

2023 RVHS J2 H2 Prelim Paper 2 EQ 1 Suggested Answers

Malaysia is introducing an export ban on chicken, in addition to the existing price ceiling to keep chicken prices low domestically. Singapore imports live chickens from only Malaysia and this makes up 34% of its overall chicken supply - the most widely consumed meat here. Concurrently, there are also campaigns encouraging Singaporeans to consume vegan meat for health and ethical reasons.

a) Explain how the above events will lead to a sharp increase in the price of chicken in Singapore. [10]

Intro

Chicken is the most widely consumed meat in Singapore and the prices of chicken has been affected by the various events mentioned in the preamble.

Requirement 1: Firstly, with the imposition of export ban by Malaysia, there will be a fall in number of sellers in Singapore. This will cause a fall in supply from S_0 to S_1 as shown in Figure 1.

Secondly, with campaigns in SG that encourage consumers to consume vegan meat, this will change consumers' taste and preferences away from consumption of chicken. As such, this will lead to a fall in demand for chicken.

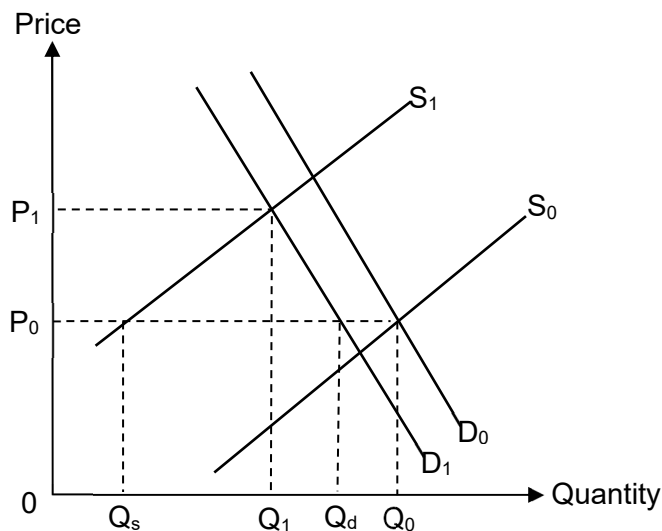


Fig 1: Market for chicken in Singapore

With fall in supply much larger than the fall in demand, there will be a shortage at the original price P_0 , as quantity demanded (Q_d) is more than quantity supplied (Q_s) as shown in Figure 1. As such, there is an upward pressure on price of chicken. As price increases, quantity demanded will fall while quantity supplied will increase until the new equilibrium, Q_1 , is reached where quantity demanded equals to quantity supplied. As such, equilibrium price will experience a sharp increase from P_0 to P_1 .

Requirement 2: As chicken is the most widely consumed meat in Singapore, demand for chicken is price inelastic as the degree of necessity is high. When supply falls by a large extent from S_0 to S_1 , there will be a shortage at the original price P_0 , as quantity demanded (Q_d) is more than

quantity supplied (Q_s) as shown in Figure 2. As such, there is an upward pressure on price of chicken. As price increases, quantity demanded will fall while quantity supplied will increase until the new equilibrium, Q_i , is reached where quantity demanded equals to quantity supplied. With a large fall in supply, reinforced by a price inelastic demand, there will be a sharp increase in equilibrium price from P_0 to P_i compared to increase in price from P_0 to P_e if demand is price elastic.

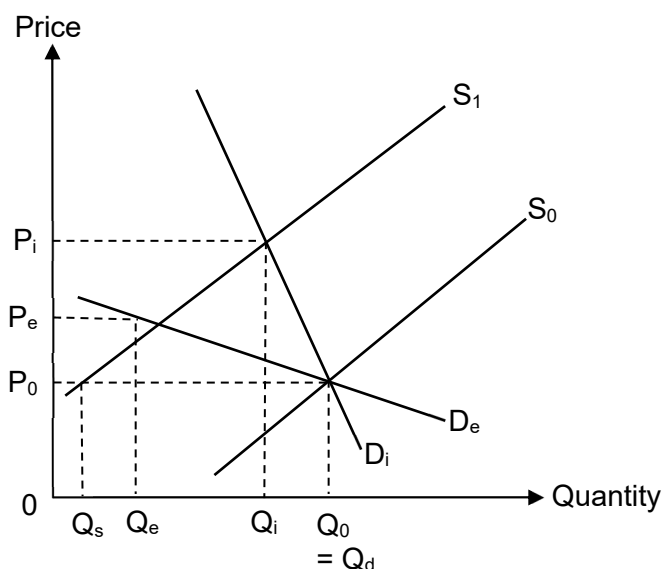


Fig 2: Price inelastic demand for chicken in Singapore

Conclusion

As such, since the fall in supply is much larger than the fall in demand, reinforced by a price inelastic demand, the above events will lead to a sharp increase in price of chicken in Singapore.

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	For an answer that explains the extent of shifts in demand and supply and also price elasticity of demand to explain the sharp increase in price of chicken in Singapore, including the price adjustment process in either R1 or R2.	8 - 10
L2	For an answer that explains the extent of shifts in demand and supply but does not or gives an undeveloped explanation of price elasticity of demand to explain the sharp increase in price of chicken in Singapore. OR For an answer that only explains a fall in supply and price elasticity of demand to explain the sharp increase in price of chicken in Singapore, together with the price adjustment process.	5 - 7
L1	For an answer that may show little knowledge on relative shifts in demand and supply and also price elasticity of demand.	1 - 4

b) Discuss whether the imposition of the price ceiling or the export ban is more effective in bringing about a fall in price of chicken in Malaysia. [15]

Requirement 1: Firstly, the imposition of the price ceiling will lead to a fall in the price of chicken in Malaysia. A price ceiling is defined as the maximum permissible price that producers can legally charge. For a price ceiling (P_c) to be effective, it must be charged below the equilibrium price.

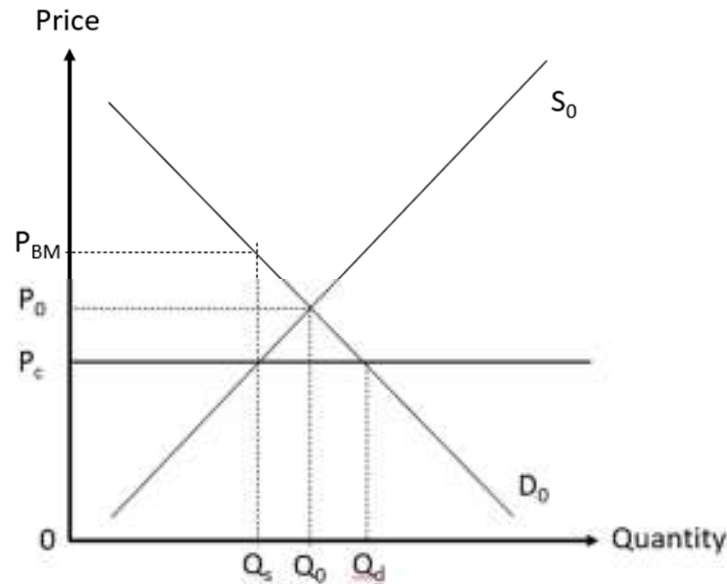


Fig 3: Price Ceiling in Market for Chicken in Malaysia

However, while a price ceiling artificially keeps prices lower, it creates a shortage ($Q_s < Q_d$) as the quantity supplied (Q_s) by the producers is lower than the quantity demanded (Q_d) by the consumers, resulting in a black market where those who cannot get their hand on chicken turn to an illegal market where prices are charged higher than the initial equilibrium price.

Requirement 2: With the export ban on chicken, chicken suppliers in Malaysia will channel the chicken stocks which was initially exported to other markets to their local market. This will increase the supply of chicken in Malaysia from S_0 to S_1 as seen in Figure 4. An increase in supply, ceteris paribus, would lead to a fall in equilibrium price from P_0 to P_1 and an increase in equilibrium quantity from Q_0 to Q_1 .

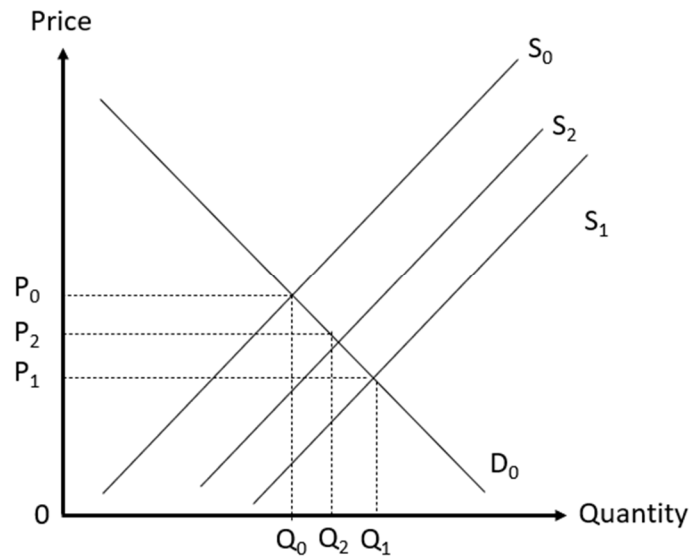


Fig 4: Market for Chicken in Malaysia

However, prices have an influence on the allocation of resources. Producers may perceive the fall in price as a signal of falling demand for chicken, thus they look to reallocate their resources to other markets where profitability is higher. When this happens, it reduces the extent of the increase in supply brought about by the export ban from S_1 to S_2 and leads to an increase in price from P_1 to P_2 .

Synthesis / Evaluation

Whether a price ceiling or export ban is more effective to bring down the price of chicken in Malaysia, the root cause of the spike in price needs to be considered. Should the rise in price be due to a fall in supply, price ceiling would be rather ineffective in dealing with the price ceiling as it only artificially lowers the price. An export ban which would increase the domestic supply would hence be more effective.

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	For an answer that can analyze how <u>both</u> policies would be able to lower the price of chicken in Malaysia and some possible limitations	8 - 10
L2	For an answer that <u>only</u> analyze how <u>either</u> policy would be able to lower the price of chicken in Malaysia and some possible limitations OR For an answer that <u>can</u> analyze how <u>both</u> policies would be able to lower the price of chicken BUT does not consider limitations	5 - 7
L1	For an answer that may show little knowledge on how the policies may affect price in Malaysia.	1 - 4

E3	Analytically well-reasoned judgement about the relative effectiveness of the policies; in bringing about a fall in price of chicken in Malaysia	4 - 5
E2	Some attempt at a judgement about the relative effectiveness of the policies; in bringing about a fall in price of chicken in Malaysia	2 - 3
E1	Unsupported statement about the effectiveness of the policies in bringing about a fall in price of chicken in Malaysia.	1

2023 J2H2 Prelim EQ2 Mkt Structure

Technology has disrupted many industries across different market structures, affecting revenue, costs and profits of firms. Faced with constraints of a tight labour market and an increasingly competitive business environment, firms have turned to using technology to improve their outcomes.

(a) Explain how technology has affected market structures and resulted in differing abilities of firms to earn supernormal profit. [10]

(b) Discuss whether the use of technology is better than the use of a pricing strategy to improve the outcomes for firms. [15]

(a) Explain how technology has changed market structures and resulted in differing abilities of firms to earn supernormal profits. [10]

Industries can be categorised into four types of market structures; Perfect Competition, Monopolistic Competition, Oligopoly and Monopoly, according to their characteristics. Technology has disrupted many industries and impacted their characteristics through changes in the barriers to entry and the number of sellers. These changes can result can either increase or decrease a firm's ability to earn supernormal profits, where total revenue exceeds total cost ($TR > TC$).

Requirement 1: Technology has changed market structures and reduced the ability of firms to earn supernormal profits.

Technology has been used to reduce barriers to entry into an industry. For example, firms have gone online to avoid the high startup and operating costs which they are likely to face if operating a brick-and-mortar shop. Online retail stores can be set up with relative ease and the fixed costs such as rental and variable costs such as wages) are much lower since there is less need for renting a retail space and hiring of sales assistants. The lower barrier to entry has allowed more firms, especially smaller firms, to overcome their limited financial resources and enter the online retail industry, increasing the number of sellers and contributed to the growth of online shopping. This has the potential to make a previously oligopolistic market structure more monopolistically competitive, as seen from the emergence of large number of smaller, independent retailers online such as those in the fashion retail industry.

As a result of the increased number of firms contributing to a more competitive market, an individual firm's DD will fall and DD is also more price elastic as more substitutes are available. The subsequent fall in price will reduce the ability of the firm to earn supernormal profits, *ceteris paribus*.

Requirement 2: Technology has changed market structures and increased the ability of firms to earn supernormal profits.

Technology can also be used to increase barriers to entry into an industry. Firms can leverage technology to increase product differentiation, enhance their branding through social media presence or even foster network effects to strengthen their dominant position and deter potential competitors from entering the market. For example, Grab has been able to use its online platform to build a sizeable number of riders and drivers to create more value for all its users, making the switch to other firms less attractive. This network effect helps to build a substantial market share in the ride-hailing market, reduce the competition and potentially change from an oligopolistic to a more monopolist market structure.

When a firm gains control of a large proportion of the market, it enjoys an increase in DD, and DD also becomes more price inelastic as fewer substitutes are available. The firm has stronger market power to set higher prices and enjoys a higher ability to make supernormal profits, *ceteris paribus*.

LORM

	Knowledge, Application/ Understanding and Analysis	
L3	Thorough knowledge of the facts and theory with an excellent ability to explain in a precise, logical and reasoned manner. Illustrations and examples are evidence of the ability to recognise the principles of the question, application to relevant current situations, and appropriateness for the question.	8-10
L2	Answer is relevant to the question, but the theory may be incompletely explained. Evidence of an ability to identify facts, at graphs (where appropriate) and applying theory to new situations.	5-7
L1	Answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory or an inadequate development of analysis may be evident.	1-4

Technology has disrupted many industries across different market structures, affecting revenue, costs and profits of firms. Faced with constraints of a tight labour market and an increasingly competitive business environment, firms have turned to using technology to improve their outcomes.

(b) Discuss whether the use of technology is better than the use of a pricing strategy to improve the outcomes for firms. [15]

Firms ultimately aims to improve their profitability, and a variety of strategies can be employed to increase their revenues and/or decrease costs. Whether the use of technology is better than a pricing strategy depends on their relative effectiveness in achieving the objectives of the firm.

Requirement 1: The use of technology can improve the outcomes for firms

When a firm engages in innovation or research and development (R&D), it could leverage technology either through product innovation and/or process innovation. Product innovation refers to the efforts by a firm to come up with new, improved or differentiated products. For example, cinema industry has been disrupted by video on demand streaming services provided by Netflix, Disney+ etc. In view of the stiff competition, cinema operators in Singapore such as Golden Village and Shaw Theatres have to continuously engage in product innovation to improve product quality and develop new product offerings. These range from state-of-the-art cinema hall with IMAX digital projection and immersive sound technology to enhance the movie-going experience. Such product innovation aims to increase consumers' taste and preferences towards the firms' goods and services thereby increasing demand and total revenue. In addition, such product differentiation makes it less substitutable and lowers the price elasticity of demand (PED). This implies that the firm could increase price and quantity demanded will fall less than proportionately, thereby enabling total revenue to rise.

Process innovation refers to improvement in the production processes that can increase productivity of factor inputs or make the production process more efficient. Faced with a tight labour market and increasing wage cost pressures, firms can leverage technology to improve the efficiency of their production process to lower average costs and marginal costs of production. For example, cinema operators have made use of self-checkout machines and online bookings of tickets to cut down on dependence on labour. This reduces the average cost of production and increases the profitability.

However, technology related product innovation strategies are costly because they involve substantial financial outlay before the firm can carry out the R&D activities. Whilst revenue are generated, costs are also set to rise and firms will only carry out such strategies if they expect the rise in revenue to exceed the rise in costs. Long time lag before firms can hope to recover their investment costs and turn in a profit.

Requirement 2: The use of a pricing strategy can improve the outcomes for firms

Pricing strategy includes the use of price discrimination when a firm sells the same product to different consumers at different prices, for reasons not associated with cost differences. Price discrimination allows the firm to earn higher revenue and hence, higher profits from different groups of consumers. For example, cinema operators engage in 3rd degree price discrimination where movie-goers are separated into two different groups, senior citizens/students vs the general public. Since senior citizens/students have price elastic demand, charging them a lower price through discounted tickets will lead to a more than proportionate increase in quantity demanded. Conversely, the general public's demand is price inelastic. Charging them a higher price will lead to a less than proportionate fall in quantity demanded. Hence, adopting price discrimination allow the market where demand is price elastic (senior citizens/students) to be serve since there is no

demand in this market if a single uniform price were being charged. Overall, the cinema operators enjoy an increase in total revenue in both markets and profitability due to price discrimination, *ceteris paribus*.

However, one critical condition of price discrimination is the ability of the cinema operators to prevent resale between markets. This implies that the cinema operators will have to incur additional manpower costs to check for identification of ticket holders to prevent a student/ senior citizen from buying a ticket at a discounted price and reselling it to an adult.

LORM

	Knowledge, Application/ Understanding and Analysis	
L3	Thorough knowledge of the facts and theory with an excellent ability to explain in a precise, logical and reasoned manner. Illustrations and examples are evidence of the ability to recognise the principles of the question, application to relevant current situations, and appropriateness for the question.	8-10
L2	Answer is relevant to the question, but the theory may be incompletely explained. Evidence of an ability to identify facts, at graphs (where appropriate) and applying theory to new situations.	5-7
L1	Answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory or an inadequate development of analysis may be evident.	1-4

E3	Builds on appropriate analysis to evaluate contemporary issues, perspectives and policy choices, that recognises unstated assumptions and evaluates their relevance, synthesises economic arguments to arrive at well-reasoned judgements and decisions.	5
E2	Some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis.	3-4
E1	Superficial evaluative statement(s) without supporting analysis and elaboration.	1-2

2023 J2 H2 Prelims EQ 3 (Micro) – Answer for Other JCs

With more people facing chronic health issues amidst an ageing population, Singapore will embark on its new preventive healthcare strategy – Healthier SG, from July 2023. By encouraging people to enrol with a general practitioner who will help them manage their health, such a strategy focuses on keeping people healthy as long as possible, while ensuring early detection of health problems.

- (a) Explain two different reasons for the market failure associated with the consumption of preventive healthcare. [10]
- (b) Discuss how government intervention in Singapore's healthcare market can address market failure and consider how likely such intervention is successful amidst an ageing population. [15]

Mark Scheme (a)

	Knowledge, Application/ Understanding and Analysis	
L3	Thorough knowledge of the facts & theory with an excellent ability to explain in a precise & logical manner. To enter L3, candidates should explain <u>both</u> imperfect info & positive externalities, at least one of which should be supported by an appropriate tool of analysis.	8-10
L2	Answer is relevant to the question. However, there is undeveloped explanation of 2 sources of market failure OR developed explanation for 1 source of market failure only. Some ability at graphs.	5-7
L1	Answer shows some knowledge but does not show proper grasp of the question. Basic errors of theory or an inadequate development of analysis may be evident.	1-4

Mark Scheme (b)

	Knowledge, Application/ Understanding and Analysis	
L3	Developed discussion of two measures adopted by the Sg govt to address the two sources of market failure (imperfect information + positive externalities). 'Developed' – Uses appropriate analysis to explain how each measure addresses the correct source of market failure. This should be followed by limitations of the measure.	8-10
L2	Undeveloped discussion of 2 measures OR developed explanation for 1 measure only. 'Undeveloped' – Explanation is descriptive rather than analytical.	5-7
L1	Answer shows some knowledge but does not show proper grasp of the question. Basic errors of theory or an inadequate development of analysis may be evident.	1-4
E3	Builds on appropriate analysis to evaluate contemporary issues, perspectives & policy choices, that recognizes unstated assumptions and evaluates their relevance, synthesizes economic arguments to arrive at well-reasoned judgements & decisions. <i>[E.g., able to highlight some implications of the ageing population and provides policy recommendation on whether current intervention measures will continue to be successful.]</i>	5
E2	Some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis.	3-4
E1	Superficial evaluative statement(s) w/o supporting analysis & elaboration.	1-2

Part (a)

INTRO

- State that the consumption of preventive healthcare likely includes going for health screenings/ nationally recommended vaccinations such as flu shots.
- Note that preventive healthcare tends to be under-consumed if left to the free market, thereby leading to market failure.
- Explain what it means by the phrase 'market failure'. Specifically, this refers to the situation where the free market allocates resources in a way where social welfare is not maximised.
- As a result, the market fails and therefore, there is a need for the government to intervene.

DEVT

Requirement 1: Presence of positive externalities

- Define positive externalities as the positive side effects that result from the consumption/ production of a good or service. The third parties who enjoy these positive side effects do not make payment.
- Explain key terms:
 - (i) Marginal Private Benefits (MPB) → Consumers who consume one more unit of preventive healthcare enjoy good health.
 - (ii) Marginal Private Cost (MPC) → Producers who produce one more unit of preventive healthcare incurs cost of production.
 - (iii) Marginal External Benefits (MEB) → Third parties such as family members enjoy peace of mind if their family is healthy.
 - (iv) Marginal Social Benefits (MSB) → Total benefits enjoyed by society.
- Explain that MSB exceeds MPB in this context and thus, the MSB curve will lie above the MPB curve.
- Illustrate with correctly labelled diagram.
- Diagram should indicate free market equilibrium and where it occurs. This point should then be compared with the socially optimal equilibrium and where it occurs.
- There should be reference to the under-consumption of preventive healthcare, thereby leading to market failure and deadweight loss (to show the area on the diagram drawn).

Requirement 2: Presence of imperfect information

- Define and explain the source of imperfect information in this context.
- Students can explain how there is ignorance on the part of consumers of preventive healthcare. Depending on how they explain, teachers can also accept complex information as long as the explanation is economically sound.
- Explain how imperfect information leads to inaccurate estimation of consumers' marginal private benefit (MPB).
- Due to this inaccurate misperception, there is a deviation between the misperceived MPB and actual MPB.
- Illustrate with correctly labelled diagram.
- Diagram should indicate free market equilibrium and where it occurs. This point should then be compared with the socially optimal equilibrium and where it occurs.
- There should be reference to the under-consumption of preventive healthcare, thereby leading to market failure and deadweight loss (to show the area on the diagram drawn).

Note to markers:

- Given the phrasing and wording of the essay question, inequity is not accepted because this has got nothing to do with market failure.
- Similarly, market dominance as a source of market failure is also not accepted because it is linked more to the 'provision' of healthcare rather than consumption.
- For students who explain requirement 1 and requirement 2 but only draw diagram for one of the sources of market failure, they can enter L3 but may not be able to reach the highest 10 marks.

Part (b)

Note to markers:

- 10 mk → Discuss how Sg govt intervenes in healthcare mkt to correct the two sources of market failure.
- 5 mk → Consider how likely such intervention is successful amidst ageing population.
- As far as possible, students need to relate the measures to the source of market failure explained in (a).
- They are also allowed to refer back to any diagrams drawn in part (a) without the need to re-draw a new diagram for part (b).

DEVT

Requirement 1: Explain and Evaluate the limitations of the 1st measure

- Students should preferably explain a policy to address positive externalities.
- They can choose to explain either subsidies given to producers OR grants given to consumers of preventive healthcare.
- As far as possible, reference should be made to a correctly labelled diagram showing how the curve (MPC or MPB) is affected.

① Subsidies to producers of healthcare

- E.g.: Subsidised health screenings/ Subsidising patients' consultation and cost of medication at polyclinics.
- Such a measure has the effect of lowering the cost of production.
- As a result, this helps to lower the marginal private cost (MPC).
- Consequently, there will be a new free market equilibrium, and this should ideally occur at the same level as the socially optimal equilibrium level.
- If successful, there will not be under-consumption and the deadweight loss will be eliminated.
- Provide some limitations of this measure e.g., the government will face difficulty in estimating the correct amount of subsidy to provide.
- Reason being, it is not easy to quantify the amount of marginal external benefits (MEB) enjoyed by the third parties in the context of preventive healthcare.

Requirement 2: Explain and Evaluate the limitations of the 2nd measure

- Students should preferably explain a policy to address imperfect information.
- They can choose to explain either moral suasion OR legislation.
- As far as possible, reference should be made to a correctly labelled diagram showing how the curve (misperceived MPB) is affected.

① Moral Suasion

- E.g., Advertisements/ roadshows/ campaigns to spread awareness of regular health screening etc.
- Such a measure has the effect of reducing the extent of imperfect information by bridging the information gap for consumers.
- Specifically, through such measures, consumers can better understand the benefits of consuming preventive healthcare goods/ services.
- As a result, there will be a more accurate estimation of their marginal private benefits (MPB).
- If successful, these measures help to reduce the gap between misperceived MPB and actual MPB.
- Consequently, there will be a new free market equilibrium, and this should ideally occur at the same level as the socially optimal equilibrium level.
- If successful, there will not be under-consumption and the deadweight loss will be eliminated.
- Provide some limitations of this measure e.g., these measures will depend on consumers' voluntary participation and receptiveness.

For the 2nd part of the question:

Consider how likely such intervention is successful amidst ageing population (5 mk)

Some possible points that students can elaborate on:

- Highlight the situation of ageing population in Singapore. For e.g, students can provide some current data and statistics in the Singapore context about how our population is ageing very rapidly.
- Data can be cited with reference to Ministry of Health with respect to how much healthcare expenditure the Singapore government is likely to incur moving forward.
- Using the above information, students should elaborate on some of the key implications.
- These include:
 - (i) Government spending on healthcare will rise substantially.
 - (ii) There needs to be some ways to ensure funds are available to keep paying for these spending.
- Given that the preamble mentions how there is a shift to preventive healthcare, students would also be expected to elaborate on how such a reform will be useful and necessary.
- Otherwise, the Singapore government will not be able to continually pay for her healthcare spending amidst the ageing population.

2023 Prelim Exams Qn 4

Singapore's inflation is set to rise following a mix of external and domestic factors – strong recovery in global growth with the arrival of Covid-19 vaccines, geopolitical tensions driving up food and energy prices, as well as a tight labour market. In response, the Monetary Authority of Singapore has allowed the Singdollar to appreciate, while encouraging firms to leverage technology to keep costs low.

Source: Adapted from Channel News Asia, 3 February 2022

- (a) Explain a possible demand side reason and a possible supply side reason for the rise in the rate of inflation in Singapore. [10]
- (b) Discuss whether the policies aimed at addressing inflation might cause difficulties for Singapore economy. [15]

Singapore's inflation is set to rise following a mix of external and domestic factors – strong recovery in global growth with the arrival of Covid-19 vaccines, geopolitical tensions driving up food and energy prices, as well as a tight labour market. In response, the Monetary Authority of Singapore has allowed the Singdollar to appreciate, while encouraging firms to leverage technology to keep costs low.

Source: Adapted from Channel News Asia, 3 February 2022

(a) Explain a possible demand side reason and a possible supply side reason for the rise in the rate of inflation in Singapore.

[10]

Introduction

Inflation is defined as a sustained, inordinate, and general increase in the prices of goods and services. The rise in the rate of inflation in general can be attributed to a rise in aggregate demand (AD), a fall in the short-run aggregate supply (SRAS) or both. Based on the context, the rise in inflation rate can be attributed to both.

Requirement 1 – demand pull inflation.

The strong recovery in global growth would mean that the incomes of foreign trading partners have increased, leading to a rise in Singapore exports (X) as they demand more imports for their consumption. In addition, the resumption of travelling made possible by Covid-19 vaccines has brought tourist back to Singapore, which leads to an increase in X to. As X is a component of AD, the increase in X will lead to a rise in AD, as illustrated by the increase in AD from AD_1 to AD_2 , as seen from Figure 1. This increase in AD, presumably to be persistent or excessive, will lead to demand pull inflation.

With reference to Figure 1, when AD increases from AD_0 to AD_1 , firms face an unplanned decrease in inventories at P_0 . Firms will respond by hiring more factors of production to increase production. Since there is still a significant amount of unemployed resources, firms do not need to bid significantly higher factor prices. As such, there is only a small increase in unit cost of production, which firms pass on to consumers in the form of slightly higher prices. This is represented by an upward movement along the AS curve. Therefore, the increase in general price level from P_0 to P_1 , is mild.

However, a further increase in AD from AD_1 to AD_2 will give rise to more significant increase in prices. As the economy approaches full employment, there is greater competition for scarce resources. This will cause firms to bid up factor prices more significantly, resulting in a greater increase in general price level from P_1 to P_2 . This gives rise to demand-pull inflation.

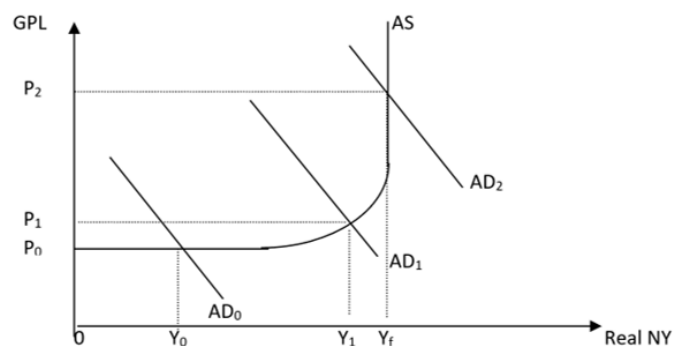


Figure 1

Note: Accept other responses that will lead to an increase in AD, e.g., increase in C as domestic household's income increase due to opening up SG's economy or an increase in G as government purchase large quantity of Covid-19 vaccines (students might infer that the strong recovery is due to purchase of Covid-19 vaccines, though such is unlikely to create such a significant impact on AD)

Requirement 2 – cost push inflation

A possible supply side reason leading to cost-push inflation in Singapore could be attributed to the tight domestic labour market, as mentioned in the preamble, arising due to shortages in labour supply that is independent of the in AD. Specifically, shortages could be due to the tightening of immigration policy as well as foreign worker policy over these years (e.g., higher foreign worker levy)

The tightening of these policies results in an economy-wide increase in unit cost of production, which firms might resort to passing on to their consumers. With reference to Figure 2, such higher cost of production causes the SRAS to fall. This is reflected graphically as an upward shift in SRAS from AS_0 to AS_1 . Following this, general price level will rise. This is illustrated by an upward movement along the AD curve. General price level continues to increase till P_2 , contributing to cost push inflation.

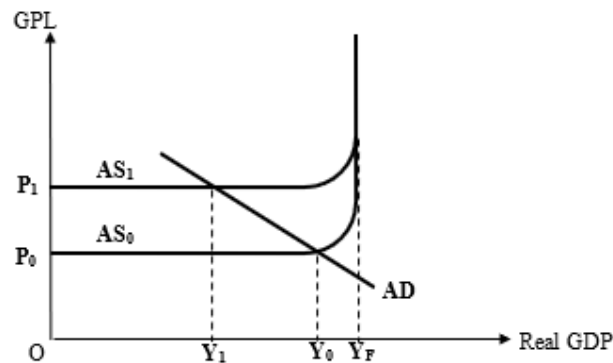


Figure 2

Note: Accept other valid responses from students, such as high food prices or higher energy costs that will similarly affect economy-wide increase in cost of production, leading to cost push inflation.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	<p>To enter L3, candidates should provide a well elaborated explanation of:</p> <ul style="list-style-type: none"> How an increase in an AD component can lead to demand pull inflation, with reference to context How a decrease in SRAS can lead to cost-push inflation, with reference to context <p>Developed analysis should be supported by appropriate tool of analysis i.e., use of AD-AS diagram that is well-labelled and referenced.</p>	8-10
L2	<p>There should be an accurate but undeveloped explanation of:</p> <ul style="list-style-type: none"> How an increase in an AD component can lead to demand pull inflation, with reference to context How a decrease in SRAS can lead to cost-push inflation, with reference to context <p>Undeveloped analysis may be incompletely explained e.g., no use of diagrams, diagrams without reference.</p>	5-7
L1	<ul style="list-style-type: none"> For an answer that shows some knowledge but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory or an inadequate development of analysis may be evident. Where the answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. 	1-4

(b) Discuss whether the policies aimed at addressing inflation might cause difficulties for Singapore economy.

[15]

Policies aimed at addressing inflation include a gradual appreciation of SGD and supply-side policies. While they may work to reduce aggregate demand (AD) and increase short-run aggregate supply (SRAS) and long run aggregate supply (AS) to reduce both demand-pull and cost-push inflation, they may always cause difficulties for Singapore in terms of moving it further away from attainment of other

macroeconomic goals, namely inclusive and sustainable growth, price stability, low unemployment as well as achieving favourable balance of trade.

Requirement 1: Policies might not cause difficulties in reaching other macroeconomic goals.

Gradual and modest appreciation can reduce inflation

explain how it curbs demand-pull or cost-push infln:

When SGD appreciates, there is an increase in price of exports in foreign currency and a decrease in price of imported final goods and services in domestic currency. Given that Singapore mainly exports electronic products that have many close substitutes such as those from Korea and Taiwan, demand for its exports is relatively price elastic. Hence, Marshall-Lerner conditions ($|PED_x + PED_m| > 1$) holds for Singapore. As such, net exports decreases. This decreases AD from AD_0 to AD_1 , as seen in Figure 3. which decreases derived demand for factors of production and decreases competition for scarce resources. Firms pay lower factor prices which is then passed on to consumers in terms of lower general price level. This curbs demand-pull inflation.

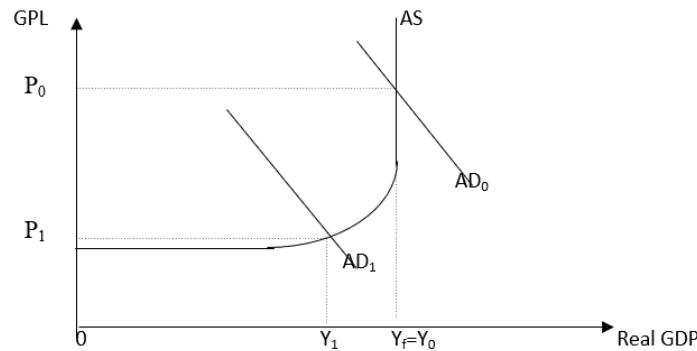


Figure 3

Besides cheaper imports of final goods and services, there is a fall in price of imported factor inputs in domestic currency. This will reduce unit cost of production for firms relying on imported factors of production. This increases AS from AS_0 to AS_1 , as seen from Figure 4. At original GPL, there is now a surplus, to which firms will respond by decreasing prices of final goods and services. As prices of final goods and services fall, spending on final goods and services increase. This process is reflected on a downward movement along the AD. This process will continue until surplus is eliminated at the new lower equilibrium general price level P_1 . Thus, gradual appreciation of SGD curbs imported or cost-push inflation.

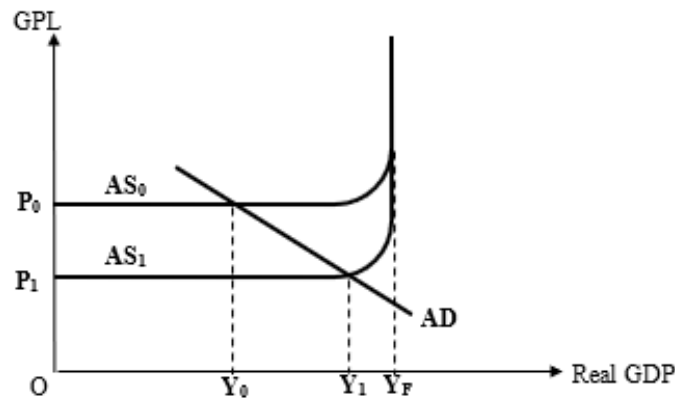


Figure 4

Hence, the attainment of lower general price level arising from the use of gradual appreciating stance does not cause difficulties for other macro goals.

SSPs can reduce inflation

Specifically, the Productivity Solutions Grant (PSG) is an initiative to support companies keen on adopting IT solutions and equipment to enhance business processes and improve productivity, with up to 70% funding support. This would encourage more firms to invest more in technology and automation, such that there is an increase in quality and quantity of capital. This increases productive capacity and increases LRAS from AS_0 to AS_1 , as seen from Figure 5. Assuming economy was initially nearing full

employment, there was originally intense competition for sources. This increase in productive capacity will ease competition for resources. Thus, firms do not have to bid as high a price for factors of production as before. General price level will thus be at P_2 , rather than at P_1 due to the increase in productive capacity. Demand-pull inflation eases.

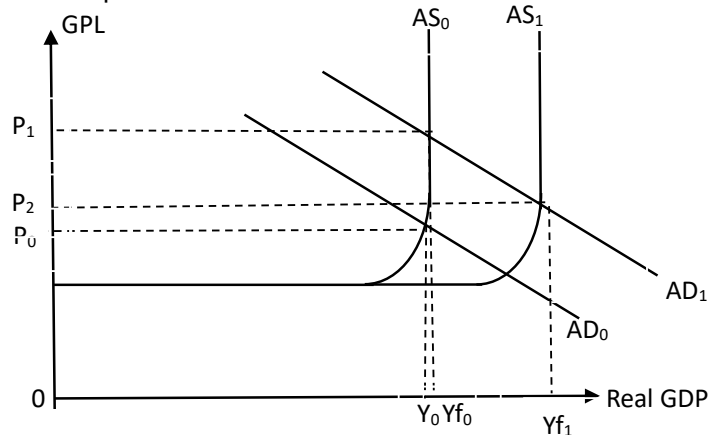


Figure 5

Requirement 2: Policies might cause difficulties, as they work according to plan.

Gradual and modest appreciation can cause difficulties for some firms/industries:

Exporting firms in Singapore that do not use a lot of imported raw materials may face difficulties. These firms may experience only a small amount of cost savings from lower cost of imported factors of production that may be outweighed by the significant fall in price competitiveness of its products due to stronger SGD. Since the goods are now more expensive in foreign currency, foreigners will demand for less amount of exports from Singapore. Hence, these firms may lose a significant portion of their total revenue and profits.

Also, firms in the tourism-related industries like hospitality and F&B may experience a significant fall in price competitiveness of its services. For example, tourists may be deterred by the stronger SGD to come to Singapore for a holiday. As a result, less foreigners spend on hotel accommodations, tour packages and local food. Thus, these firms will lose a significant portion of their total revenue and profits. Linking back to Singapore's economy, X is likely to decrease, causing a fall in AD if the impact is large, and will lead to increased demand deficient unemployment, especially in these sectors.

Possible EV:

- How effective the stronger SGD will be in bringing down inflation swiftly will also depend on how quickly it is passed on to importers. For example, complex invoicing procedures may lead to a lag in passing on cost savings from stronger SGD to importers. As a result, importers may still be experiencing high cost of production due to purchasing at the predetermined higher exchange rate. While there may not be difficulties caused by the policy per se, it certainly perpetuates the existing difficulties faced by importers.
- If the higher prices of goods and services stems from domestic sources such as the cost of transport and warehousing in Singapore, then the inflation may not be necessarily brought down. This is because the exchange rate policy mainly tackles external sources of inflation. While there may not be difficulties caused by the policy per se, it certainly perpetuates the existing difficulties faced.

Gradual & modest appreciation can worsen BOT position

Given that net exports will decrease as a result of stronger SGD, BOT position may worsen.

SSP can cause structural UnE

SSPs such as PSG may lead to displacement of low-skilled workers due to automation. If retrenched low-skilled workers do not have the skillset to take on job opportunities in other industries, there is a mismatch of skills between retrenched and skills required in available jobs. This will lead to higher structural unemployment.

Furthermore, SSPs could be financially straining, which may result in governments making trade-offs with other goals and incurring opportunity cost. E.g., if they spend less by reducing govt intervention in inefficient markets, there may be higher inefficiency in other markets than before.

Other acceptable policies can include:

- Wage subsidies and rental rebates → reduce COP → increase SRAS → reduce cost-push inflation

EV:

- *However, SSP may not always cause difficulties as not all SSP necessarily cause displacement of low-skilled workers. Ultimately, it depends on whether the use of capital in PSG complements or substitutes low-skilled labour. If PSG complements low-skilled workers by increasing efficiency at work, it may make them more productive and carve out time for them to learn new skills.*
- *Gradually appreciating stance may cause difficulties in times of stagflation since a fall in AD is more likely to cause a fall in real GDP. However, it may not result in large difficulty if there is strong economic growth as there would be other components of AD e.g., C & I that could dampen the fall.*

Conclusion:

Therefore, when there is enough time for governments to put in place mitigating measures such as in the case of the aforementioned SSP, the difficulties may be overcome over time. Also, the economy may generally face more difficulties if there is a confluence of macroeconomic problems such as a stagnant economy and inflation together at the same time.

Level	Description
L3	<p>To enter L3, candidates are expected to</p> <ul style="list-style-type: none"> • Explain how gradual appreciation may/ may not cause difficulties. • Explain how SSP may or may not cause difficulties. <p>Developed analysis should be supported by appropriate tool of analysis i.e., use of AD-AS diagram that is well-labelled and referenced.</p>
L2	<p>There should be an accurate but undeveloped explanation of:</p> <ul style="list-style-type: none"> • Explain how gradual appreciation may/ may not cause difficulties. • Explain how SSP may or may not cause difficulties. <p>Undeveloped analysis may be incompletely explained e.g., no use of diagrams, diagrams without reference.</p>
L1	<ul style="list-style-type: none"> • For an answer that shows some knowledge but does not indicate that the meaning of the question has been properly grasped. • Basic errors of theory or an inadequate development of analysis may be evident. • Where the answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context.
E3	<p>2 analytically well-explained evaluation pointers on how both policies may cause difficulties to Singapore, plus an overall summative conclusion on whether they cause difficulties to Singapore economy.</p> <p>OR</p>

	a well-explained evaluation pointer and an unexplained evaluate statement on how both policies may cause difficulties to Singapore economy, plus a summative conclusion		
E2	A well-explained judgment about difficulties caused by 1 policy OR 2 unsupported statements on difficulties caused by each policy	2-3	
E1	1 unsupported statement on difficulties caused by either policy	1	

2023 RVHS Prelim Question Q5

Singapore's overall unemployment rate eased in tandem with the gradual recovery of global economic activity. The most significant employment growth occurred in the information and communications sector as a result of strong demand for IT and digital solutions. This trend was further bolstered by the government's initiatives promoting digital transformation and the implementation of the SGUnited Jobs and Skills package, which facilitated job opportunities and skills development for residents.

- a) Explain the internal and external factors that have contributed to the change in Singapore's unemployment rate. [10]
- b) Discuss how far the size and openness of Singapore's economy would influence her choice of policies in reducing unemployment. [15]

Part (a) Suggested Approach

Introduction:

The unemployment rate is a measure of the percentage of the labour force of legal working age who are without jobs but are available for work, willing to work and actively seeking work at current wage rates. As stated in the preamble, Singapore's unemployment rate fell significantly in 2021. This could be brought about by both internal and external factors, where internal factors stem from domestic sources while external factors stem from external sources.

Development:

R1: Internal factors

Government policies such as SGUnited Jobs and Skills package reduces structural unemployment. When the government spends on education, training and re-training, it improves workers' skills and their stock of human capital, whereby their acquired skills and knowledge help in the production of goods and services. More education and upgrading of skills for workers will help ensure the 'employability' of workers by equipping workers with the relevant skills to move between different jobs, thereby reducing mismatch of skills, i.e. structural unemployment.

This policy facilitated job opportunities, reducing search time as workers transit from one job to another, thus reducing frictional unemployment.

R2: External factors

Finally, the fall in unemployment rate could be due to external factors. Given the gradual recovery of global economic activity, this implies an increase in national income, thus an increase in purchasing power of trading partners such as the US. Assuming $YED > 1$, it will lead to a more than proportionate increase in demand for Singapore's exports. This benefits the export-related (e.g., manufacturing) industries in Singapore, where firms step up production to meet the rising demand, thus derived demand for factor inputs such as labour increases, reducing cyclical unemployment.

Level	Description	Marks
L3	To enter L3, candidates are expected to <ul style="list-style-type: none"> • Explain how internal factors reduce structural unemployment and cyclical/ frictional unemployment • Explain how external factors reduce cyclical unemployment. 	8-10
L2	There should be an accurate but undeveloped explanation of: <ul style="list-style-type: none"> • Explain how internal factors reduce structural unemployment and cyclical/ frictional unemployment • Explain how external factors reduce cyclical unemployment. 	5-7
L1	<ul style="list-style-type: none"> • For an answer that shows some knowledge but does not indicate that the meaning of the question has been properly grasped. • Basic errors of theory or an inadequate development of analysis may be evident. • Where the answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. 	1-4

(b) Discuss how far the size and openness of Singapore's economy would influence her choice of policies in reducing unemployment. [15]

Requirement 1: Size and openness of an economy

- Singapore has a small domestic market and is also resource-poor, thus making her trade reliant.
- As such, Singapore has a relatively small mpc yet large mpm, translating to a smaller k compared to that of larger and less open economies.
- Thus, expansionary fiscal policy in tackling cyclical unemployment tend not to be effective for Singapore.
- In view of the weaker stimulus effect for small, open economies, Singapore cannot rely solely on an expansionary demand-management policy to reduce unemployment. Instead, she has to supplement its use with other measures, or implement demand-management policy to a larger magnitude so as to achieve the desired impact.

Requirement 2: Other factors

① Macroeconomic goals trade offs

- Macroeconomic goals trade-offs may also affect her choice of policies in reducing unemployment.
- For e.g. when expansionary demand management policy is adopted to increase aggregate demand, this leads to a rise in national income by a multiple and a rise in employment.
- However, if AD continues to rise as the economy nears her full employment level of output, demand-pull inflation may result
- If so, this leads to a rise in general price level.
- Draw in AD-AS diagram to illustrate the above tradeoff.

② Sentiments of households and firms affect effectiveness of policies

- Sentiments of HHs and firms or economic outlook can also affect the choice of policy in reducing unemployment.
- For e.g. if outlook is bleak, implementing EFP may not reduce cyclical unemployment as C and I and thus AD may not increase.

Level	Description	Marks
L3	To enter L3, candidates are expected to <ul style="list-style-type: none"> • Explain how size and openness affects her choice of policies in reducing unemployment • Explain how other factors affects her choice of policies in reducing unemployment 	8-10
L2	There should be an accurate but undeveloped explanation of: <ul style="list-style-type: none"> • Explain how size and openness affects her choice of policies in reducing unemployment • Explain how other factors affects her choice of policies in reducing unemployment 	5-7
L1	<ul style="list-style-type: none"> • For an answer that shows some knowledge but does not indicate that the meaning of the question has been properly grasped. • Basic errors of theory or an inadequate development of analysis may be evident. • Where the answer is mostly irrelevant and only contains a few valid points made incidentally in an irrelevant context. 	1-4

E3	2 analytically well-explained evaluation pointers on how size and openness as well as other factors affect choice of policies in reducing unemployment, plus an overall summative conclusion on the extent to which size and openness affects choice of policies. OR a well-explained evaluation pointer and an unexplained evaluate statement on how these factors may affect choice of policies in reducing unemployment, plus a summative conclusion	4-5
E2	A well-explained judgment about size and openness affecting choice of policies OR 2 unsupported statements on factors affecting choice of policies	2-3
E1	1 unsupported statement on ONE factor	1

Despite former US president Donald Trump's 'America First' agenda of protecting industrial jobs by increasing tariffs on foreign goods, US remained as the country with the world's largest current account deficit which rose by a third to US\$635 billion in 2020 or 3.1% of the country's economic output.

Source: Reuters, 22 Jan 2021

- a) Explain two reasons why governments will be concerned with current account deficits. [10]
- b) Discuss whether the use of protectionist policies can ever be justified in an increasingly globalised world. [15]

A current account deficit occurs when a country's total imports of goods and services exceed its total exports, leading to a net outflow of currency from the country. Governments would be concerned about current account deficits, especially if they are large and persistent, due to their potential economic implications, which can affect the overall stability and growth of the economy.

R1: Governments will be concerned about current account deficits because of the negative impacts on the countries' macroeconomic goals.

A current account deficit could indicate underlying structural issues within the economy, like loss of comparative advantage leading to erosion of export competitiveness. Over time, if a country consistently imports more than it exports, it could mean that the country is producing goods and services that are not competitive, whether in terms of price or the functionality of the goods, in the global market. This lack of competitiveness can hinder economic growth and development. As net exports could be decreasing, it will result in a decrease in aggregate demand. As AD decreases from AD_0 to AD_1 , there will be unplanned increase in inventories and firms will want to produce less and employ less factors of production. Derived demand for labour will decrease and unemployment will increase. Household incomes will decrease and induced consumption will decrease as a result because consumers are less willing and able to buy goods and services. Producers will reduce production again and this will ultimately result in a multiple fall in national income represented by the fall in real GDP from Y_0 to Y_1 .

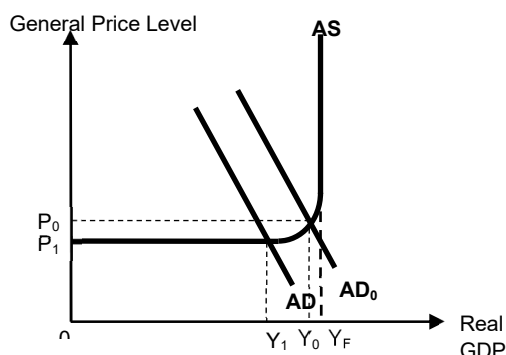


Fig. 1

(Possible consideration)

In addition, producers and investors might also see a current account deficit as a sign that the country is not doing well enough. This is because a current account deficit could be due to underlying structural issues in the country so foreign investors will be wary and cautious about investing more in the country. They might also expect the national income in the country to be shrinking because of the current account deficit. Investors will decrease investments amid the rising negative expectations. FDI decrease and could cause NY to decrease multiple times. LRAS could possibly decrease too as the quantity and quality of capital decrease, causing sustained growth to be harder to attain.

R2: Governments will be concerned about current account deficits because there can be detrimental effects on the exchange rate.

A sustained current account deficit can put downward pressure on a country's currency. As more currency flows out to pay for imports, the demand for the domestic currency decreases, causing its value to depreciate relative to other currencies. This can lead to higher prices for imported raw materials and final goods. As the demand for imported raw materials is likely to be price inelastic, due to the likely lack of substitutes, quantity demanded for imports will decrease less than proportionately when the price of imports increase relatively, so import expenditure might actually increase. This could mean the costs of production for the firms in the country to rise and short run aggregate supply will decrease and shift upwards from $SRAS_0$ to $SRAS_1$, causing cost push inflation as prices increase to P_1 . National income will also decrease as a result from Y_0 to Y_1 . As for imported finished goods which are now more expensive relatively, households will face a fall in material well being as they have to pay more for them and might even have to forgo buying imported goods, if they are still earning same amount of income as before.

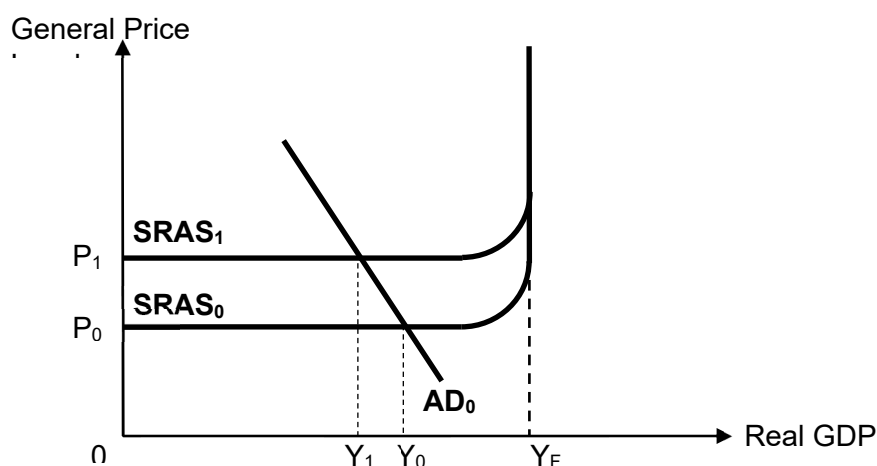


Fig. 1

(Possible consideration)

If the country does not have a freely floating exchange rate, when a country has a balance of trade deficit, it has to use its gold and foreign currency reserves to finance the deficit. This cannot continue indefinitely as the stock of official reserve assets is limited. When the country runs out of means to finance its deficit, it might have to borrow from international organisations such as International Monetary Fund (IMF) or from other countries. In this case, there will be a rise in external debt.

Knowledge, Application/ Understanding and Analysis		
L3	For a developed explanation on how the current account deficit can have detrimental effect on the macroeconomic aspects of a country. Answer includes clear economic analysis.	8-10
L2	For an undeveloped explanation on how the current account deficit can have detrimental effect on the macroeconomic aspects of a country. Answer might be lacking in clear economic analysis.	5-7
L1	For an answer that shows some knowledge about the effects of a current account deficit.	1-4

Part (b)

Increasingly globalized world → greater movement of G+S, labour and capital

R1: Yes protectionist policies can be justified because of the benefits of it on the economy in an increasingly globalized world	R2: No, protectionist policies cannot be justified because of the cost of it on the economy in an increasingly globalised world
<p>1. Protect infant industries</p> <p>By protecting infant industries → allow the infant industries time to develop the necessary economies of scale, master the technical know-how, establish a strong brand recognition and eventually acquire the comparative advantage in the production of the good → increase NX → increase AD → increase NY & decrease UnE</p> <p>2. Prevent dumping</p> <p>Protectionism can be used to address instances of unfair competition, such as dumping → prevent rise in UnE</p> <p>3. Gradual rise in UnE in sunset industries</p> <p>Increasingly globalized world → sunset industries which have lost its comparative advantage will eventually shut down. For labour to be transferred from the sunset industries to others, considerable amt of upskilling and retraining is needed. This takes a long period of time and is very costly. → significant and prolonged structural unemployment occurs.</p> <p>∴ Protectionism will help the sunset industries to decline gradually, while giving the resources time to move to other industries and prevent prolonged structural unemployment and the widening of income gaps.</p>	<p>1. Drain govt's reserves</p> <p>Export subsidies reduces unit COP → domestic producers enjoy comparative advantage → sell their goods at a lower P. If given for a prolonged period, this will drain govt's funds → govt has a lower ability to stimulate the economy should there be an economic slowdown or negative growth</p> <p>2. Promote inefficiency</p> <p>By protecting the domestic markets, the market power of domestic firms is raised due to lack of foreign competition. With monopoly power and supernormal profits, domestic firms will have higher chances of being allocative and productive inefficient, as they have less need to improve operating efficiencies, minimise costs and innovate</p> <p>3. Overall rise in UnE due to retaliation</p> <p>By using protectionist measures to protect domestic employment, other countries are likely to retaliate by doing the same such that international trade is reduced overall → any gain in employment for some industries may be at the expense of a loss in employment for other industries. Even if other countries did not retaliate, employment in the countries may still be affected ultimately. This is because, as domestic residents buy less foreign goods due to protectionist measures, foreigners will in turn have less income to buy domestically produced G+S → reduces the country's exports → fall in AD → fall in NY & rise in UnE</p>

Evaluative Conclusion

In an increasingly globalized world, striking a balance between protecting domestic industries and participating in global trade is crucial. Many economists advocate for a nuanced approach that combines elements of both protectionism and free trade. For instance, governments could consider targeted support for struggling industries while also promoting international cooperation and fair trade practices.

Ultimately, whether protectionist policies can be justified depends on a country's specific circumstances, its long-term economic goals, and the potential impact on various stakeholders. A thoughtful evaluation of the costs and benefits along with a deep understanding of the evolving global economic landscape is necessary to make informed decisions about protectionist measures.

Knowledge, Application/ Understanding and Analysis		
L3	For a developed discussion on why protectionist policies can ever be justified in an increasingly globalized world	8-10
L2	For an undeveloped discussion on why protectionist policies can ever be justified in an increasingly globalised world	5-7
L1	For an answer that shows some knowledge on the arguments for and against protectionist policies.	1-4
Evaluation		
<ul style="list-style-type: none"> Takes a clear overall stand that is comprehensively justified by providing convincing and synthesized evaluative comments on whether protectionist policies can ever be justified in an increasingly globalized world 		4 – 5
<ul style="list-style-type: none"> Takes a clear overall stand that is only partially justified and explained or the arguments were unconvincing and/or inaccurate at times <i>OR</i> Provides evaluative comments but overall stand is unclear <i>OR</i> Provides insightful opinions which are however not directly relevant to the requirements of the question. 		2 – 3
<ul style="list-style-type: none"> Make an overall stand: On balance, whether protectionist policies can ever be justified in an increasingly globalized world. 		1