a deficient AD. Expansionary fiscal policy is the deliberate decrease in the tax rates and/or increase in the level of government expenditure in order to increase the level of aggregate demand. The lowering of personal income tax (through income tax rebates) will lead to an increase in level of disposable income, increasing household consumption expenditure (C). The lowering of corporate income tax from 18% to 17% also increased firms' after-tax profits, increasing incentive for firms to increase investment expenditure (I). The government also increase the hiring of civil servants (in which the wages constitutes public consumption expenditure) and bringing forward infrastructure development projects e.g. construction of park connectors and development of Marina Bay area (in which the spending constitutes public investment expenditure), both of which increases government expenditure (G).

The increase in C, I and G leads to an increase in AD from AD_0 to AD_1 as shown in Figure 2. Assuming that the economy is operating below full employment output level, an increase in AD leads to a depletion of inventory stocks, signaling to the firms to produce more by hiring more factors of production. As a result, household will experience an increase in income which will trigger additional consumption, indicated by the further increase in AD from AD_1 to AD_2 which part of the increase in income will leak out of the circular flow via savings, taxes and import expenditure. This cycle will continue until there is no more increase in income and induced consumption. As a result, the real national income increases by a multiple of the initial increase in C, I and G due to the multiplier effect. As real output increases from Y_0 to Y_2, the demand for labour will also increase since labour is an essential factor input in the production of many goods and services. This will help to prevent the high unemployment in Singapore.

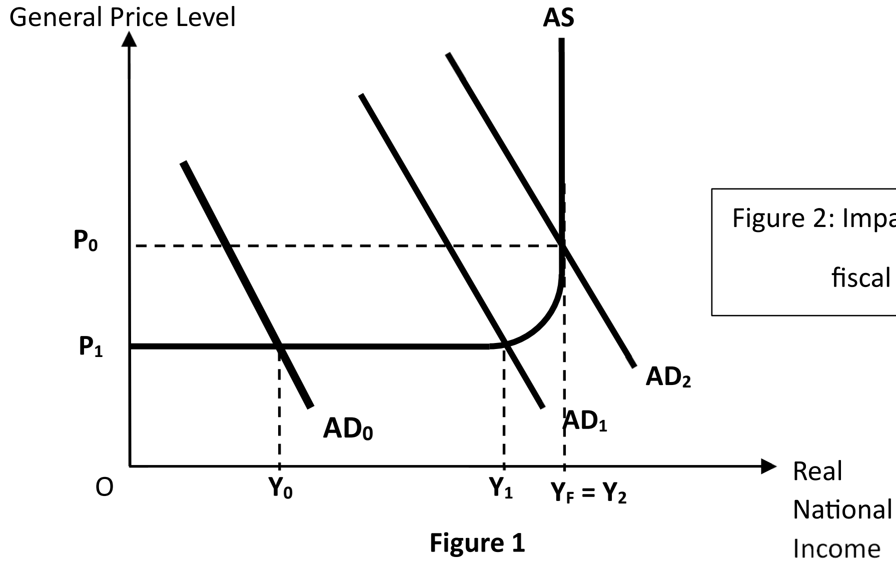


Figure 1

Figure 2: Impact of expansionary fiscal policy

However, the effectiveness of the policy is limited due to Singapore's small multiplier size. Singapore being a resource-scarce country with a small domestic market and land area is very reliant on import of raw materials and final goods and services. This lead to the high marginal propensity to import. Furthermore, the marginal propensity to save is also high due to the compulsory state savings scheme CPF (20% of employee's gross income) and culture of thrift in an Asian country. As a result, the increase in AD will lead to a less significant increase in real national income, limiting the effectiveness in jobs creation and preventing high unemployment rate in Singapore.

Despite that, it is worth noting that government spending during times of recession is very crucial as it has a direct and more certain impact on AD and instilling confidence of households and firms to trigger their spending, especially when household and firms tend to postpone their spending when there is bleak economic outlook. Transfer payments are also targeted at the lower income group who have a higher marginal propensity to consume. However, while expansionary fiscal policy can help to reduce high demand-deficient unemployment, it does not tackle the root cause of structural unemployment. Hence government needs to introduce supply side policies to reduce the mismatch of skills between the job seekers and the requirement of the job.

<u>Requirement 2: Discussion of how supply side policies can be used to prevent high unemployment in Singapore</u>

From (a), Singapore's unemployment is largely due to structural factors due to government's continual push for industry transformation. This is likely to imply that expansionary fiscal policy may not be that effective or relevant preventing high unemployment rate in the country. Instead, supply-side measures will be more effective. Specifically, to reduce the degree of mismatch between skills and available jobs, the government has undertaken widespread measures to equip/ train workers with the relevant skills. For e.g., to help older low-wage workers, the Workfare Training Scheme (WTS) has the government providing up to 95% course subsidies and absentee payroll to employers so as to encourage them to send workers for training. SkillsFuture Singapore (SSG) is also implemented in 2015 with the aim of encouraging individuals to take ownership of their skills development and lifelong learning. All Singapore Citizens aged 25 and above received an opening SkillsFuture Credit of S$500 which can be used on top of existing SSG course fee subsidies to pay for a wide range of approved skills-related courses. Through the lowering of out-of pocket cost, the individuals will increase their demand for skills training since they are better able to afford the training with the credits given. Furthermore to reduce the information gap individuals have, My SkillsFuture portal also offers a range of training courses as well as the information of skills in demand by the various rising industries. With more information available and increase in ability to afford due to the training credits given, demand for skills training will increase. Successful training increases their employability and reduces the risk of structural unemployment.

However, the success of the policy is also not guaranteed as it depends on the take up rate of the training programme and the effective application of skills into the new jobs. Despite Skills Future Credits being given, only 29% of eligible Singaporeans aged 25 and above have utilised their Credit. This means that despite lowering the out-of-pocket training cost, many individuals lack the incentive to go for training, and this can cause structural unemployment to remain high. In addition, such supply-side measures usually requires a high capital outlay from the government i.e. it is costly to fund training, especially over a long period.

However this may not be a big issue in Singapore as Singapore have a prudent government who have accumulated reserves over time. With the funds available, these training policies can be sustainable for effects to be reaped in the long run. Furthermore, Singapore is a resource scarce country and the government places a lot of emphasis on improving quality of labour resource through training as helps to make Singapore the preferred destination for investment of high-value products, enabling Singapore to achieve strong economic growth over the years.

Conclusion:
In conclusion, unemployment in Singapore is multi-faceted and the Singapore government needs to implement a range of policies to effectively prevent high unemployment in the country.

Question	Answer	Marks
4(b)	The requirements are an analytically based explanation with the support of examples of at least two policies with a discussion of how they might help to prevent the high unemployment in Singapore. The requirements are for an explanation of at least two policies which are expected to include: - Training and education to reduce structural unemployment - Any expansionary demand-management policies used by Singapore to reduce demand-deficient unemployment **Evaluation marks:** Well-argued evaluation judgements should be made clear the relative effectiveness of the policies (e.g. sustainability, ease of implementation etc) in the context of Singapore, considering the nature of Singapore. Candidates can also recognise the implications of the policies on Singapore.	L3 [8-10 marks] L2 [5-7 marks] L1 [1-4 marks] E3 [5 marks] E2 [3-4 marks] E1 [1-2 marks]

Q5	Countries around the world have been dealing with the impacts of rising inflation. In the United States, the Federal Reserve has increased interest rates in May 2023 for the 10th consecutive time since March 2022. Over in Singapore, the Monetary Authority of Singapore (MAS) has tightened its exchange rate in October 2022 for the 5th consecutive time since October 2021. Source: Various
(a)	Explain why countries use different monetary policy tools to address rising inflation. [10]
(b)	Discuss the factors that MAS would consider when deciding whether to further tighten Singapore's exchange rate. [15]

(a) Explain why countries use different monetary policy tools to address rising inflation. [10]

Question Analysis and Approach:

- "Different monetary policy tools" to address rising inflation: Interest Rate and Exchange Rate. The choice of monetary policy tool will depend on the nature of a country's economy: Large vs small and open
- Context: U.S. and Singapore
- Requirement 1: Explain why the U.S. chooses to use interest rate policy and explain how an increase in interest rate helps to address rising inflation.
- Requirement 2: Explain why Singapore chooses to use exchange rate policy and explain how an appreciation of the exchange rate helps to address rising inflation.

Introduction:

Across the world, different countries choose to use different monetary policy tools to address rising inflation. The choice of monetary policy tool will then depend on the nature of a country's economy. Some countries like the United States (U.S.) choose to increase interest rates to address the rising inflation while other countries like Singapore choose to appreciate its currency to address the rising inflation.

Body:

Requirement 1: Countries that have a larger domestic economy like the U.S. may prefer to use interest rates to address rising inflation.

Explain why countries like the U.S. choose to use interest rate

- Interest rate policy is a preferred intervention tool for countries like the U.S. due to the nature of its economy. The U.S. is a large and less open economy that possesses good factor endowment which results in a lower reliance on imports and exports. With a large domestic market and a population with high average income per capita, the consumption component of the economy is significantly larger than other components of the AD. Furthermore, the U.S. is a developed economy with significant innovations financed through high investment by firms.
- Therefore, their large domestic market puts them at a higher risk of facing domestic sources of inflation as compared to imported inflation. Hence, an increase in interest rate impacts consumption and investment expenditures which are two different and significant components of AD for the U.S.. Therefore, interest rate policy will be more effective in addressing rising inflation that is due to domestic sources.
- Moreover, with a freely floating exchange rate, the rise in interest rates will attract the inflow of hot money that are in search of higher returns. The inflow of hot money will lead to an increase in demand for the U.S. currency. This will lead to the appreciation of the United States Dollar (USD). The appreciation of USD can then reduce (X-M) assuming Marshall Lerner Condition (the sum of price elasticity of demand of exports and imports is more than one) holds. Therefore, the fall in (X-M) can further dampen the rise in AD which helps to further moderate the rise in inflation and can help to tackle external sources of inflation as well.
- [Optional] In addition, the U.S. has one of the most developed and sophisticated financial markets in the world. This includes well-functioning money markets, bond markets, and a dynamic banking sector. These markets provide a wide range of instruments through which the Federal Reserve can influence interest rates and the overall economy. The deep liquidity and diversity of financial instruments allow the Federal Reserve to implement interest rate changes effectively.

Explain how a rise in interest rates can address the rising inflation.

- Some countries like the U.S. use interest rate policy to control inflation. To address rising inflation, central banks like the Federal Reserve in the U.S. can raise interest rates. The increase in interest rates would raise the opportunity costs of borrowing for firms and households.
- As a result, firms and households would be less willing and able to purchase capital goods and big-ticket consumer goods respectively. The higher interest rate payments would also reduce the profitability of new projects thus firms may be less willing to invest in new capital goods. Moreover, higher interest rates on savings would increase the opportunity costs of spending. Households may then choose to save rather than borrow. All of the above would result in a dampening effect whereby investment expenditure (I) and consumption expenditure (C) may increase to a smaller extent.
- Since aggregate demand (AD) equals C + I + G + (X-M), a smaller increase in C and I would lead to a smaller increase in AD, ceteris paribus. As such, this will lead to a smaller depletion of inventory stocks which reduces the extent to which firms will increase production. With a smaller increase in AD, the multiplier effect would lead to a smaller

multiplied increase in RNY. As such, the competition for scarce resources will be smaller, leading to a smaller increase in factor input prices. This will lead to a smaller increase in the cost of production. Therefore, the general price level (GPL) will increase to a smaller extent as firms pass on a smaller increase in costs to consumers. This will help to address the rising inflation by moderating the increase in GPL.

[Transition Statement] However, interest rate policy may not be the best tool for all countries to address rising inflation. There is also room for countries to consider the use of exchange rate policy to address rising inflation.

Requirement 2: Countries that have a smaller and more open economy like Singapore may prefer to use exchange rates to address rising inflation.

Explain why countries like Singapore choose to use exchange rate

- Countries with a smaller and more open economy like Singapore do not use interest rate policy because of its degree of openness to capital and trade flows. The corporate sector is dominated by multinational corporations which rely on funding from their head offices rather than on the local financial market. As such, any increase in domestic interest rates may not necessarily lead to the desired effect of reducing investment expenditure.
- In Singapore, its central bank, the Monetary Authority of Singapore (MAS) does not choose interest rates as a choice of monetary instrument as the nature of the economy makes it an interest rate taker in the world market i.e. Singapore's interest rates are heavily influenced by the interest rates of its major trading partners. This is because Singapore promotes itself as an international financial centre that emphasises open and free capital flows, making it impossible for MAS to independently determine the domestic interest rates. For example, if MAS decides to increase domestic interest rates, short term capital flows ('hot money') will enter Singapore to seek higher interest returns. Due to the relatively small domestic sources of loanable funds, this will increase the supply of loanable funds in Singapore significantly and create a downward pressure on interest rates until they are comparable to foreign interest rates. Therefore, there cannot be any reliance on interest rates to influence C and I and it is difficult for the MAS to independently set interest rates.
- Finally, Singapore's reliance on imported factors of production coupled with a small domestic market makes it more susceptible to imported inflation rather than domestic sources of inflation. Hence the use of exchange rate policy tool can better address rising inflation.

Explain how an appreciation of the exchange can address the rising inflation

- For Singapore, the appreciation of the exchange rate will lead to a fall in the price of imported raw materials in domestic currency, this will lead to a fall in cost of production (COP) of goods and services in Singapore, causing a rise in SRAS. With a reduction in COP, firms may pass on the cost savings to consumers in the form of lower prices, thereby helping to moderate the rise in GPL through rising inflation. This will help to alleviate imported cost-push inflation.

- In addition, appreciation of Singapore Dollar (SGD) will also tackle demand-pull inflation. Appreciation of SGD will mean that the price of Singapore exports will rise in foreign currency while the price of imported goods and services will fall in SGD. Assuming that MLC holds, an appreciation of SGD may mean that net exports (X-M) may fall. The fall in (X-M) will lead to a fall in AD, ceteris paribus which helps to moderate the increase in GPL.

Conclusion:

- Therefore the nature of a country's economy will impact the choice of monetary tools to address rising inflation.

Mark Scheme:

Analysis	Marks
First requirement: Explain why some countries like the US use interest rate policy and how an increase interest rate can address rising inflation. Candidates are required to explain why some countries choose to use interest rate policy. Candidates are required to explain how the increase in interest rate reduces inflation rate using the AD-AS analysis. **Second requirement: Explain why some countries like Singapore use exchange rate policy and how an appreciation can address rising inflation.** Candidates are required to explain why some countries like Singapore choose to use exchange rate policy. Candidates are required to explain how an appreciation of the exchange rate reduces inflation rate using the AD-AS analysis. **Marker's notes**: To reach "Analytical" for each requirement, ● An answer must be clear in explaining the rationale for their choice of monetary policy. ● An answer must explain how the chosen monetary policy reduces inflation rate using AD-AS analysis. ● Full multiplier explanation is not expected	**L3 Band** **[8m – 10m]** **L2 Band** **[5m – 7m]** **L1 Band** **[1m – 4m]**

● For exchange rate policy, it is important to explain how appreciation addresses cost push inflation for Singapore.	

(b) Discuss the factors that MAS would consider when deciding whether to further tighten Singapore's exchange rate. [15]

Question Analysis and Approach:

- "Factors" and "Consider": Decision Making Framework to be used. Factors to discuss will be on the benefits, costs, and constraints of a further appreciation of SGD.
- Context: Singapore
- Requirement 1: Explain the benefit of a further appreciation.
- Requirement 2: Explain the cost of a further appreciation.

Introduction:

- MAS's primary mandate is to maintain price stability that is conducive to economic growth of Singapore's economy.
- As seen from the preamble, MAS has appreciated SGD for the fifth consecutive time. In making the decision of whether to further tighten Singapore's exchange rate, MAS would need to consider the benefits, costs, and possible constraints of a further appreciation of the SGD.

Body:

Requirement 1: MAS should consider the benefits of a further appreciation of SGD.

Explain the benefits of a further appreciation of the SGD against foreign currencies

- When there is a further appreciation of the SGD against foreign currencies, exports would become even more expensive in terms of foreign currencies while imports become even cheaper in terms of SGD.
- As mentioned in (a), with a small and open economy, Singapore relies heavily on imports for production and consumption due to a lack of natural resources. As such, imported inflation is one of the major sources of inflation for Singapore.
- With a further appreciation of the SGD, it would lead to a further fall in the price of factor inputs as firms have to pay less in SGD for the factor inputs. This results in a further fall in the unit cost of production for firms, which leads to a further increase in SRAS. As producers pass on these cost savings to consumers in the form of lower prices, this would result in a further fall in GPL, leading to a further reduction in imported cost-push inflation.

Consider the factors that affect the extent of benefits from a further appreciation of SGD.

- MAS will have to consider whether a further appreciation of SGD can still bring about the intended effects of moderating inflation as inflationary pressure has persisted despite successive rounds of appreciation. As such, **the extent of the benefits from a further appreciation of SGD depends on the main source of inflation**. There is a need for MAS and the government to identify the main source of inflationary pressure as imported inflation may not be the only source of inflation. The appreciation of SGD is primarily effective in addressing imported cost push inflation. Therefore, if the main source of inflation is not from rising prices of imported goods and services, then further appreciation of the SGD may not be warranted as it may cause further weakening of growth. The MAS can then consider letting the government look into alternative policies such as supply-side policies that address the domestic sources of inflation such as from rising labour, accommodation and transport costs.

- **The extent of the benefits from a further appreciation of SGD is also dependent on the global economic conditions.** Given that the world is now recovering from a post-pandemic world, the disruptions to global supply chains have appeared to have moderated. While the ongoing Russia-Ukraine War may still put significant pressures on the prices of energy, on the whole, the inflationary pressure from higher prices of imports are starting to slow. Therefore, MAS may not have to further appreciate the SGD and the current appreciation rate may be sufficient to moderate imported inflation.

In-body Evaluation:

- While MAS can consider to further appreciate SGD, it may want to consider the **rate and duration of such an appreciation**. The decision on the rate and duration of appreciation may have to be considered against the **severity and expected duration of the inflation**. If the inflation rate is expected to increase or the current rate is expected to persist for a long period of time, then further tightening of the exchange rate may be justified.
- If the expected rate of inflation is low and/or short lived, the government may consider to maintain the current rate of appreciation to moderate inflationary pressure.

[Transition Statement] Besides the benefits, MAS would need to consider the costs of a further appreciation of SGD.

Requirement 2: MAS should consider the costs of a further appreciation of SGD.

- MAS should consider the costs of a further appreciation of SGD such as **potential negative impacts on the other macroeconomic aims**.
- As mentioned, an appreciation of SGD may have a dampening effect on growth. Given that there have been successive rounds of appreciation, growth would undoubtedly be negatively affected.
- Assuming that the Marshall Lerner Condition (MLC) which states that the sum of price elasticity of demand of imports and exports are more than one holds, a further appreciation of SGD will result in a further decrease in net exports (X-M) which result in a further dampening effect on AD and hence a further reduction in the increase in real national output (RNY). As such, this may further reduce the actual economic growth.

Consider the factors that affect the extent of costs from a further appreciation of SGD.

- Given that Singapore has a small domestic market, and depends largely on the global market for growth, (X-M) would take up a significant proportion of AD and this further appreciation of the SGD against foreign currencies could lead to a significant fall in AD, and thus a significant slowdown in actual economic growth.

In-body Evaluation:

- **The extent of the potential cost of a further appreciation of SGD on Singapore's economy will be dependent on the global economic outlook.** Given that global economic outlook remains poor due to rising inflation rates among countries, instabilities in major financial markets as well as the ongoing Russia-Ukraine war, consumers around the world would expect their future income to fall (or not rise as fast), and thus purchasing power to fall (or to rise by a smaller extent). They will demand less of Singapore's exports, leading to a significant fall in export revenue.
- As such, the fall in (X-M) could be further amplified due to a cutback in spending on imports by Singapore's major trading partners. As such, if the exchange rate is over strengthened, the fall in (X-M) could be significant enough to decrease AD, which may cause Singapore to suffer from a negative economic growth.

Alternative Point: MAS should also consider the constraints of a further appreciation of SGD.

- In order to appreciate the SGD against other foreign currencies, MAS would have to increase the demand for SGD by using foreign reserves to buy up SGD. Therefore, successive rounds of appreciation would have already used up some parts of the foreign reserves.
- As such, MAS would also need to consider the amount of foreign reserves it possesses and whether it is sufficient to carry out future rounds of appreciation. The amount of foreign reserve that a central bank has is a potential constraint and will limit the extent that it could support the appreciation of its own currency to achieve its objectives.

In-body Evaluation:

- Singapore's reserves are prudently managed and usage of the reserves are carefully considered and monitored. Over the years, Singapore has managed to grow its reserves sufficiently to support MAS's policy stance while ensuring it has enough reserves to deter speculative attacks on the SGD. Therefore, while the size of foreign reserves is a potential constraint, it may not be a factor that MAS may be concerned about in the near future as long as the reserves can keep growing.

Overall Evaluative Conclusion:

- The MAS primary objective is to ensure price stability in order to ensure sustained economic growth. This implies that while it is important for MAS to moderate inflation, it should not do it at the expense of economic growth.
- **[Criterion]** The MAS has to consider the benefits, costs, and constraints in the consideration of whether to further appreciate the SGD. While inflations have risen globally over the past two years, there are signs that the global inflation may be slowing down.
- **[Criterion and Elaboration]** Given Singapore's small and open economy that is trade dependent, the appreciation of SGD is an appropriate policy to moderate imported inflation. Furthermore, the rise in prices of exports due to an appreciation is moderated by cheaper export prices via a reduced cost of production from cheaper imported factor inputs. As such, (X-M) may not decrease significantly. Thus, the negative effect on economic growth is minimised.
- **[Stand]** As such, the MAS can consider to maintain the currency appreciation rate and choose to monitor the situation instead of making a decision to further appreciate the SGD.

Mark Scheme:

Analysis	Marks
First requirement: Explain the benefit of further appreciation. Candidates are required to use the AD-AS analysis to explain how a further appreciation rate can moderate imported cost push inflation. Candidates are then expected to consider the possible factors that can affect the extent of the benefits. **Second requirement: Explain the cost of further appreciation OR Explain the constraint of further appreciation.** Candidates are required to use the AD-AS analysis to explain how a further appreciation rate can lead to negative impacts on other macroeconomic objectives, in particular negative economic growth/ slowdown in economic growth OR Candidates can explain a relevant constraint such as the amount of foreign reserves that MAS holds **Note**: To reach "Analytical" for each requirement,	**L3 Band** **[8m – 10m]** **L2 Band** **[5m – 7m]** **L1 Band** **[1m – 4m]**

● An answer must recognise that the decision is not to decide whether appreciation should be used but whether further appreciation is needed.	

	Evaluation
E3 **5m**	● **Two** evaluative judgements that are well-explained, supported by arguments in the answer using relevant economic analysis and linked to the context of the question. ○ Synthesise arguments/judgements to arrive at a well-reasoned summative judgement and decision. ○ Recognise unstated assumptions and evaluate their relevance. ○ Evaluation is based on sound criteria. **PLUS** ● Summative judgement/ decision is sound and explicit in the conclusion. ○ Shows ability to weigh up and make decisions about alternative options ○ Judgements on which are well-substantiated using conceptual analysis and real-world evidence relevant to the context of the question. ○ Judgements are synthesised to arrive at an overall decision. ○ Making a recommendation on a course of action based on the overall decision.
E2 **4m**	● Well-explained evaluative judgement about **both** requirements ***OR*** ● A well-explained evaluative judgement about **one** requirement **PLUS** ● A learned evaluative statement for the second requirement **PLUS** ● A summative conclusion
E2 **3m**	● A well-explained evaluative judgement about **one** requirement **PLUS** ● A learned evaluative judgement for the second requirement
E1 **2m**	● A learned evaluative statement for the **both** requirements ***OR*** ● A well-explained evaluative judgement about the **one** requirement.

E1 **1m**	● A ‘learned’ evaluative statement for one requirement.
E0 **0m**	● No attempt at evaluation

Analytical	**A**	● Answer is relevant to the question with good use of well-explained relevant theory ● Clear written explanation supported by a tool of analysis, such as a diagram ● Diagrams must be well labelled and must have written explanation ● Good ability at organising ideas or discriminating between relevant and irrelevant material. Answer is well focused on the question. ● Coherent economic arguments
Cursory	**C**	● Answer is relevant to the question, but theory is incompletely explained or has minor errors ● Use of relevant economic concepts applied to the question, but they are explained in a descriptive or incomplete manner ● Some ability at graphs with incomplete explanation ● Limited ability at organising ideas or discriminating between relevant and irrelevant material (e.g., pre-learnt generic answer)
Knowledge	**K**	● Answer that shows knowledge and understanding of a relevant economic concept with basic description or ● A few valid points or ● Mostly irrelevant or inaccurate or ● Meaning of the question not properly grasp or ● Basic errors of theory or ● Inadequately explained

Q6	The United States, the United Kingdom, Kenya, and Brazil are amongst the countries with the largest balance of trade deficit. In recent years, many countries's trade policies have taken a protectionist turn to reduce their balance of trade deficits.
(a)	Explain one internal and one external factor that could have contributed to the balance of trade deficit in a country. [10]
(b)	Discuss whether a country's use of protectionist policies to reduce balance of trade deficit will lead to conflicts with other macroeconomic objectives. [15]

(a) Explain one internal and one external factor that could have contributed to the balance of trade deficit in a country. [10]

Question Analysis and Approach:

- "Internal" and "External" factors are reasons for a BOT deficit.
- Context: No context. To provide your own examples.
- Requirement 1: Explain how an internal factor can cause a BOT deficit.
- Requirement 2: Explain how an external factor can cause a BOT deficit.
- It is important to distinguish whether a factor is internal or external.

Introduction:

The balance of trade (BOT) is a sub account within the current account on the balance of payments. BOT records the export revenue and import expenditure on goods and services. It is given by the value of Export Revenue (X) – Import Expenditure (M). A trade deficit occurs when the import expenditure exceeds the export revenue i.e. [X – M] < 0. This essay will explain both internal and external factors which might possibly have led to a large trade deficit in a country.

Body:

Requirement 1: An external factor could have contributed to the balance of trade deficit in a country.

One external factor which might have caused the BOT deficit could have been a relative appreciation of a country's currency.

- In order to have a clearer explanation, let us illustrate the explanation with the use of two countries as an example. Suppose China **depreciates** its currency (Chinese Yuan) against the United States' currency (United States Dollar (USD)) in order to make its exports more price competitive, this would make the price of the U.S.'s exports to China to be more expensive in Chinese Yuan while the price of imports from China into the USA would be cheaper in USD.

- Assuming that the Marshall-Lerner Condition (MLC) which states that the sum of the price elasticity of demand for exports and imports is more than one hold, net exports (X-M) of the U.S will decrease.
- Assuming that export revenue equals import expenditure initially, a decrease in (X-M) would lead to a BOT deficit. As such, countries that experienced an appreciation in relative exchange rates against their trading partners due to the depreciation of the trading partners' currencies might thus end up with a BOT deficit.

Note: In order to be credited as an external factor, students must explain that it is due to the depreciation of the currency of a trading partner relative to the country's currency.

OR

Another external factor that could have led to a BOT deficit could be the trade policy implemented by a country's trading partners.

- A country's trading partners could implement protectionist policies that seek to restrict the inflow of its imports while promoting the outflow of its exports. This could then cause a BOT deficit in the country.
- We can use China and the U.S. which have been embroiled in a trade war since 2018 as an example. The Chinese government's policy of providing subsidies for its producers in industries such as machinery and steel would lower the firms' marginal cost of production. This would allow firms to lower their prices for their goods including those that are meant to be sold as exports to other countries. Since the prices of imports from China into the U.S. would be cheaper, Americans would switch away from the domestically produced substitutes to consume the cheaper Chinese imports. This would lead to a rise in quantity demanded for Chinese imports.
- Assuming that the Americans' demand for Chinese imports is price elastic given the many substitutes available globally, the lower prices of imports will cause a more than proportionate rise in quantity demanded of imports. The rise in expenditure due to the more than proportionate increase in quantity demanded would be more than the fall in expenditure due to a fall in prices, thereby leading to a substantial increase in import expenditure (M) for the U.S.
- At the same time, U.S. exports within the same category as Chinese exports would now be relatively less price competitive. Therefore, such U.S. exports such as steel would become relatively more expensive and the demand for US exports will fall, leading to a fall in export revenue (X).
- Assuming that the BOT is balanced initially, this policy by the Chinese government will cause the USA to suffer a BOT deficit. As such, the cause of a BOT deficit in a country could be due to the trade policies by its trading partners.

[Transition Statement] Besides external factors, internal factors of a country could also have contributed to the BOT deficit in a country.

Requirement 2: An internal factor could have contributed to the BOT deficit in a country.

An internal factor which might have led to a BOT deficit could be the rapid economic growth experienced in a country.

- Developing countries like Kenya have enjoyed a relatively fast growth rate over the past decade, with growth rates averaging about 5% a year. If the growth exceeds that of population growth, the average incomes of their citizens would have increased.
- The increase in average incomes of citizens means that they now have higher purchasing power to purchase more goods and services which includes imports. With higher income, the demand for luxury goods such as branded watches, bags, and cars with a high income elasticity of demand (YED>1) would increase more than proportionately as consumers would have more incentives to increase their material standard of living. This would thus lead to an increase in import expenditure (M).
- Assuming that the level of export revenue remains relatively constant, the increase in import expenditure would lead to a fall in (X-M). If the BOT is initially balanced, the fall in (X-M) would cause a BOT deficit.

Note: Alternatively, students could also explain how the rapid economic growth would probably result in higher inflation rates. Therefore the higher inflation rates could incentivise consumers to consume more imports, leading to a rise in M which worsens BOT deficit.

OR

Another internal factor that could lead to a BOT deficit in a country is the loss in comparative advantage (CA) in its export industries.

- Comparative advantage is an economic concept that describes the ability of one country, firm, or individual to produce a particular good or service at a lower opportunity cost than others. A country could lose its comparative advantage over time due to changes in factor endowments. For example, the Middle Eastern Countries could lose their comparative advantage in the production of oil eventually when the supply of oil depletes. The loss in CA would lead to a fall in export revenue (X).
- Another way for a country to lose its comparative advantage could be due to a lack of investment or an insufficient investment in research and development (R&D) and in the labour force. As a result, productivity growth could slow down due to a lack of new technology and skilled labour. This could result in a higher unit cost of production and hence higher prices relative to other countries. This could cause a fall in export price competitiveness.
- With a rise in export prices, quantity demanded for UK exports would fall. If the demand for exports is price elastic due to the availability of substitutes globally, the rise in price would lead to a more than proportionate fall in quantity demanded for exports leading to a fall in export revenue. At the same time, the imports could become relatively cheaper due to higher productivity growth of the trading partners and demand for imports rises, leading to a rise in import expenditure.

- All in all, with a fall in X and a rise in M, this would lead to a BOT deficit assuming X=M initially.

Conclusion:

Therefore, the cause of a BOT deficit in a country can be attributed to either internal factors and external factors.

Mark Scheme:

Note: Students will only need one external and one internal factor that are well explained to be fully credited.

Other acceptable factors:

	Internal	**External**
Relative Exchange Rate	Case of SG: Appreciation of exchange rate relative to other currencies, leading to a fall in (X-M).	Other countries depreciate their currencies against the country's currency - mentioned in the answer.
Trade Policies		Countries impose protectionist policies on the country - *mentioned in the answer*.
Relative Growth Rate	Country experienced economic growth - *mentioned in the answer*.	Slowdown in growth of trading partners which leads to a fall in demand for exports, leading to a fall in export revenue.
Relative Inflation Rate	A country has a higher inflation rate than other countries.	Other countries have a higher inflation rate than the country.
Comparative Advantage (CA)	Loss of CA - mentioned in the answer.	Gain in CA by other countries - decrease in export competitiveness leading to a fall in X.
		Industrialization process in developing countries may lead to a balance of trade deficit in those countries. The need to import capital goods leading to a rise in M.

Analysis	Marks
First requirement: Explain how an external factor could have contributed to a BOT deficit in a country. Candidates are required to use tools of analysis to explain how an external factor could result in a BOT deficit in a country. **Second requirement: Explain how an internal factor could have contributed to a BOT deficit in a country.** Candidates are required to use tools of analysis to explain how an internal factor could result in a BOT deficit in a country.	**L3 Band** **[8m – 10m]** **L2 Band** **[5m – 7m]** **L1 Band** **[1m – 4m]**

(b) Discuss whether a country's use of protectionist policies to reduce balance of trade deficit will lead to conflicts with other macroeconomic objectives. [15]

Question Analysis and Approach:

- "Protectionist policies" include import tariffs, import quotas, export subsidies, administrative red tapes, and currency devaluation.
- "Macroeconomic Objectives": The 4 macroeconomic objectives
- Requirement 1: Explain how one protectionist policy can reduce BOT and how the use of such a policy may lead to conflicts with other macroeconomic objectives.
- Requirement 2: Explain how an alternate protectionist policy can reduce BOT and how the use of such a policy may not lead to conflicts with other macroeconomic objectives.

Introduction

- The government's macroeconomonic objectives include economic growth, low unemployment, low inflation and a favourable balance of trade (BOT). A favourable BOT means that there should be a healthy trade surplus where X>M.
- In the event of a BOT deficit, a country may then turn to protectionist policies to reduce the deficit. Protectionist policies include the use of import tariffs, import quota, and export subsidies with the aim to switch spending from imports to domestic goods and increase the price competitiveness of domestic exports in order to reduce the BOT deficit.
- Whether the use of protectionist policies to reduce BOT deficit will lead to conflicts of other macroeconomic objectives will depend on the type of policies used.

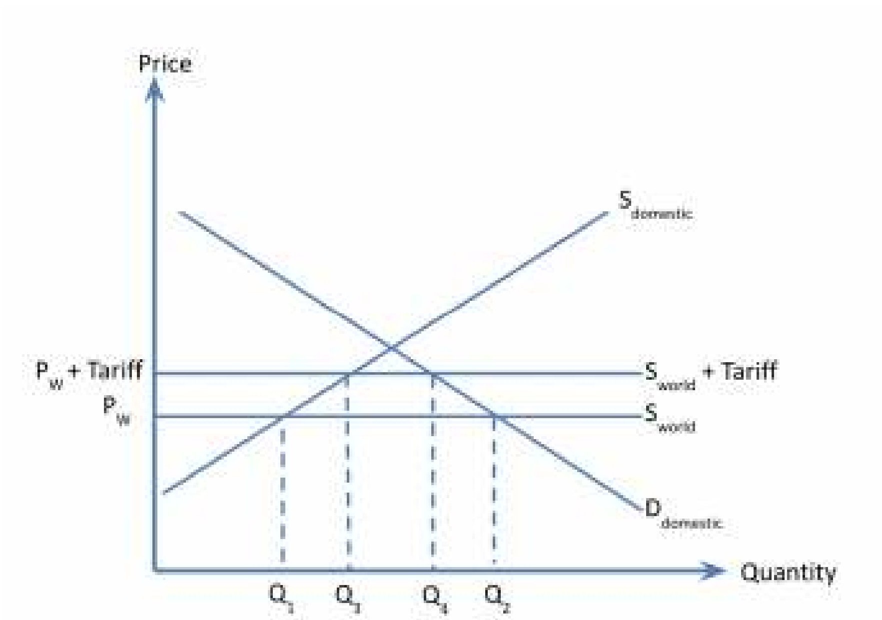
Body:

Requirement 1: The use of import tariffs can reduce a country's BOT deficit but it can also lead to conflicts with other macroeconomic objectives.

How the use of import tariffs can help to improve a country's BOT

- Protectionism such as an import tariffs may help to raise import prices and hence, reducing the spending on foreign imports and hence, improving balance of trade. Import tariffs is a tax that is imposed on imported goods. The imported good will now face a higher selling price due to the imported tax, as seen from how the supply curve shifted upwards by the amount of the tax, from Sworld to Sworld + tariff.

Figure 1: Import Tariff Diagram



- After the tariff is imposed, the imported good prices will therefore increase from P_w to P_w + Tariff. Importers will now pay a higher price of Pw+Tariff for imports. At this higher price, domestic quantity demanded for goods will falls from Q_2 to Q_4. At the same time, more domestic firms are willing and able to supply due to the higher prices and domestic production increases from Q_1 to Q_3. As a result, the volume of imports will fall from Q_1-Q_2 to Q_3-Q_4.
- Assuming that the demand for imports is price elastic given the availability of substitutes globally, the increase in price of imports through import tariff lead to a more than proportionate fall in quantity demanded for imports. As such, the rise in import expenditure (M) due to the rise in imports is less than fall in M due to the more than proportionate fall in quantity demanded of imports. Thus, M will fall.
- Assuming that there is no change to export revenue (X), the fall in M will lead to an improvement in net exports which will reduce the BOT deficit.

However, while using import tariffs can reduce BOT deficit, it can lead to conflicts with other macroeconomic objectives.

- For a country with a small and open economy like Singapore that relies on imports for consumer and capital goods, the imposition of import tariffs can worsen other macroeconomic objectives. Given that import tariffs would increase the price of imported goods, this would also mean that there will be an increase in the prices of imported factor inputs. As such, this will lead to an increase in the cost of production, leading to a decrease in the short run aggregate supply (SRAS). If the firms pass on the increase in COP to consumers in the form of higher prices, this will lead to a higher general price level leading to cost-push inflation. At the same time, higher prices will lead to a fall in induced consumption, leading to a fall in real national output (RNY), leading to negative economic growth.
- In addition, the rise in prices of imported factor inputs could also decrease the export price competitiveness if a country's exports have high imported contents like Singapore, leading to an increase in prices of exports. Assuming that the demand for exports is price elastic given the availability of substitutes globally, the increase in exports will lead to a more than proportionate fall in quantity demanded of exports, leading to a fall in export revenue. The fall in export revenue will lead to the fall in (X-M), ceteris paribus.
- The fall in (X-M) can lead to a fall in aggregate demand (AD), assuming other factors of AD remain constant. This will lead to an accumulation of unplanned inventory stocks which signals firms to produce less. This will lead to a multiplied fall in real national output (RNY) via the reverse multiplier effect which leads to negative growth. At the same time, with firms producing less, firms may retrench workers to cut costs, leading to an increase in demand-deficient unemployment.
- Assuming that total population remains relatively constant, the fall in RNY and a rise in unemployment can lead to a fall in disposable income for the average household. Rising GPL due to cost push inflation can also erode the purchasing power of the households. A fall in disposable income and a rise in GPL will lead to the worsening of the material standard of living of the average household.
- As such, while the use of import tariffs can reduce BOT deficit, it may also lead to conflicts with the other macroeconomic objectives.

Note: Students can also explain that the use of protectionist policies can invite retaliatory trade policies by its trading partners which can lead to conflict of macroeconomic objectives.

In-body Evaluation:

- However, the extent of the negative impact of import tariffs on a country's other macroeconomic objects will have to depend on the nature of its economy. A country that is less dependent on trade and more dependent on its domestic consumption and investment for economic growth will benefit more from the use of import tariffs to reduce BOT deficit since conflicts with other macroeconomic objectives are reduced as compared to a country with a small and open economy due to less reliance on exports to drive economic growth.

- For larger economies like the U.S. with more domestic resources, it could afford to import less. Furthermore, private domestic consumption (C) is likely the main driver of economic growth as compared to export revenue. As such, the negative impact of a fall in X due to import tariffs will likely be outweighed by the positive impact of a rise in domestic C, leading to a rise in economic growth. For such countries, the pursuit of a reduction in BOT deficit using import tariffs may not lead to conflicts with other macroeconomic objectives.

[Transition Statement] Countries that are import reliant can consider other types of protectionist measures that can achieve the goal of reducing BOT deficit without sacrificing other macroeconomic objectives.

Requirement 2: The use of export subsidies can reduce a country's BOT deficit and it can also lead to the achievement of the other macroeconomic objectives.

- The use of export subsidies can also improve a country's BOT. Export subsidies help to reduce the cost of production of domestic exporters for the exported goods and services. This will lead to an increase in supply, leading to a fall in prices of exported goods and services. This helps to improve the price competitiveness of exports.
- Assuming that the demand for these exports are price elastic given the availability of substitutes globally, the fall in prices will lead to a more than proportionate rise in quantity demanded for these exports. This leads to an increase in export revenue (X).
- The increase in X will increase (X-M), ceteris paribus. Therefore the increase in (X-M) will help to reduce the BOT deficit.

Furthermore, the use of export subsidies can lead to the achievement of other macroeconomic objectives besides a reduction in BOT deficit.

- With export subsidies, the increase in (X-M) due to an increase in X will also likely increase AD, ceteris paribus. This will lead to an unplanned inventory depletion, signalling the firm to produce more which leads to a multiplied increase in RNY due to the multiplier effect. This will lead to actual economic growth. Furthermore, with the increase in production, firms may have to hire more workers, leading to a decrease in demand deficient unemployment.
- If the economy still has spare capacity, the increase in AD will also not cause a significant rise in GPL, thereby ensuring price stability.

In-body Evaluation:

- However, the gain in export competitiveness is due to the subsidies given by the government and is not due to the development of comparative advantage. In fact, the subsidies could cause the exporting firms to be complacent and not produce their goods and services at the lowest cost possible. This may cause the exporting firms to develop a reliance on the subsidies and the government may find themselves in a situation where the subsidies must be given permanently as any removal of subsidies could cause the exporting firms to be unable to compete with its overseas rivals, leading to the shutdown of such firms which can cause significant unemployment.

- Therefore, the use of export subsidies may represent a significant long term opportunity cost given that the funds used to subsidise the export firms could have been better used to develop the comparative advantage of up and coming industries which could lead to long term benefits in the form of future economic growth and employment.

Overall Evaluative Conclusion

- **[Stand]** While protectionist policies could reduce BOT deficit, they are likely only to be useful for bigger countries with the capacity to produce self-sufficiently as such countries do not need to import significantly. Even so, these bigger countries would only likely to benefit in the shorter term and prolonged usage of such policies will most likely lead to conflicts with other macroeconomic objectives.
- **[Criterion]** This is because the prolonged usage of protectionist policies by one country to reduce its BOT deficit could lead to retaliation by its trading partners.
- **[Elaboration]** One such good example is the U.S.-China trade war where the U.S. imposition of import tariffs on China invited retaliatory import tariffs from China. The mutual usage of protectionist policies could then result in a situation where all parties lose out due to a fall in export revenue for all parties, leading to slower economic growth for all. This because a country's attempt at reduction in import-spending to improve its BOT position also means that trading partners' BOT position worsens which reduces their national income and thus lessen their ability to spend on imports leading to a fall in export revenue of the country that first imposed the protectionist policies. As such, the BOT deficit may not improve and it could also lead to conflicts with other macroeconomic objectives.

OR

- **[Stand]** While the use of protectionist policies can lead to reduction in BOT deficit in the short term, in the long run, BOT can worsen and it may also lead to conflicts with other macroeconomic objectives.
- **[Criterion]** As such, instead of using protectionist policies, a country can consider the usage of other policies to reduce BOT deficit while also ensuring the conflicts with other macroeconomic objectives are reduced.
- **[Elaboration]** A country can focus on long term strategy such as spending on improving labour productivity through subsidies of skills training, so as to lower unit cost of production and ensure a more sustainable improvement in the exports' competitiveness. This can ensure the reduction in BOT deficit while also achieving other macroeconomic objectives like economic growth and employment.

Mark Scheme:

Other acceptable protectionist policies:

Policies	How it reduces BOT deficits	Conflicts with other Macroeconomic objectives
Import Quota	Works similar to import tariffs. It will lead to an increase in prices of imports which cause a fall in import expenditure and a rise in domestic consumption.	Conflict: Imported inflation, Fall in export competitiveness leading to a fall in (X-M) and hence leading to a fall in economic growth.
Rules and regulations such as administrative red tapes	Red tapes would make it difficult for imports to enter the country, leading to the fall in imports which leads to a fall in import expenditure.	Conflict: Fall in export competitiveness, leading to a fall in (X-M), hence leading to a fall in economic growth.
Devaluation of currency relative to trading partners	Assuming MLC holds, devaluation increases (X-M).	Conflict: Imported inflation No conflict: A rise in economic growth

Analysis	Marks
First requirement: Explain how one protectionist policy could have reduced a BOT deficit in a country and lead to conflicts with other macroeconomic objectives. Candidates are required to use tools of analysis to explain how a protectionist policy can reduce BOT deficit in a country. Candidates are required to use tools of analysis to explain how the usage of such a policy can lead to conflicts with other macroeconomic objectives. **Second requirement: Explain how an alternative protectionist policy could have reduced a BOT deficit in a country and does not lead to conflicts with other macroeconomic objectives.** Candidates are required to use tools of analysis to explain how an alternative protectionist policy can reduce BOT deficit in a country.	**L3 Band** **[8m – 10m]** **L2 Band** **[5m – 7m]** **L1 Band** **[1m – 4m]**

Candidates are required to use tools of analysis to explain how the usage of such an alternative protectionist policy does not lead to conflicts with other macroeconomic objectives.	

	Evaluation
E3 **5m**	● **Two** evaluative judgements that are well-explained, supported by arguments in the answer using relevant economic analysis and linked to the context of the question. ○ Synthesise arguments/judgements to arrive at a well-reasoned summative judgement and decision. ○ Recognise unstated assumptions and evaluate their relevance. ○ Evaluation is based on sound criteria. **PLUS** ● Summative judgement/ decision is sound and explicit in the conclusion. ○ Shows ability to weigh up and make decisions about alternative options ○ Judgements on which are well-substantiated using conceptual analysis and real-world evidence relevant to the context of the question. ○ Judgements are synthesised to arrive at an overall decision. ○ Making a recommendation on a course of action based on the overall decision.
E2 **4m**	● Well-explained evaluative judgement about **both** requirements ***OR*** ● A well-explained evaluative judgement about **one** requirement **PLUS** ● A learned evaluative statement for the second requirement **PLUS** ● A summative conclusion
E2 **3m**	● A well-explained evaluative judgement about **one** requirement **PLUS** ● A learned evaluative judgement for the second requirement
E1 **2m**	● A learned evaluative statement for the **both** requirements ***OR*** ● A well-explained evaluative judgement about the **one** requirement.
E1 **1m**	● A 'learned' evaluative statement for one requirement.

E0 **0m**	● No attempt at evaluation

Analytical	**A**	● Answer is relevant to the question with good use of well-explained relevant theory ● Clear written explanation supported by a tool of analysis, such as a diagram ● Diagrams must be well labelled and must have written explanation ● Good ability at organising ideas or discriminating between relevant and irrelevant material. Answer is well focused on the question. ● Coherent economic arguments
Cursory	**C**	● Answer is relevant to the question, but theory is incompletely explained or has minor errors ● Use of relevant economic concepts applied to the question, but they are explained in a descriptive or incomplete manner ● Some ability at graphs with incomplete explanation ● Limited ability at organising ideas or discriminating between relevant and irrelevant material (e.g., pre-learnt generic answer)
Knowledge	**K**	● Answer that shows knowledge and understanding of a relevant economic concept with basic description or ● A few valid points or ● Mostly irrelevant or inaccurate or ● Meaning of the question not properly grasp or ● Basic errors of theory or ● Inadequately explained