

H2 Paper 2 Suggested Answers

- 1 Amidst a growing economy and the increased use of personal mobility devices, the food delivery industry has changed the way food reaches consumers. If restaurants and hawkers choose to deliver their food to the doorsteps of customers, they have to pay a small commission fee.

Discuss the impact of the above events on the market for food delivery and its associated markets. [25]

Question Interpretation

Command word/phrase	<i>Discuss the impact</i>	This is a cause-and-effect question where students are required to consider the impact of factors in the preamble on the different markets and how the impact might vary in different markets.
Content	<i>impact of above events on the market(s)</i>	The 'cause' are the various demand and supply factors in the preamble and the 'effect' are the price and quantity changes in the various markets
Context	<i>food delivery... associated markets</i>	The context is on food delivery and other food markets associated with it.

A relevant response requires students to consider how the factors in the preamble affects the food delivery market and at least two other markets. Students will be required to show a thorough understanding of demand and supply factors, as well as factors affecting the various elasticity concepts, in order for a deep discussion of the impact on different markets.

Introduction: Identify the markets to be discussed and recognise what 'impact on market' means

- In this essay, I will be discussing various markets that will be affected by the events indicated in the preamble, namely the **food delivery market**, the **market for restaurants who use food delivery services**, the **market for hawkers who use food delivery services** and the **market for other food businesses who do not use food delivery services**.
- For each market, I will be discussing the impact in terms of changes in equilibrium price and quantity in each market, based on the events in the preamble, while considering elasticity factors, as well as any potential effects of one market on another.

Body:

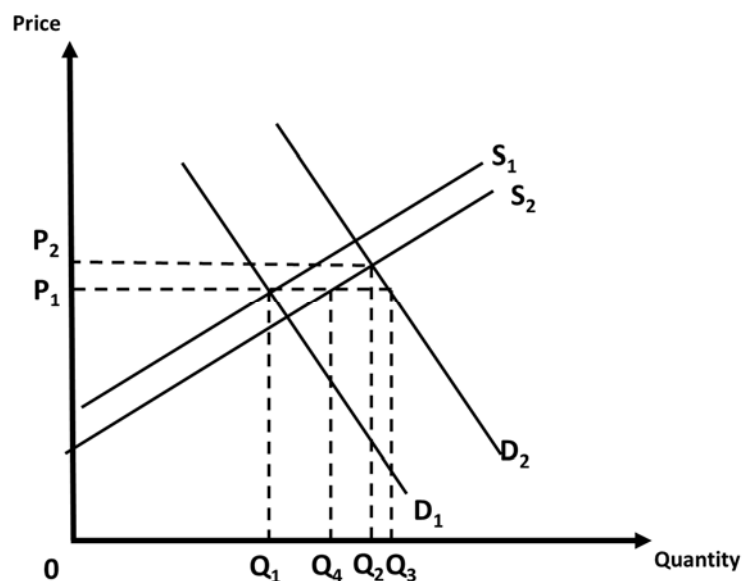
Market 1: Impact of events on food delivery market

- In the market for food delivery, the increase in income levels due to Singapore's growing economy will likely cause an increase in demand for food delivery.
 - With the relative high income levels of Singaporeans, food delivery services can be seen to be a normal, necessity good that results in a less than proportionate increase in demand (i.e. $0 < \text{income elasticity of demand (YED)} < 1$). As such, the rise in demand will be less than proportionate to the increase in income.
 - To consider the impact of the rise in demand on equilibrium price and quantity, we should consider the Price Elasticity of Supply (PES) for food delivery services. As there is easy access to personal mobility devices, the supply of delivery workers

should be easily adjustable in responses to price changes, as such it can be argued that PES is >1 .

- As such, ceteris paribus, the increase in demand will likely lead to a small increase in equilibrium price and relatively large increase in equilibrium quantity.
- Also there will be an increase in supply for food delivery with the increased use of personal mobility devices, which increases the number of delivery workers available to the industry.
 - To consider the impact of the rise in supply on equilibrium price and quantity, we should consider the Price Elasticity of Demand (PED) for food delivery services. As such services take up a small proportion of the average Singaporeans' income and because of the convenience of the services, the demand is likely to be price inelastic (i.e. $0 < PED < 1$).
 - As such, ceteris paribus, the increase in supply will likely lead to a large fall in equilibrium price and a relatively small increase in equilibrium quantity.

Fig 1: Market for food delivery services



- As seen from Fig 1, with the increase in demand from D_1 to D_2 and the increase in supply from S_1 to S_2 due to the above analysis, there will be a shortage of $Q_3 - Q_4$ at the original equilibrium price of P_1 . As a result, there will be an upward pressure on prices, leading to a fall in quantity demanded and a rise in quantity supplied until the new equilibrium price of P_2 and equilibrium quantity of Q_2 is reached. As there is an increase in both demand and supply, there will be a definite increase in the equilibrium quantity from Q_1 to Q_2 . However, the effect on equilibrium price depends on the relative shift of demand and supply curves.
 - **[Magnitude, Situation]** As the income increase affects the entire population, it is likely to cause a large increase in demand as compared to the increase in supply, as while personal mobility devices are more accessible, there may not be a large increase in supply as there are other viable jobs in Singapore that deliverymen can choose from. As such, there is likely to be an increase in equilibrium price from P_1 to P_2 in the food delivery industry.

Markets 2 and 3: Impact of events on markets for restaurants and hawkers that take up food delivery services.

- Similar to the market for food delivery, the increase in income levels due to Singapore's growing economy will likely cause an increase in demand for both restaurants and hawkers as people transit from eating at home to eating out. This is because of a higher ability to

eat out, but it is also due to an increased willingness to eat out – as people's lives become more hectic, there is less time to prepare food at home and hence eating out becomes a more attractive option.

- However, the increase in demand due to the income increase will differ between restaurants and hawkers due to differing YED values. Hawker food are likely to be classified as normal necessity goods ($0 < YED < 1$) while restaurant food are more likely normal luxury goods ($YED > 1$). As such hawkers will see a less than proportionate increase in demand due to the increase in income and for the same increase in income of the population, restaurants will be likely to see a more than proportionate increase in demand.
- For restaurants and hawkers that use food delivery services, they are likely to experience a further increase in demand for their food as well, as these services have made it more convenient for people to access their food.
 - However, it is likely that the increase in demand for restaurants are likely to be much larger than the increase in demand for hawkers. This is because food delivery services take up a smaller proportion of the cost of restaurant food, as compared to the cost of hawker food. As such, consumers are more likely to engage food delivery services for restaurants, resulting in a larger increase in demand for restaurant food.
- When restaurants and hawkers take on food delivery services, with the requirement of a commission fee, this increases their costs of production and results in a fall in supply by the extent of the commission fee.

Fig 2: Market for restaurants using food delivery services

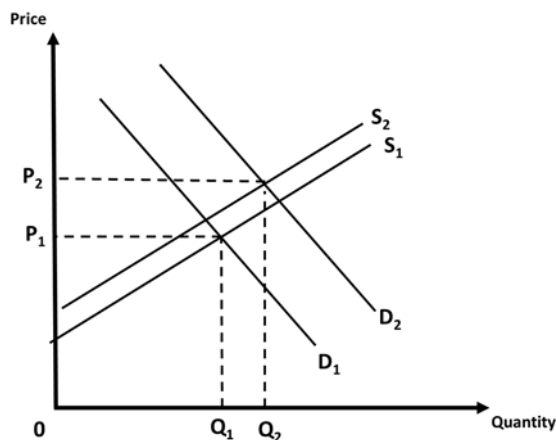
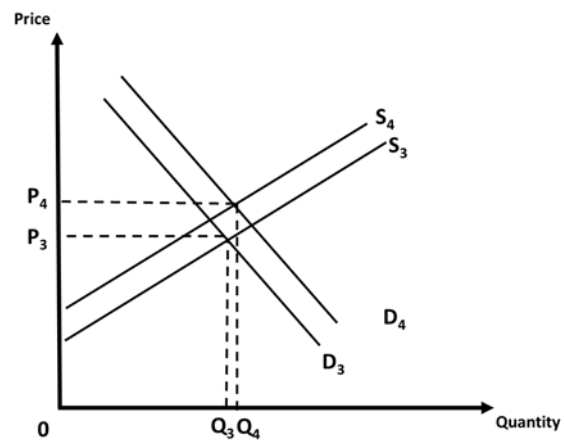


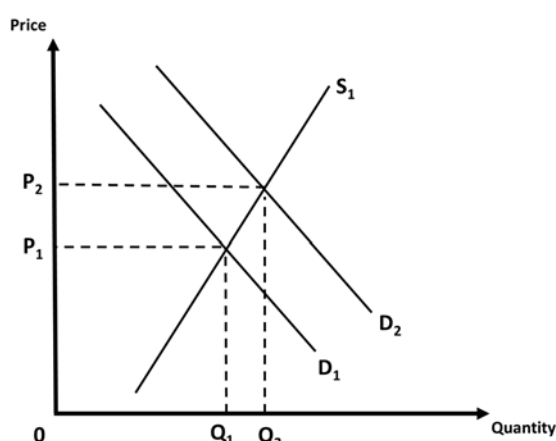
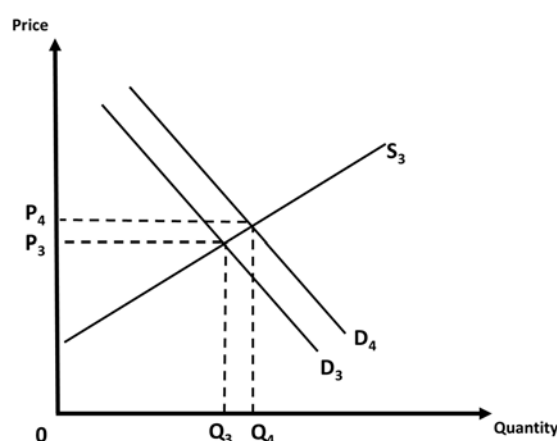
Fig 3: Market for hawkers using food delivery services



- As can be seen from Figures 2 and 3, the aforementioned events will cause a rise in demand and fall in supply for both the market for restaurants ($D_1 \rightarrow D_2$ and $S_1 \rightarrow S_2$) and market for hawkers ($D_3 \rightarrow D_4$ and $S_3 \rightarrow S_4$) who use delivery services. The effects will both cause a rise in equilibrium price. However, the impact on equilibrium quantity is uncertain.
 - **[Magnitude]** It is likely that with two different factors increasing demand (increase in income and convenience from delivery services), both hawkers and restaurants will face a rise in demand that is more than the fall in supply, leading to a rise in equilibrium quantity.
 - **[Magnitude]** However, the increase in demand is likely to be greater for restaurants than hawkers (due to greater YED value for restaurants and a likely greater increase in demand due to delivery services), leading to a greater increase in equilibrium quantity for restaurants than hawkers.

Market 4: Impact of events on markets for restaurants and hawkers that do not take up food delivery services.

- Compared to markets 3 and 4, these markets will just be affected by an increase in the income levels. However, there will be differing impacts in both markets due to differences in PES and YED values.
 - As argued in the previous section, the increase in demand due to the income increase will differ between restaurants and hawkers due to differing YED values. Hawkers are likely to be classified as normal necessity goods ($0 < YED < 1$) while restaurants are more likely normal luxury goods ($YED > 1$).
 - Also, the effect of the increase in demand will differ due to different PES values for both industries. The supply for restaurants is likely to be more price inelastic as they use more premium ingredients that might be sourced from specific suppliers and hence quantity supplied cannot be easily increase on short notice when there are price increases. In contrast, the supply for hawkers is likely to be more price elastic as many of the ingredients they use (e.g. noodles, rice, vegetables) are available in large quantities from many different suppliers, which makes it relatively easy to increase quantity supplied in response to increases in price.

Fig 4: Market for restaurants NOT using food delivery services**Fig 5: Market for hawkers NOT using food delivery services**

- As can be seen from Figures 4 and 5, the aforementioned events will cause a rise in demand for both the market for restaurants ($D_1 \rightarrow D_2$) and market for hawkers ($D_3 \rightarrow D_4$). The effects will both cause a rise in equilibrium price and quantity.
 - [Magnitude]** Due to the larger YED value and the smaller PES in the market for restaurants, there is likely to be a much larger price rise in the market for restaurants, as compared to hawkers.
 - [Time Frame]** In the long-run, the differences in PES values in both markets is likely to be less significant as given time, restaurants can source for substitute sources for their premium ingredients. This might dampen the increase in price for Market 4 in the long run.
 - [Magnitude]** However the increases in price and quantity for Market 4 is likely to be less significant as compared to Market 2, as Market 4 does not experience the increase in equilibrium price and quantity due to the take-up of delivery services.

Note: a good answer does not necessarily need all five markets above! A strong analysis would have a scope of at least 3 different markets (of course, with the food delivery market being one of them).

Evaluative Conclusion:

****note that there have been multiple opportunities for evaluation within the body paragraphs themselves!***

- **[Stand]** As can be seen from the above analysis, markets for both food delivery and food services are likely to get a rise in equilibrium price and quantity as a result of the rise of food delivery services and the rise in income, with increases in demand likely to be the more influential effect than any supply changes.
- **[Magnitude]** The one factor that is likely to affect all markets analysed is the growing economy, but the extent to which it influences the different markets depends on the respective YED values of the different markets.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a balanced and rigorous answer <ul style="list-style-type: none"> • that explores the impact of events in the preamble on equilibrium price and quantity in the food delivery markets and at least 2 other markets, • with accurate use of various demand, supply and elasticity concepts in analysis, and • with a good application of the contexts of the various markets. 	15 - 20
L2	For an underdeveloped answer <ul style="list-style-type: none"> • that explores the impact of events in the preamble on equilibrium price and quantity in the food delivery markets and only 1 other market, OR • that explores the impact of events in the preamble on equilibrium price and quantity in the food delivery markets and at least 2 other markets, but <ul style="list-style-type: none"> ○ with several gaps in the use of content, and/or ○ with a lack of the application of the contexts of the various markets. <p>If only 1 market was analysed, marks are to be capped at a maximum of 10.</p>	9 - 14
L1	For an answer that shows some knowledge of the impact of the different events on the different knowledge, but with a lack of accurate economic analysis in the explanation.	1 - 8
Level	Evaluation/Synthesis	Marks
E3	For an answer that critically evaluates whether the market changes are similar in all markets and is able to identify and justify why changes might differ for different markets.	4 – 5
E2	For an answer that attempts to evaluate whether the market changes are similar in all markets but with logical gaps in justification on why changes might differ for different markets.	2 – 3
E1	For an answer that gives an unsupported evaluative statement(s) that addresses the question.	1

2 Under the 2013 Drug Price Control Order, India has adopted price controls to cap the prices of over 300 pharmaceutical drugs in the market.

(a) Explain the considerations of governments when imposing price controls in different markets. [10]

(b) Assess the view that the main use of government subsidies is to achieve an efficient allocation of resources in markets. [15]

(a)

Question Interpretation

Command word/phrase	<i>Explain</i>	Give clear reasons or make clear the meaning of, use examples and explain the theory behind the question
Content	<i>considerations of governments</i>	Consider the factors (e.g. benefits, costs, unintended consequences, constraints) that will influence governments' decision-making
	<i>price controls</i>	Price ceiling (maximum price) and price floor (minimum price)
Context	<i>different markets</i>	No specific context; to illustrate with examples of different markets (e.g. product and/or factor markets)

Students are required to consider the factors (e.g. benefits, costs, unintended consequences) that will influence governments' decisions to impose price controls – both a price ceiling and price floor in different markets.

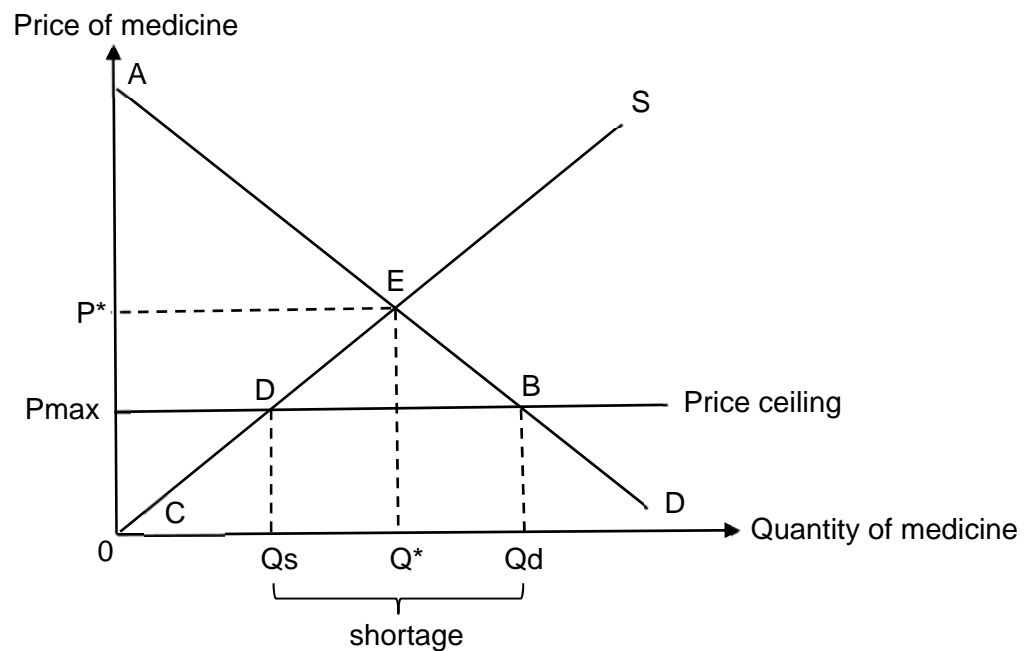
Introduction

- Price controls use legislation to set the price level in markets, thus inhibiting the workings of the price mechanism. Price controls can be classified into price ceiling (maximum price) and price floor (minimum price).
- The imposition of price controls can bring about benefits in terms of increased equity but can also result in costs and unintended consequences which governments would have to take into account when imposing price controls in different markets.

Body

Argument 1: A government would consider the benefits and costs of imposing a price ceiling

- When making a decision to impose a price ceiling for medicine, a government would consider the increased equity enjoyed by consumers, especially the lower income who are now able to have greater access to affordable medicine.
 - A price ceiling is a legal maximum price on which a good can be sold. To be effective, it needs to be set below the market equilibrium price.
 - As seen in the figure 1, the initial free market equilibrium price and quantity is P^* and Q^* respectively. When a price ceiling is imposed in the market for medicine, the price of medicine falls to P_{max} .

Figure 1: Effects of a price ceiling

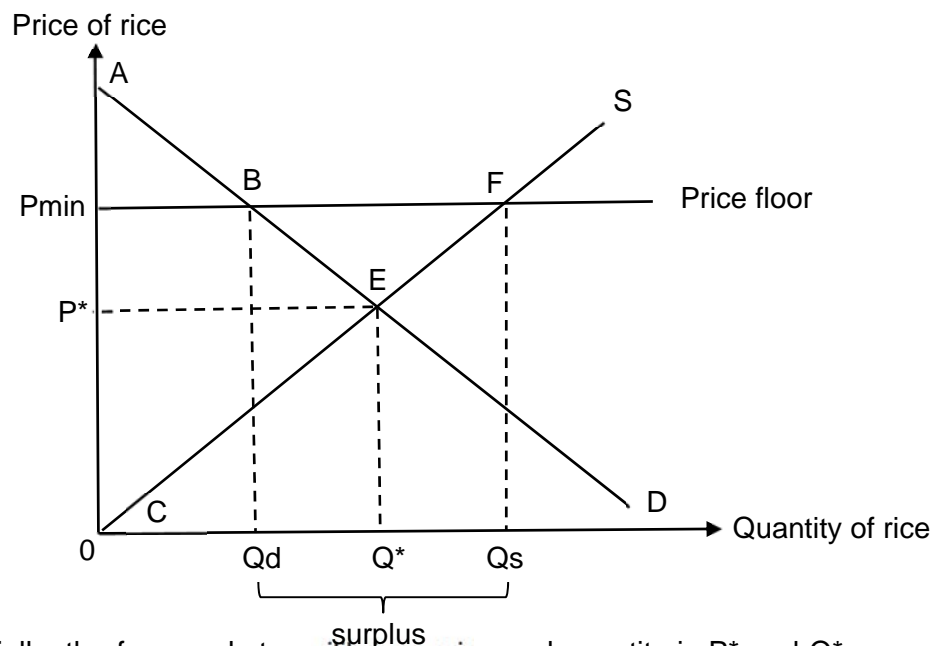
- The consumer surplus increases from area AEP^* to area ABP_{max} . The lower price of medicine at P_{max} would allow more consumers who were initially priced out of the market due to their inability to pay, to now be able to consume medicine, which is a necessity.
- One reason that India adopted a price control on medicine could be because India is a developing country with a large population living in poverty. The benefits of increased equity from allowing more consumers to have access to affordable medicine could hence be a consideration of the India government when it imposed a price ceiling “to cap the prices of over 300 pharmaceutical drugs in the market.”
- However, a price ceiling also brings about costs and unintended consequences, which needs to be considered by the government as well.
 - A price ceiling would increase quantity demanded to Q_d and reduce quantity supplied to Q_s , resulting in a shortage of $Q_d - Q_s$ units.

Any two of the following explanations would suffice:

- Given the shortage, the good has to be distributed. This can be distributed via queues, where consumers buy the good on a first-come first-served basis or via balloting. However, these methods do not always achieve equitable outcomes as it is difficult to ensure that the needy and lower-income households are the ones who would gain access to the medicine.
- Moreover, due to the shortage, black markets, where sellers ignore the government's price restrictions, and sell the good illegally at a price higher than the maximum price, could arise. In some cases, it is possible for the black market price to be even higher than the free market price. When this occurs, the price ceiling actually harms consumers, which is the opposite of the intended aim of the policy.
- To effectively deter black market activities, the government would need to ensure monitoring and enforcement efforts are effective, which would incur substantial costs and incur a strain on the government budget. A government would hence need to consider its ability to prevent black market activities before imposing a price ceiling.

Argument 2: A government would consider the benefits and costs of imposing a price floor

- One factor that governments consider when imposing a price floor in agricultural markets would be the benefits in terms of protecting the prices of the agricultural produce and farmers' incomes, hence improving equity.
 - A price floor is a legal minimum price on which a good can be sold. To be effective, it needs to be set above the market equilibrium price.

Figure 2: Effects of a price floor

- Initially, the free market equilibrium price and quantity is P^* and Q^* respectively. When a price floor is imposed in the market for rice, the price of rice increases to P_{min} . Farmers benefit from the higher price paid for rice, and their incomes are protected. The producer surplus increases from area OP^*E to area $OP_{min}F$. This improvement in equity is one consideration of governments when imposing a minimum price in the rice market.
 - However, governments would also need to consider the costs and sustainability of a price floor.
 - At P_{min} , consumers bear the cost of paying a higher price for rice, and there is a loss of consumer surplus from area AEP^* to area ABP_{min} .
 - At P_{min} , the quantity demanded decreases to Q_d but the quantity supplied rises to Q_s resulting in a surplus of $Q_s - Q_d$ units.
 - To prevent the surplus from depressing prices, a government would need to buy up the surplus. This means that the government would incur an expenditure equivalent to area Q_dBFQ_s . This would put a strain on the government's fiscal budget.
- Any two of the following explanations would suffice:**
- Governments which have set a minimum price on rice include China, Thailand, and India. For countries like Thailand and India, the high expenditure required to support the price floor would be a significant constraint because of their budget deficits. Hence, the sustainability of the price floor would be an important consideration of these governments.

- In addition, a price floor may result in the unintended consequence of farmers being complacent as their incomes are being protected. As such, farmers may not keep their costs low, and have less incentives to engage in R&D to innovate to reduce costs of production, reducing productive and dynamic efficiency.
- Because the price signal is distorted with the imposition of a price floor, the price no longer serves as an accurate signal for the effective market demand. In more serious cases, the higher prices from the price floor may discourage firms from producing alternative goods which they could produce more efficiently or which are in higher demand, but nevertheless have a lower (free-market) price. This would result in the unintended consequence of allocative efficiency, where the combination of goods produced are not the most desired by society.

Note:

- *Alternatively, students can also consider an analysis of the imposition of a minimum wage in the labour market.*

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For an answer that: <ul style="list-style-type: none"> • provides a rigorous analysis of the benefits and cost considerations of governments when imposing both a price ceiling and price floor in different markets, and • illustrates with relevant examples. 	8 - 10
L2	For an answer that: <ul style="list-style-type: none"> • lacks a rigorous analysis of the considerations of governments when imposing price controls in different markets OR a rigorous answer that is not balanced; did not consider both benefit and cost considerations or did not analyse both a price ceiling and price floor in different markets, and • shows limited/no use of relevant examples. 	5 - 7
L1	For an answer that shows some knowledge of price controls and/or why governments impose price controls. Answer may contain conceptual errors in the diagrammatic analysis of a price ceiling or price floor.	1 - 4

(b) Assess the view that the main use of government subsidies is to achieve an efficient allocation of resources in markets. [15]

Question Interpretation

Command word/phrase	<i>Assess the view</i>	To make a judgment on the main use of government subsidies and hence the validity of the view
Content	<i>main use of government subsidies</i>	Present the different uses of government subsidies. Besides to achieve microeconomic goals of efficiency and equity, macroeconomic goals should also be analysed.
	<i>efficient allocation of resources</i>	Allocative efficiency; where $MSB = MSC$ for society or $P = MC$ for firms
Context	<i>markets</i>	No specific context; to illustrate with real-world examples

A relevant response would require students to discuss the different uses of government subsidies, going beyond the microeconomic goal of achieving allocative efficiency, before making a judgement on the main use of government subsidies. For sufficient scope in the discussion, students would need to discuss how government subsidies are also used to achieve macroeconomic goals as well.

Introduction

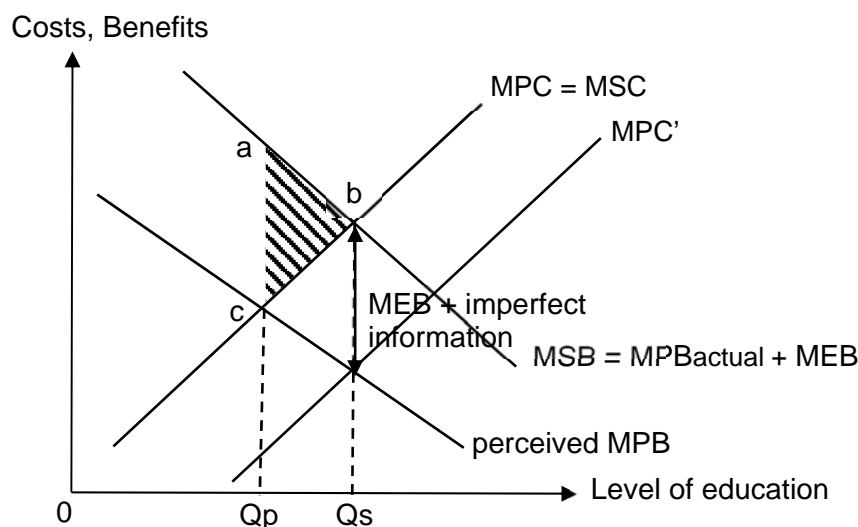
- Government subsidies, in particular, indirect subsidies, can be defined as an amount of money given by the government for each unit of the good that is produced or consumed.
- While subsidies may be given to achieve allocative efficiency and maximise society's welfare, government subsidies can also be used to attain macroeconomic goals like economic growth.

Thesis: Government subsidies can be used to achieve allocative efficiency

- Government subsidies given to increase the consumption of merit goods to the socially optimal level can be used to achieve allocative efficiency.
- An example of a merit good is education, where the government deems is socially desirable, and believes will be under-consumed if left to the free market. For education, the presence of positive externalities, the positive spillover effects on third parties not involved in the economic activity, and imperfect information, both contribute to the underconsumption of education.
- The consumption of education generates positive externalities as third parties like the employers of educated individuals are likely to benefit from increased productivity. Also, consumers may under-estimate the actual marginal private benefits (MPB) that they could gain from receiving higher education levels. They may perceive the gains in terms of future salary earnings to be lower than they are.
- Diagrammatically, the marginal social benefit (MSB) of education exceeds the MPB by both the amount of marginal external benefit (MEB) and the imperfect information as shown in Figure 3.
- Self-interested consumers would weigh only their perceived MPB and MPC and consume Q_p units of education. However, every unit of consumption between Q_p and Q_s generates greater net benefits, and there is deadweight loss as depicted by the shaded area abc due to the underconsumption of education.

- The price mechanism fails to bring about a socially efficient allocation of resources as the benefits to employers and true private benefits are not factored in the decision-making in the consumption of education. From society's perspective, there is over-pricing of education in the private market.
- A government subsidy equivalent to the MEB and imperfect information at Q_s can lower the cost of consumption, shifting MPC down by the amount of the subsidy to MPC' . This will lower the price of education, and increase the consumption of education to Q_s where the perceived MPC intersects the MPC' . As the consumption of education increases to the socially optimal level, the deadweight loss is eliminated and allocative efficiency is achieved.

Figure 3: Education, a merit good



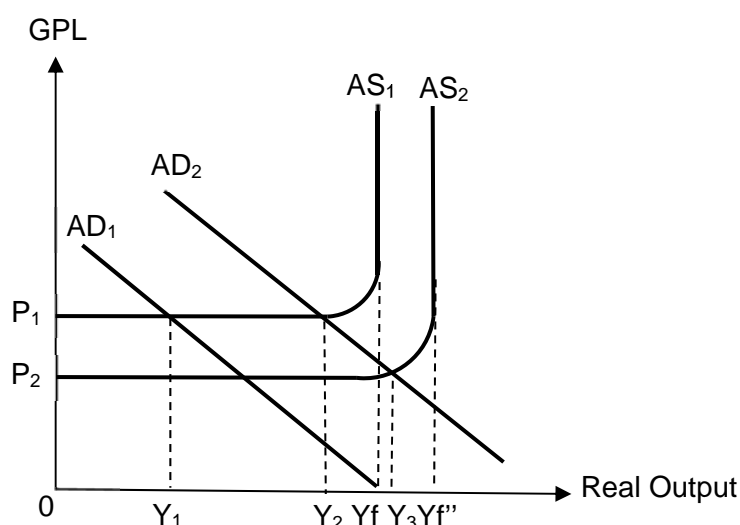
Notes:

- The focus of the analysis is on how the use of government subsidies can increase consumption to Q_s , and not how the market failure arises.
- Alternatively, students can also analyse how subsidies to reskill workers to alleviate occupational immobility and achieve allocative efficiency in the labour market as their thesis argument.

Antithesis 1: Government subsidies can be used as a form of protectionist measure

- In addition to achieve allocative efficiency in markets, government subsidies are also used as a form of protectionist measure to achieve higher actual economic growth.
- In China for instance, government subsidies are given to solar panel producers to lower their costs of production. With an increase in expected profits, this incentivises solar panel producers to increase their supply, leading to lower prices. The lower prices of Chinese produced solar panels make them more price competitive in the global market, which will stimulate China's export revenue, assuming that demand for solar panels is price elastic. As net exports, a component of aggregate demand (AD) increases, this can trigger a multiplier effect and lead to a multiplied increase in the real national income of the Chinese economy assuming that there is spare capacity.
- As seen in Figure 4, the increase in AD from AD_1 to AD_2 increases real output from Y_1 to Y_2 . As production levels increase, the derived demand for labour also rises, and demand-deficient unemployment falls from $Y_f - Y_1$ to $Y_f - Y_2$.
- Hence government subsidies can also be used to achieve higher actual economic growth and lower demand-deficient unemployment.

Figure 4: Sustained economic growth



Antithesis 2: Government subsidies can also be used to reduce cost of production and increase productive capacity to achieve sustained growth

- In addition, government subsidies can also be used as a form of supply-side policy. For instance, subsidies can be given to incentivise producers to undertake greater research and development (R&D) to lower their production costs and improve the quality of their capital.
- In Singapore, the recent Productivity Solutions Grant (PSG) serves to support more firms by subsidising their innovation efforts. If successful, the subsidies can lower production costs and increase the productivity of firms, allowing them to produce more using the same amount of resources. This will increase aggregate supply (AS) from AS_1 to AS_2 .
- There is higher actual economic growth as real output increases from Y_2 to Y_3 , and higher potential growth as the full employment level of output increases from Y_f to Y_f'' . Hence, economic growth is sustained.

Note:

- Students can also analyse how government subsidies can be used to (i) improve equity or (ii) to alleviate income inequality to achieve inclusive growth as alternative arguments.

Evaluative conclusion:

- Government subsidies can be used to achieve a government's microeconomic objective of allocative efficiency, and also its macroeconomic objective of sustained growth.
- **[Stand]** Due to the multiple and equally important uses of government subsidies, it is unlikely that the main use of government subsidies is solely to achieve efficient resource allocation.
- **[Situation]** When there is market failure, one may argue that the main use of subsidies would be to eliminate the deadweight loss and improve allocative efficiency. For instance, as explained earlier, subsidies equivalent to the divergence at Q_s can help increase consumption to the socially optimal level, and eliminate deadweight loss. In other instances, however, such as when the economy is experiencing slow growth, government subsidies can arguably be used mainly as a form of protectionist measure to boost external demand to help governments achieve higher actual economic growth.
- **[Magnitude]** In general, the objective of governments would be to raise the standard of living of its citizens, and to do so, economic growth is paramount. As such, it is more likely

that the main use of government subsidies would be to achieve sustained economic growth rather than just to achieve efficient resource allocation in markets.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that discusses the multiple uses of government subsidies, illustrated with relevant real-world examples.	8 – 10
L2	For an answer that provides a balanced but undeveloped discussion of the multiple uses of government subsidies. OR For an answer that provides a one-sided but rigorous analysis of how government subsidies can improve resource allocation in markets. Answer is mainly theoretical.	5 – 7
L1	For an answer that shows some knowledge of the effect of a subsidy, is mostly descriptive, and contains inaccuracies.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on the extent to which the main use of government subsidies is to improve resource allocation in markets.	4 – 5
E2	For a judgement based on economic analysis that makes some attempt at a judgment on the extent to which the main use of government subsidies is to improve resource allocation in markets.	2 – 3
E1	For an unexplained judgement that addresses the question, or one that is not supported by economic analysis.	1

- 3 The hotel industry in many countries is extremely diversified, ranging from fuss-free budget hotels that serve guests such as backpackers, to luxury hotels that include a wide amenity of services for guests such as business travellers.

(a) Explain the different economies of scale present in the hotel industry. [10]

(b) Assess whether profit maximisation should always be the goal of different hotels. [15]

(a)

Question Interpretation

Command word/phrase	<i>Explain</i> <i>different</i>	Elaborate on a particular concept. This command word hints that a need for a scope of a variety of EOS
Content	<i>economies of scale</i>	To get scope, focus should be on a broad scope of <i>internal</i> and <i>external</i> EOS
Context	<i>hotel industry</i>	Focus should be on the hotel industry, which has been introduced in the preamble.

This response requires students to explain how different types of economies of scale are relevant to the hotel industry. Students should show an ability to apply both internal and external economies of scale to the context of hotels.

Introduction

- There are two key types of economies of scale (EOS) – internal EOS and external EOS.
 - Internal EOS can be defined as the fall in unit costs for a firm as **the firm** expands in size. This is illustrated in a firm's diagram with a downward movement along the LRAC curve.
 - External EOS can be defined as the fall in unit costs for a firm as **the industry** expands in size. This is illustrated in a firm's diagram with a downward shift of the LRAC curve.

Body

1. *Explain the internal economies of scale present in the hotel industry.*

- One form of internal EOS is that of technical economies.
 - As a hotel expands its production (e.g. have more rooms etc.), there will be more workers employed and therefore there can be a greater scope for specialisation in the area of hotel operations. For example, there can be workers who specialise in guest relations, others who specialise in the preparation of food and others who specialise in cleaning of rooms.
 - With a large number of guests, certain elements of a hotel that are indivisible can be justified, such as a swimming pool. With more hotel guests, the unit cost of installing and maintaining a swimming pool would fall as the high total costs will be spread out over a larger number of guests.
- There can also be managerial economies in the hotel industry.
 - A large hotel chain can justify the hiring of specialised managers, advertising staff, accountants, etc. Delegation of responsibility enables the top management to focus on long term strategic planning, which can lower unit costs over time.
- Finally, there can be marketing economies present in the hotel industry.
 - A large hotel chain can potentially enjoy economies of scale by advertising for several hotels with the same advertisement. The cost of the advertisement space will likely not differ based on the number of brands it puts in a given space, but if the chain is able to

market several of its hotels with one advertisement, there can be a fall in unit cost as the large advertising outlay is spread over several hotels.

Notes:

- *Approximately 2 well elaborated different internal economies of scale in the hotel context would suffice for students to show adequate understanding of this concept.*
- *Instead of the above examples, students can choose to bring in other examples such as financial economies and economies of scope as well, as long as they are reasonably applied to the hotel industry,*

2. *Explain the external economies of scale present in the hotel industry.*

- Firstly, hotels can enjoy economies of concentration.
 - When several hotels group together in an area, there might be specialised services that arise to support their functions. For example, laundry businesses might set up in the hotel cluster. The laundry services would enjoy their own internal economies of scale as they are able to sell to a large number of hotels. This translates to a fall in unit costs for all the hotels, simply because they had grouped together in a cluster.
- Secondly, hotels can enjoy economies of information.
 - When the industry expands in a country, there is more incentive for specialised research facilities to be set up. This can be by private entities or by the government. For example, in Singapore, the hotel industry is one of the targeted industries in the Industrial Transformation Maps (ITMs) that are being rolled out by the Singapore Government. This only happened because the industry is large enough such that it employs a significant number of workers. This would incentivise the government to dedicate resources to study and propose recommendations for the industry to make it more competitive, reducing unit costs.

Note: Compared to internal EOS, there is likely less variety of external EOS examples to analyse. It is ok to have an essay that is more focused on internal EOS, but external EOS must be captured in at least 1 paragraph.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous answer <ul style="list-style-type: none"> • that analyses a range of different types of EOS, with a focus on both internal and external EOS. • with good application to the hotel context, in the form of contextualised examples. 	8 - 10
L2	For an underdeveloped answer <ul style="list-style-type: none"> • that analyses only internal or external EOS, with good application to the hotel context, OR • that analyses both internal and external EOS, but with a lack of rigour or scope of examples. For an answer that only explores external EOS, max 5m	5 - 7
L1	For an answer that shows some knowledge of EOS and the hotel industry.	1 – 4

(b) Assess whether profit maximisation should always be the goal of different hotels.
[15]

Question Interpretation

Command word/phrase	Assess <i>whether</i> <i>always...different</i>	Present different perspectives of the view and evaluate the validity of the view These command words hint about potential evaluative angles. If you can question that <i>different</i> hotels may not <i>always</i> profit maximise, you might have an evaluative angle.
Content	<i>profit maximisation</i> <i>goal of different hotels</i>	Students should analyse profit maximisation as a goal for hotels and when the goal might differ for different hotels.
Context	<i>different</i> hotels	Based on the preamble, it is useful to consider hotels which are more oligopolistic in nature vs hotels which are more monopolistically competitive in nature.

A good response would consider hotels in two different types of market structure – monopolistic competition and oligopoly. By taking into account the types of profits present in both market structures, students should arrive at an understanding that profit maximisation is more crucial for hotels who are more monopolistically competitive than those who are more oligopolistic. For those who are oligopolistic, with supernormal profits, they could have other goals such as revenue and sales maximisation.

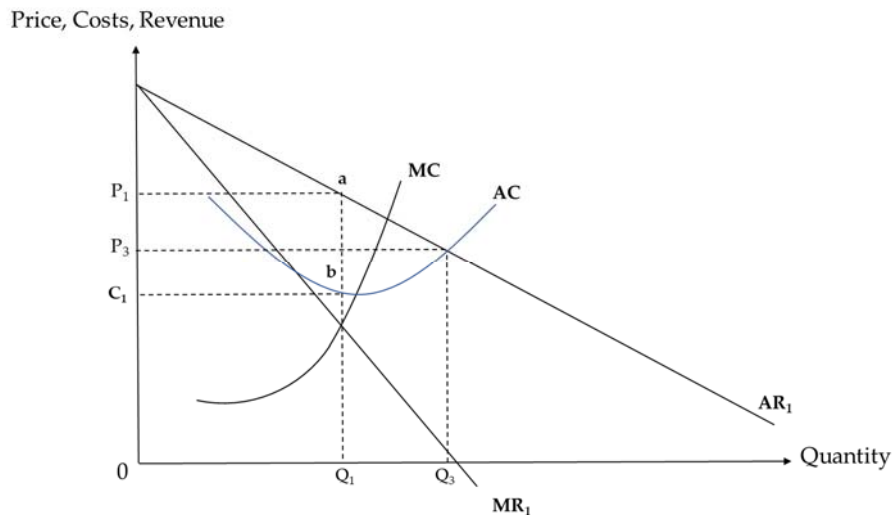
Introduction

- Profit maximisation as a goal can be analysed by taking into account the market structure that hotels are in.
- As mentioned in the preamble, there is a range of hotels present in the hotel industry.
 - Budget hotels are likely to face lower barriers to entry, as they only provide basic services that are easier to replicate. As such the market structure that they are likely to be in is monopolistic competition.
 - Luxury hotels are more likely to be in an oligopolistic market structure, as luxury hotel industry would have more barriers to entry, e.g. strong reputation from years of marketing, membership schemes etc., that potential entrants would find difficult to overcome.

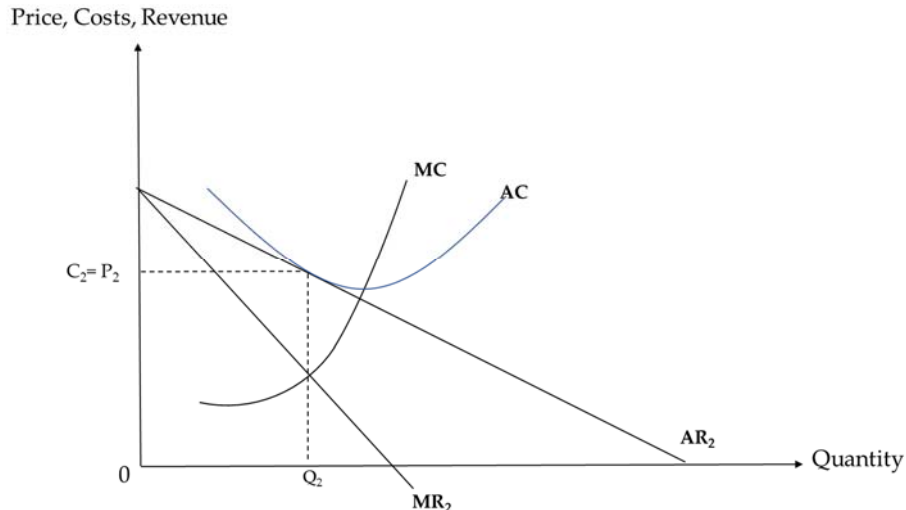
Body

Thesis: Profit maximisation should be the goal of different hotels

- Hotels will maximise their profits in pursuit of their self-interest, assuming that they are rational. Regardless of the market structure, hotels will be interested in maximising profits to maximise their self-interest by producing at a quantity where marginal revenue (MR) is equal to marginal costs (MC). In the short run, both budget and luxury hotels could be able to earn supernormal profits as shown in Figure 1 below.

Figure 1: Short Run Profits for Hotels

- As shown in Figure 1 above, in the short run, both budget and luxury hotels would produce where $MC = MR_1$ and earn a supernormal profit of P_1abC_1 .
- Profit maximisation is especially pertinent for budget hotels in the long run. As can be seen in Figure 2 below, due to the low barriers to entry in the budget hotel industry, it is very likely that more budget hotels would enter the market when they notice supernormal profits present in the industry in the short run. As such, for the budget hotel industry, their AR is likely to drop to AR_2 and MR_2 in Figure 2 below, until only normal profits are earned by budget hotels in the long run, where $P_2 = C_2$.

Figure 2: Long Run Profits for Budget Hotels

- From Figure 2, should the budget hotel produce at a quantity that is larger or smaller than Q_2 , it would earn subnormal profits and will leave the industry. As such, profit maximisation is the goal for budget hotels in the long run.

Anti-thesis: Profit maximisation may not be the goal for some hotels.

- Unlike budget hotels, luxury hotels who are oligopolistic will be able to retain their supernormal profits of P_1abC_1 in Figure 1 in the long run due to relatively higher barriers to entry present in that industry.
- As such, firms in the luxury hotel industry may not always seek to maximise profits for several reasons.
- First, luxury hotels may be interested in increasing their market share and may engage in both price and non-price competition that could erode their profits.
 - For example, a luxury hotel who is keen to woo more customers may lower prices to P_3 in Figure 1. This would increase their market share from Q_1 to Q_3 . However, this would not be profit maximising as at P_3 , average costs is also equal to P_3 which would mean that the firm is earning only normal profits when it could have been charging P_1 at quantity Q_1 to earn supernormal profits.
 - Oligopolistic firms may also engage in a high degree of non-price competition such as advertisements to increase their AR and MR over time. However, this would increase AC for the same level of production in the short run, which would result in the firm earning less profits than the maximum that it could've earned without non-price competition.
- Second, as luxury hotels would often exist in chains, the managers of each hotel may not necessarily be the owner(s) of the chain, especially for hotel chains that are publicly listed. In such cases, the owners are the shareholders (principals), who in turn employ professional managers (agents) to run the hotels. Such separation of control (management) and ownership is known as the principal-agent problem. The hotel managers (agents) may thus have a profit satisficing goal, which is to aim for a reasonable level of profit good enough to keep the owner(s) satisfied, instead of seeking to maximise profits.
 - **[Situation]** However, it should be noted that this is less likely in certain firms where managers are given shares to the hotel chains as well. As such, profits earned from the hotel would also increase the value of their shares and managers will therefore have a greater incentive to profit maximise for the hotel chain as well.

Evaluative conclusion

- **[Time Frame + Magnitude]:** As argued in this essay, in the short run, both budget and luxury hotels are likely to have profit maximisation as their goal.
 - However, in the long run, it is more likely for budget hotels (who are in a an MC industry) to have the goal of profit maximisation than luxury hotels, who are more likely to be oligopolistic in nature.
 - This is because budget hotels are required to maximise their profits simply to survive in the industry, whereas luxury hotels may not always maximise profits as they usually have past supernormal profits to fall back on if they choose to pursue alternative objectives.
- **[Assumption + Time Frame]** However, one can easily assume that the alternative strategies discussed such as market share maximisation are in fact done with the aim of profit maximisation in the very long run. For example, once a firm gains sufficient market share from its competitors with the use of price competition, it would revert to its profit maximisation price. Therefore, the core goal for hotels can still be argued to be profit maximisation.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that analyses different types of hotels and the relevance of profit maximisation and alternative strategies as their goals.	8 – 10
L2	For an underdeveloped answer that <ul style="list-style-type: none"> • does not analyse an adequate scope of goals beyond profit maximisation for different hotels, OR • analyses a scope of goals for different hotels but with a lack of rigour and conceptual accuracy, OR • analyses a scope of goals with rigour but with a lack of application to the hotel industry. 	5 – 7
L1	For an answer that is mostly descriptive, with some inaccuracies and is not in context.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at a reasoned judgement on whether profit maximisation is <i>always</i> the goal for <i>different types</i> of hotel. Students have to be sensitive to the key command words in the question to achieve this evaluation score.	4 – 5
E2	For a judgement based on economic analysis and makes some attempt at questioning whether profit maximisation will always be the goal for different types of hotels.	2 – 3
E1	For an unexplained judgement, or one that is not supported by economic analysis	1

4 Assess the extent to which trade-offs between different macroeconomic objectives is the main reason why governments pursue a mix of macroeconomic policies. [25]

Question Interpretation

Command word/phrase	<i>Assess the extent to which</i> <i>Main reason</i>	Analyse different perspectives of an issue and make a judgement on how far a statement is true Compare with other possible reasons
Content	<i>Trade-offs between different macroeconomic objectives</i> <i>Pursue a mix of macroeconomic policies</i>	Negative unintended consequences of macroeconomic policies causing conflicts between macroeconomic aims Demand-side and supply-side policies Short-run and long-run policies
Context	<i>Governments</i>	No specific context; to illustrate with examples of situations or countries

A relevant response requires students to first explain how the use of policies to achieve one macroeconomic aim may conflict with the other aims of the government. The analysis then needs to bring in how the trade-offs may be mitigated with other macroeconomic policies, thus necessitating “a mix of macroeconomic policies”. To provide a balanced perspective of the statement, the answer needs to consider other reasons why governments may adopt a combination of policies. Finally, an evaluative judgement on the extent to which governments pursue a mix of policies due to trade-offs between the macroeconomic aims is required.

Introduction

- Governments aim to achieve the goals of economic growth, full employment, price stability and a favourable balance of payments position.
- In achieving these aims, governments could adopt demand-management and supply-side policies. However, negative unintended consequences in the form of conflicts with other macroeconomic aims may sometimes arise, causing governments to adopt a combination of policies to address the trade-offs.
- This essay will argue that besides trade-offs between macroeconomic objectives, there are also other reasons why governments may pursue a mix of policies, before evaluating whether it is the main reason for a mix of policies.

Body

Thesis: Trade-offs between macroeconomic objectives is a reason why governments pursue a mix of macroeconomic policies

1. *Explain how trade-off between actual growth/full employment and price stability may require a mix of policies*
- A government may adopt expansionary demand-management policies (e.g. fiscal or monetary policy) to stimulate actual growth and reduce demand-deficient unemployment in an economy. However, this may result in demand-pull inflation, thus conflicting with the aim of price stability.

- For instance, a government may adopt expansionary fiscal policy to increase AD in the economy by increasing government expenditure and/or reducing direct taxes. The reduction in personal income tax raises disposable income and boosts consumption expenditure, while the cut in corporate tax raises post-tax profits of firms and encourages investment expenditure. In Figure 1, the resultant increase in AD from AD_1 to AD_2 causes national income to increase by a multiplied amount from Y_1 to Y_2 due to the multiplier process, thus achieving actual growth. Derived demand for labour also increases as firms increase their production, hence reducing demand-deficient unemployment.
- However, if AD continues to increase while the economy approaches full employment, the general price level may rise persistently (i.e. from P_1 to P_2 to P_3), leading to a situation of demand-pull inflation. This conflicts with the aim of price stability.
- To address the trade-off with price stability, governments could complement the expansionary demand-management policies with supply-side policies to boost the country's productive capacity. As the economy's AS increases and shifts to the right, inflationary pressures are dampened as GPL falls from P_3 to P_2 . Such supply-side policies may take the form of skills-upgrading programmes to increase productivity of workers, or grants to encourage firms to engage in R&D to improve the quality of capital goods.

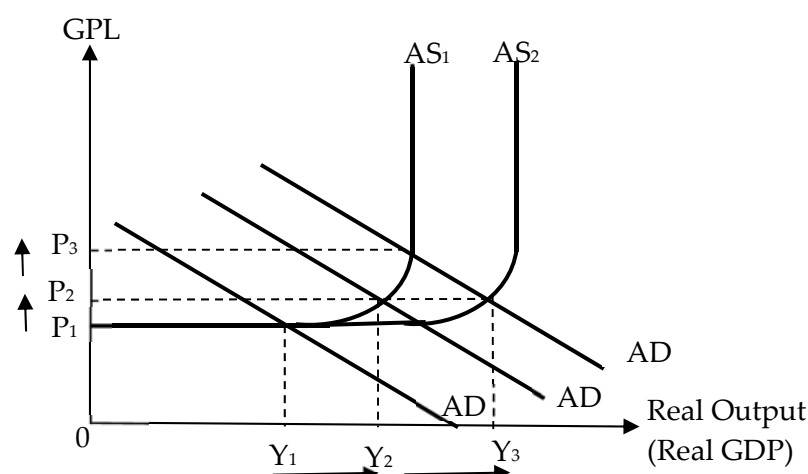


Figure 1: Demand and Supply-side policies to manage trade-off

2. Explain how trade-off between actual growth/full employment and a favourable BOP may require a mix of policies
 - The use of expansionary demand-management policies to increase AD and achieve actual growth and full employment may also conflict with the aim of a favourable BOP position. The increase in national income due to the increase in AD, causes consumption expenditure to increase, part of which may be spent on imported goods and services. This increase in demand for imports leads to a rise in import expenditure which causes a worsening of the current account, which may conflict with the aim of maintaining a favourable BOP position.
 - To mitigate this trade-off between actual growth and a favourable BOP position, governments could adopt supply-side policies to complement the use of expansionary demand-management policies. For instance, the government could provide subsidies to encourage local export-oriented firms to invest in R&D or training of workers so as to achieve increased productivity in the export industries. This can lead to lower unit cost of production and hence increase the price competitiveness of the country's exports. If

demand for the country's exports is price elastic, export revenue increases, which improves the current account and BOP.

Anti-thesis: There are other reasons why governments pursue a mix of macroeconomic policies (at least 2 other reasons)

1. *Explain how constraints faced by the government may be a reason for a mix of policies*
 - Due to constraints faced by a government, a mix of policies may be needed to effectively achieve a macroeconomic objective. In adopting macroeconomic policies, governments may face several constraints depending on the state and nature of the economy. Such constraints include budget constraint, a small multiplier size, and liquidity trap.
 - If a government is already facing a budget deficit, there may be limited scope to implement expansionary fiscal policy to stimulate growth and employment in times of recession. Increasing government spending further or reducing direct taxes will worsen the budget position. Similarly, if an economy has a small multiplier size due to high withdrawals in the form of savings or import expenditure, i.e. large marginal propensity to save (MPS) and marginal propensity to import (MPM), a very large increase in government expenditure or cut in direct taxes may be required to increase AD and national income by a desired amount. Relying on expansionary fiscal policy alone to achieve actual growth and reduce demand-deficient unemployment may not be sufficient. Hence, governments could complement with either expansionary monetary policy (i.e. reduce interest rates or depreciate the exchange rate) to further increase AD, or supply-side policies to lower cost of production and increase AS so as to increase real output further.
 - In times of deep recessions, when interest rates are already very low, the economy may be facing a liquidity trap. Expansionary monetary policy through reducing interest rates may no longer be effective. Any rise in money supply to reduce interest rates will only result in extra liquidity being kept in idle balances as firms and households are unwilling to spend. In this case, to provide a direct boost to AD, governments may complement with expansionary fiscal policy where the increase in government expenditure directly increases AD and national income.
2. *Explain how time lags of policies may be a reason for a mix of policies*
 - As some policies may take a long time to take effect, governments may decide to complement them with policies that have a shorter time lag.
 - In reducing a current account deficit, supply-side policies to increase productivity and boost export competitiveness may be adopted to increase export revenue. However, it takes time to raise the productivity of labour and capital. In the meantime, governments may devalue the currency. With a weaker currency, exports are cheaper in terms of foreign currency while imports are more expensive in terms of local currency. Assuming Marshall-Lerner condition holds (i.e. $|PED_x + PED_m| > 1$), net export revenue increases, causing the current account to improve. This policy has a shorter time lag, and may be adopted in the short run to reduce a current account deficit, while time is given for productivity in the export sectors to improve in the long-run.
 - Another example is the use of protectionist measures and skills retraining to reduce structural unemployment caused by international trade. While skills retraining may address the root cause of structural unemployment, i.e. the mismatch of skills between the unemployed workers and those required by the jobs, it takes time for workers to acquire new skills. In the meantime, temporary protectionist measures may be adopted to allow sunset industries to decline slowly, hence reducing the extent of structural

unemployment by allowing more time for the expanding sectors to retrain and absorb the displaced workers.

3. *Explain how the presence of multiple macroeconomic problems may be a reason for a mix of policies*
- When an economy faces multiple macroeconomic problems, a combination of policies will be needed to address them.
 - For instance, with international trade, a country's loss in comparative advantage in its exports can lead to reduced actual growth due to a fall in net exports. In addition, as workers in the declining industries may not have the skills to find jobs in the other sectors, structural unemployment could result. A government faced with the problems of reduced actual growth and structural unemployment, may decide to adopt a combination of expansionary demand-management policies to boost AD and growth, and supply-side policies in the form of skills retraining to reduce structural unemployment.

Evaluative conclusion

- **[Situation]:** Whether trade-offs between different macroeconomic objectives is a reason why governments pursue a mix of macroeconomic policies largely depends on the state and nature of the economy. In particular, trade-offs between macroeconomic aims could be a reason for a policy mix if the economy is producing near/at full employment or if the economy has a high degree of openness.
 - If the economy is producing below the full employment output level, increasing AD to stimulate growth will not give rise to inflationary pressures. Hence, the trade-off only occurs if the economy is near/at full employment.
 - **[Magnitude]:** Likewise, if the economy is not highly import-dependent, increasing AD to stimulate growth may not increase import expenditure and worsen the BOP by a large extent. Hence, the trade-off may not be a main reason for a mix of policies, as compared to an economy that is import dependent and with a high degree of openness.
- **[Assumption & Magnitude]:** The assumption made is that governments prioritise all macroeconomic objectives equally and strive to achieve all of them concurrently. Hence, when there are trade-offs, governments would adopt a combination of policies to achieve both aims. However, in reality, given the constraints faced (e.g. budget constraint), governments usually prioritise one aim over the other depending on the severity of the macroeconomic issues.
 - For instance, in a severe recession, the priority is to boost actual growth and reduce demand-deficient unemployment. Even if inflationary pressures were to result from the use of expansionary demand-management policies, governments may not adopt supply-side policies to increase productive capacity, if it is already facing a tight budget and if the inflation is not likely to be severe.
- **[Stand]:** In my opinion, since governments tend to prioritise its macroeconomic objectives, trade-offs between the macroeconomic aims may not be the main reason why governments pursue a mix of policies. Rather, a combination of policies is more likely to be adopted to increase the success of achieving a particular aim instead. Hence, constraints and time lags of policies could be more important reasons for why governments pursue a mix of policies.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a balanced and rigourous answer <ul style="list-style-type: none"> that explains clearly how trade-offs between macroeconomic objectives and other reasons may account for why governments pursue a mix of policies, with clear explanation of how a combination of policies can help manage the trade-offs. 	15 - 20
L2	For an underdeveloped answer <ul style="list-style-type: none"> that does not give sufficient focus to how trade-offs between macroeconomic objectives may account for a mix of policies, and/or how other reasons may account for a mix of macroeconomic policies, and/or lacks a clear explanation of how a combination of policies can help manage the trade-offs. 	9 - 14
L1	For an answer that shows some knowledge of how trade-offs between macroeconomic objectives may account for a mix of policies, but with a lack of accurate economic analysis in the explanation.	1 - 8
Level	Evaluation/Synthesis	Marks
E3	For an answer that uses economic analysis to support an evaluative conclusion on the extent to which trade-offs between macroeconomic objectives is a main reason for a mix of policies. Strong evaluative statements would recognise that the extent to which trade-offs is a main reason for a policy mix may depend on the state and nature of the economy.	4 – 5
E2	For an answer that makes some attempt at an evaluation on the extent to which trade-offs between macroeconomic objectives is a main reason for a mix of policies, with a lack of justification or poor use of economic analysis.	2 – 3
E1	For an answer that gives an unsupported evaluative statement(s) that addresses the question.	1

- 5 The Singapore government aims to achieve a low rate of inflation and a favourable balance of payments position. To achieve a low rate of inflation, the Singapore government has implemented macroprudential policies such as limitations on the amount of loans available for households to purchase vehicles and properties.

(a) Explain the consequences of failing to achieve the above aims. [10]

(b) Discuss whether the use of macroprudential policies is the most effective method to achieve a low rate of inflation in Singapore. [15]

(a)

Question Interpretation

Command word/phrase	Explain	Give clear reasons or make clear the meaning of, use examples and explain the theory behind the question
Content	<i>Consequences of failing to achieve these aims (low rate of inflation and a favourable BOP position)</i>	Negative impact of failing to achieve a low rate of inflation and negative consequences of having a persistent BOP deficit and surplus
Context	-	No specific context; to illustrate with real-world examples where appropriate

Students are required to consider the negative consequences of high inflation rates and having a persistent balance of payment deficit and surplus.

Introduction

- Generally, all governments, including the Singapore government, aim to raise the living standards of its citizens. This would mean achieving the four macroeconomic goals, among which are a low rate of inflation and a favourable balance of payments (BOP) position.
- Failing to do so, there would likely be negative consequences on the economy, which would be explained in this answer.

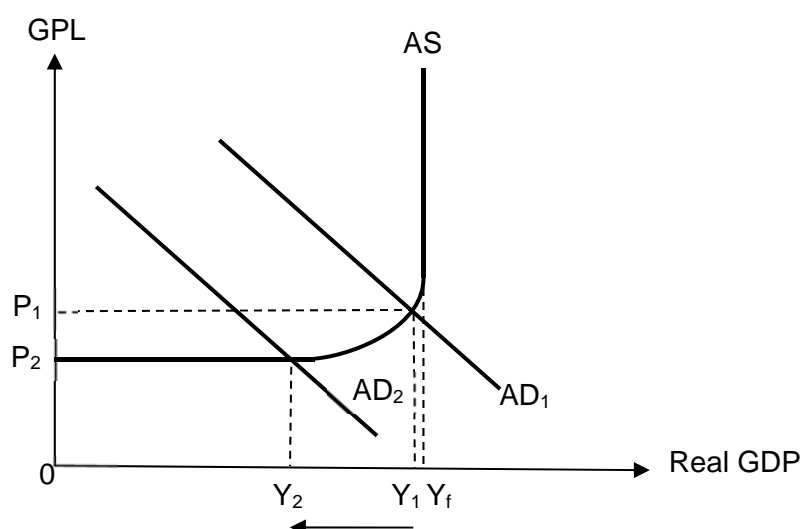
Body

Argument 1: Failing to achieve a low rate of inflation can lead to lower current and future material standard of living, negative economic growth and higher demand-deficient unemployment

- Where there is high inflation, a sustained and excessive (inordinate) increase in the general price level (GPL) of goods and services in the economy, current and future material living standards of households would be adversely affected, and there could be negative economic growth.
 - High inflation erodes the internal value of money, causing the purchasing power of consumers to fall. As the same amount of nominal income now buys lesser good and services, consumers' current material standard of living falls. In addition, as consumers expect prices of goods and services to rise in future, they may save less and spend more now. Lower savings imply lesser wealth to consume in future, which therefore reduces consumers' future material living standards.

- During periods of high inflation, there is greater uncertainty in the economy as changing prices make it difficult for firms to predict their future costs, expected revenues and hence profits. This can reduce business confidence and lead to firms being less willing to take the risks to undertake long-term investments. As investment expenditure (I) falls, aggregate demand (AD), which is made up of $C, I, G + (X-M)$, would also fall.
 - As seen in Figure 1, AD falls from AD_1 to AD_2 . If the economy is below full employment, output levels fall by a multiplied amount via the reverse multiplier process from Y_1 to Y_2 , causing negative growth.
 - At the same time, as production level decreases, the derived demand for labour falls, increasing demand-deficient unemployment from $Y_f - Y_1$ to $Y_f - Y_2$.

Figure 1: Negative economic growth and rise in demand-deficient unemployment



Argument 2: A persistent BOP deficit can result in higher imported inflation

- The BOP of a country records the international transactions of a country with the rest of the world over a period of time, usually a year. Failure to achieve a favourable BOP position can mean either a persistent BOP deficit or a persistent BOP surplus, both of which can lead to negative consequences.
- For Singapore, an economy with a high reliance on imports due to its lack of resources, a persistent BOP deficit can lead to imported inflation. This is because a persistent BOP deficit exerts a downward pressure on the country's exchange rate.
- When there is a persistent BOP deficit, the combined outflow of a country's currency in the current account and capital and financial account is more than the combined inflow in both accounts. This implies that there is a surplus of the country's currency. At the prevailing exchange rate, the quantity supplied of domestic currency is larger than the quantity demanded. For Singapore which is operating on a managed float exchange rate system, the surplus will cause the Sing dollar to depreciate if the Central Bank does not intervene in the market.
- When the Sing dollar depreciates, prices of imported raw materials and consumer goods will increase. The increase in the price of imported inputs will increase the cost of production of goods and services, leading to a decrease in aggregate supply (AS) and increase the GPL, causing imported inflation. As imported consumer goods become less affordable, households' living standards fall as well.

Argument 3: A persistent BOP surplus can lead to possible retaliation by countries with BOP deficits and demand-pull inflation

- Failure to achieve a favourable BOP position can also imply a large and persistent BOP surplus, which can lead to possible retaliation from deficit countries and demand-pull inflation. A BOP surplus means that the combined inflow is larger than the outflow from both accounts.

One of the following analysis would suffice:

- Because the BOP must balance for the world as a whole, a large and persistent BOP surplus for one country would be at the expense of another country's persistent BOP deficit. As such, a country with a large and persistent BOP surplus may face retaliation from deficit countries. One such example is the US-China trade war. As China's trade surplus with the US continues growing (forming a new record at \$31 billion), this has provoked the US to retaliate and start a trade war by slapping tariffs on Chinese goods (handbags, semiconductors, solar panels, steel). These tariffs would increase the price of imported goods from China to US, reducing the price competitiveness of Chinese goods. As export revenue for China falls, the fall in net exports (X-M) would reduce AD and lead to lower growth for China.

OR

- If a BOP surplus is caused by an increase in net export revenue, this is an injection into the economy which will increase the AD. Via the multiplier effect, this will lead to a multiplied increase in the national income if there is spare capacity. However, for Singapore which is near full employment level, a large and persistent BOP surplus will likely lead to demand-pull inflation, where the GPL rises with little or no increase in real output.

Mark Scheme

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For an answer that: <ul style="list-style-type: none"> provides a rigorous analysis and good scope of the negative consequences of high inflation and a balance of payments disequilibrium (surplus and deficit), and illustrates with real-world examples Answer to be capped at 8m if either a budget deficit OR surplus was analysed.	8 - 10
L2	For an answer that: <ul style="list-style-type: none"> lacks a rigorous analysis of the negative consequences of high inflation and a balance of payments disequilibrium, OR lacks sufficient scope – only analyses the negative consequences of high inflation or a balance of payments disequilibrium, OR arguments are repetitive and shows limited/no use of relevant examples. 	5 - 7
L1	For an answer that shows some knowledge of the negative consequences of high inflation and/or a balance of payments deficit, but may contain conceptual errors.	1 - 4

(b) Discuss whether the use of macroprudential policies is the most effective method to achieve a low rate of inflation in Singapore. [15]

Question Interpretation

Command word/phrase	<i>Discuss whether</i>	To make a judgment on effectiveness of macroprudential policies to achieve a low rate of inflation in Singapore
Content	<i>Macroprudential policies</i>	In the preamble, these macroprudential policies refer to “limitations on the amount of loans available for households to purchase vehicles and properties”.
	<i>Most effective method</i>	Present the different pros and cons of macroprudential policies against other policies
	<i>Low rate of inflation</i>	Price stability; management of demand-pull inflation and cost-push inflation
Context	<i>Singapore</i>	Singapore-specific examples

A relevant response would require students to discuss the workings and limitations of macroprudential policies, together with other policies that the Monetary Authority of Singapore (MAS) employs to tackle inflation in Singapore, before making a judgement on whether the use of macroprudential policies is the most effective method in Singapore’s context.

Introduction

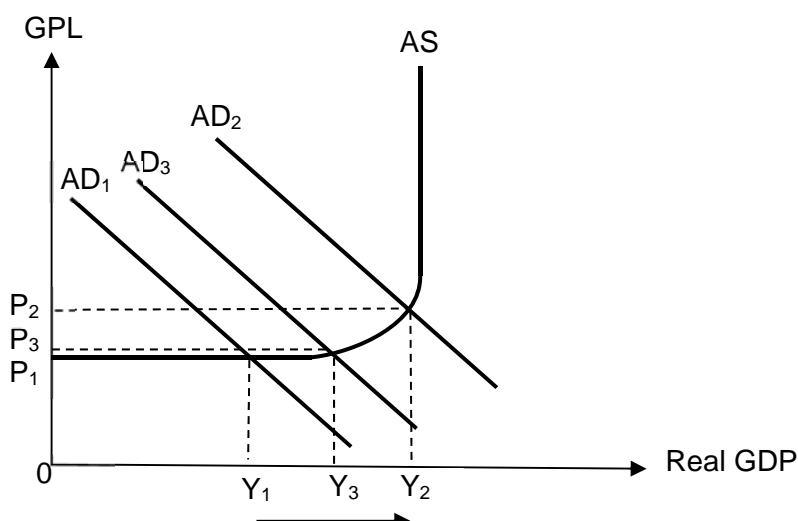
- A low rate of inflation in Singapore, or price stability, is important to maintain the standard of living of its residents. As a result, the Monetary Authority of Singapore (MAS) is vigilant against inflationary pressures and employs different measures to tackle rising inflation.
- One such measure is the use of macroprudential policies which involve placing limitations on the amount of loans available for households to purchase vehicles and properties. However, it remains to be seen if this policy is the most effective method to achieve price stability in Singapore because of the varying causes of inflation.

Body

Thesis: Macroprudential policies are effective in reducing the demand for vehicles and properties, hence tackling demand-pull inflation, but have their limitations

- The use of macroprudential policies as mentioned in the preamble can be effective to reduce the demand for vehicles and properties, hence tackling demand-pull inflation.
- When there is persistent demand for private vehicles and strong speculative demand for residential properties, the consumption expenditure (C) rises, leading to an increase in AD.
 - With Singapore near the full employment level of output, the increase in AD from AD_1 to AD_2 is likely to result in demand-pull inflation, where the GPL rises from P_1 to P_2 as seen in Figure 2.

Figure 2: Demand-pull inflation



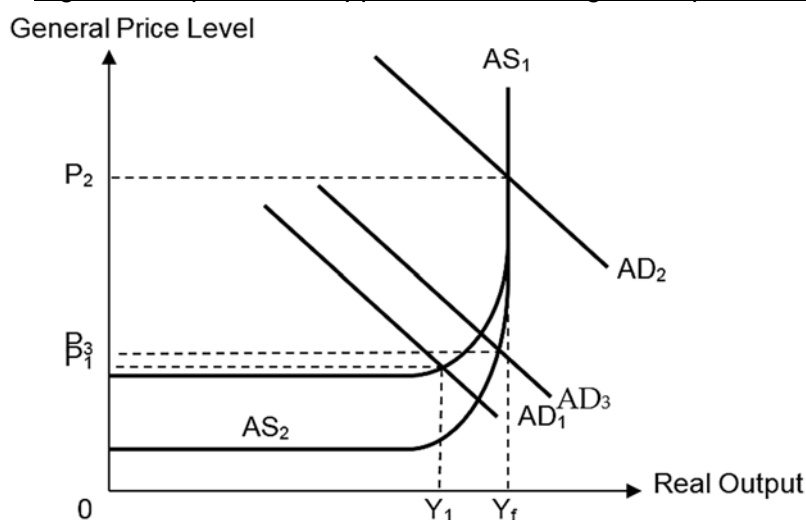
- The macroprudential policies reduce the availability of credit, making it more difficult for consumers to borrow to purchase private vehicles and residential properties, which are big ticket items. As such, they are likely to cool the demand for these items, reducing C . As C falls, AD would also fall. From the above figure, as AD falls from AD_2 to AD_3 , demand-pull inflation is addressed as the GPL falls from P_2 to P_3 .
- However, these macroprudential policies may have limited effectiveness to achieve a low inflation rate.
 - Residential properties are normal goods with positive YED values. In times of strong economic growth, the demand for high-end private residential property will rise more than proportionately. As such, restrictions on credit may not dampen demand sufficiently. This is especially the case when coupled with high expectations of rising property prices in the future.
 - Moreover, such policies are targeted at reducing inflation due to rising vehicle and residential property prices, and are limited in its effectiveness in tackling inflation arising from other factors such as a tight labour market and imported inflation, which are also common causes of inflation in Singapore.

Antithesis 1: Contractionary exchange rate policy can arguably be the most effective to achieve a low rate of inflation in Singapore, but may be limited in addressing inflation due to domestic factors

- A contractionary exchange rate policy can arguably be the most effective policy to achieve a low rate of inflation in Singapore because it can manage both demand-pull and cost-push inflation.
- With reference to Figure 3 below, assume that initially, the economy is experiencing demand-pull inflation, and the GPL rises to P_2 .
- To achieve price stability, the MAS can intervene in the foreign exchange market to appreciate the Sing dollar against foreign currencies.
 - By selling more foreign reserves in exchange for Sing dollars, the demand for Sing dollar increases. As the domestic currency appreciates, the country's exports becomes more expensive in terms of foreign currency. This reduces the quantity demanded for exports.
 - On the other hand, imports become relatively cheaper in terms of Sing dollars. This increases the quantity demanded for imports. Assuming that the absolute sum of the price elasticities of demand for imports and exports is greater than one, i.e. the Marshall

Lerner Condition holds, an appreciation of the domestic currency would lead to a fall in net exports ($X-M$). When ($X-M$) falls, AD, which is made up of $C+I+G+(X-M)$, will fall from AD_2 to AD_3 .

Figure 3: Impact of an appreciation on the general price level



- For Singapore, an economy heavily dependent on imports as a factor of production, the appreciation of the Sing dollar would lead to a fall in the costs of production, leading to a downward shift of the AS curve from AS_1 to AS_2 . Taking these two effects together, the fall in AD and rise in AS would lead to lower inflation, with prices rising from P_1 to P_3 , instead of P_2 . As can be seen above, contractionary exchange rate policy in the form of appreciating the Sing dollar can help to manage both demand-pull and cost-push inflation.
- While contractionary exchange rate policy is effective in addressing both demand-pull and cost-push inflation, one must recognise that this policy is most effective when inflation is caused by external factors, and may be considered a blunt measure as it does not address inflation arising from domestic factors like a tight labour market.

Antithesis 2: Supply-side policies are more effective to manage wage-push inflation, but have limitations as well

- Singapore also experiences cost-push inflation in the form of wage-push inflation due to a persistent tight labour market. In such a circumstance, supply-side policies are likely to be more effective.
- A persistent tight labour market due to Singapore's ageing population and tighter restrictions on the influx of foreign labour has reduced the supply of labour, leading to a shortage and rise in wages. As wages increase, the cost of production increases, reducing AS. The fall in AS will cause GPL to increase, resulting in wage-push inflation.
- To address wage-push inflation, supply-side policies like the Wage Credit Scheme which subsidises wage increments of workers is likely more effective.
 - These subsidies will reduce firms' cost of production, encouraging them to retain workers, and increase AS. The rise in AS will cause GPL to fall, hence tackling wage-push inflation.
- However, there is a limit to the extent of subsidies that the Singapore government can offer to firms because it is constrained by its budget position. Moreover, it is not a sustainable long term solution to the persistent tight labour market that Singapore faces.

Evaluative conclusion

- **[Situation]** To effectively tackle inflation, the policies should be targeted at the root cause of inflation. Macroprudential policies are most effective to achieve a low rate of inflation in Singapore when the cause of inflation is due to rising vehicle and property prices. For other domestic causes of inflation, other measures such as supply-side policies would be more effective to tackle wage-push inflation due to a tight labour market.
- **[Situation + Magnitude]** MAS' usual stance of 'a gradual and modest appreciation of the Sing dollar' would be more appropriate to tackle inflation due to external factors. Being an open economy with one of the highest trade-to-GDP ratio, Singapore is export-oriented and has a high reliance on imports. This makes her vulnerable to imported inflation and susceptible to inflation from rising external demand when there is a global economic boom. As such, the exchange-rate centred policy would be the most appropriate to achieve low inflation in Singapore. This could be a reason why the Singapore government has used exchange rate as a policy tool to manage inflation for the past 37 years (since 1981).
- **[Alternatives]** Nonetheless, given that inflation is usually caused by a combination of different factors, there is a need to complement exchange rate policy with other policies that can address the potential threats to inflation to increase the success rate of achieving a low rate of inflation in Singapore. For instance, supply-side policies that increase the productivity of the workforce and boost the economy's productive capacity are commonly used by the Singapore government to maintain price stability.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that discusses the effectiveness of macroprudential policies against at least two other policies, and is applied to the context of Singapore.	8 – 10
L2	For an answer that provides a balanced but undeveloped discussion of the effectiveness of macroprudential policies with other policies to achieve a low rate of inflation, OR For an answer that provides a one-sided but rigorous analysis of the effectiveness of macroprudential policies to achieve a low rate of inflation. Answer is mainly theoretical.	5 – 7
L1	For an answer that shows some knowledge of the workings and/or limitations of macroprudential policies and/or policies to address inflation.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on the extent of the effectiveness of macroprudential policies in addressing inflation in Singapore.	4 – 5
E2	For a judgement based on economic analysis that makes some attempt at a judgment on the extent of the effectiveness of macroprudential policies in addressing inflation in Singapore.	2 – 3
E1	For an unexplained judgement that addresses the question, or one that is not supported by economic analysis.	1

- 6 The Singapore-Australia Free Trade Agreement (SAFTA) is a comprehensive agreement that covers tariff-free access for goods, enhanced access to each other's services sectors, and greater facilitation for investments.**

Source: Ministry of Trade and Industry Singapore

- (a) Explain how globalisation influences Singapore's pattern of trade. [10]**
- (b) Assess the view that the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims. [15]**

(a)

Question Interpretation

Command word/phrase	<i>Explain how</i>	Give details regarding the process
Content	<i>Globalisation</i>	Increased trade and international factor mobility
	<i>Pattern of trade</i>	Composition and volume of a trade
Context	<i>Singapore</i>	Consider characteristics of the Singapore economy

This response requires students to explain how increased trade, labour and capital flows, brought about by globalisation may have shaped Singapore's pattern of trade, in terms of its composition and volume of trade.

Introduction

- Globalisation refers to the economic integration or inter-connectedness of economies. Facilitated by improvement in technology and breaking down of artificial barriers, there is increased international trade flows, increased capital flows (such as FDI), and increased international movement of labour.
- A country's pattern of trade refers to its composition and volume of trade.
- This essay will look at how increased trade and international factor mobility affects Singapore's pattern of trade.

Body

3. Explain how globalisation affects Singapore's volume of trade

- With the signing of more free trade agreements with various economies, there has been removal or reduction of both tariff and non-tariff barriers to trade. This has helped Singapore gain access to more export markets, boosting its volume of exports to the world.
- In addition, the improvements in transportation and communication technology have led to increased long-term capital flows between countries. This facilitated the internationalisation of companies and promoted the rise of the global supply chain. Businesses are better able to engage in offshoring and outsourcing of their production processes to tap on the comparative advantage of other economies.
 - For instance, the strategic location of Singapore coupled with its world-class physical infrastructure and logistics, has made it an attractive location for offshoring and outsourcing of the production processes of foreign firms. This has increased the volume of final and intermediate goods and services being imported and exported from Singapore.

4. Explain how globalisation affects Singapore's composition of trade

- The inflow of skilled labour and FDI into Singapore changes its factor endowment and hence its composition of exports. This can be explained by the theory of comparative advantage, which forms the underlying basis of Singapore's composition of trade. A country has a comparative advantage in producing a good if it is able to produce it at a lower opportunity cost than other countries. The country should therefore specialise in producing the good, and trade with a country for goods that it produces at higher opportunity costs.
- Globalisation has resulted in increased inflow of skilled labour into Singapore. This includes higher-skilled foreign labour such as professionals, managers, executives and technicians (PMETs). Such inflow of skilled labour brings along relevant skills and expertise, and helps facilitate the transfer of skills to the local workforce.
 - For instance, the inflow of scientists and engineers from abroad has allowed Singapore to develop a comparative advantage in new and emerging industries such as biomedical sciences and aerospace. This has led to increased exports of pharmaceutical products and aircraft engine components, thus influencing the composition of Singapore's exports.
- In addition, globalisation has also resulted in increased flow of FDI into Singapore, which brings along with them foreign technology and expertise, thus increasing the quantity and quality of capital in Singapore. This has enabled Singapore to develop a comparative advantage in high-skilled and technology intensive products such as pharmaceuticals, finance, business services and bio-medical services and equipment.
 - The setting up of biomedical and pharmaceutical companies like GlaxoSmithKline and Pfizer in Singapore has increased Singapore's exports of healthcare and pharmaceutical products to the world, thus influencing the composition of its exports.

Conclusion

- In conclusion, globalisation which brings about increased trade flows and international movement of labour and capital, has influenced Singapore's volume and composition of trade, thus affecting its pattern of trade.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous answer <ul style="list-style-type: none"> • that provides a detailed analysis of how globalisation in terms of increased trade, labour and capital flows can influence Singapore's volume and composition of trade • with good application to the Singapore context 	8 - 10
L2	For an underdeveloped answer <ul style="list-style-type: none"> • that provides some degree of economic analysis of how globalisation in terms of increased trade, labour and capital flows can influence a country's volume and composition of trade, or • that rigorously analyses how increased trade <u>or</u> increased labour and capital flows can influence a country's volume <u>or</u> composition of trade, and • with limited or no reference to the Singapore context 	5 - 7
L1	For an answer that shows some knowledge of globalisation and Singapore's pattern of trade but is largely irrelevant or contains conceptual errors.	1 - 4

(b) Assess the view that the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims. [15]

Question Interpretation

Command word/phrase	Assess the view	Present different perspectives of the view and evaluate the validity of the view
Content	<i>Signing of the SAFTA</i>	Signing of a free trade agreement that allows increased trade and capital flows between Singapore and Australia
	<i>Only its macroeconomic aims</i>	Economic growth, full employment, price stability and favourable BOP position Consider microeconomic aims too
Context	SAFTA	Free trade agreement between Singapore and Australia
	Singapore	Consider characteristics of the Singapore economy

A relevant response requires the analysis of how signing the free trade agreement may positively impact Singapore's economy and help it achieve its macroeconomic aims. To provide a balanced perspective to the view, answers need to also consider how signing of the FTA may help Singapore achieve its microeconomic aims as well. An evaluative judgement on the extent to which the signing of the SAFTA allows Singapore to fulfil only its macroeconomic aims is needed.

Introduction

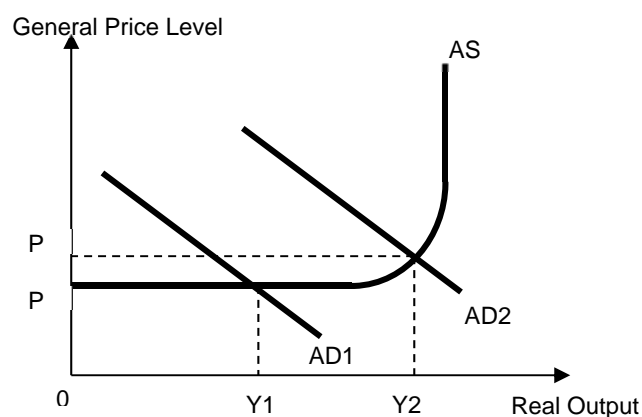
- By signing the SAFTA, there will be increased trade and capital flows between Singapore and Australia. This can help Singapore achieve its macroeconomic aims of economic growth, full employment, price stability and a favourable balance of payments (BOP) position.
- However, the essay will argue that the SAFTA may also allow Singapore to fulfil its microeconomic aims of efficiency and equity, before evaluating the extent to which it fulfils only the macroeconomic aims.

Body

Thesis: The SAFTA enables Singapore to achieve its macroeconomic aims

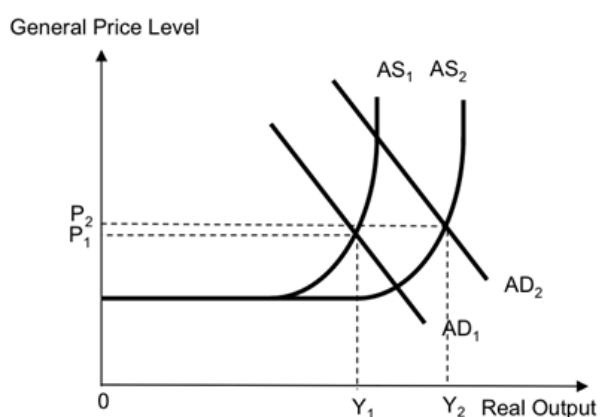
1. *Explain how the SAFTA may result in increased economic growth and employment in Singapore*
 - With the reduction of trade barriers and the freer flow of goods and services between Singapore and Australia due to the SAFTA, firms in Singapore can market and sell their goods and services more easily to Australian consumers. This allows Singapore to overcome any weaknesses in external demand arising from other export markets, to enjoy greater actual growth due to a rise in exports to Australia. As Singapore has a limited domestic market and is therefore extremely dependent on external demand for its growth, greater access to the Australian market, would bring about an increase in its export demand and hence aggregate demand (AD), thus stimulating its growth and increasing employment.
 - As shown in Figure 1, an increase in export demand raises Singapore's AD and causes it to shift rightwards from AD_1 to AD_2 . This increase in demand for goods and services results in an increase in firms' derived demand for labour as they increase output in the next

production cycle. The resultant increase in income levels leads to a rise in income-induced consumption, which causes a further rise in AD. The subsequent rounds of increases in income-induced consumption and AD results in a multiplied increase in national income and real output, as represented by the increase in real output from Y_1 to Y_2 .



2. Explain how the SAFTA may result in lower inflation and hence price stability in Singapore

- Furthermore, the increased long-term capital flows from Australia to Singapore contributes to potential growth in Singapore, which can dampen inflationary pressures in the long run.
- The SAFTA promotes freer movement of capital between Singapore and Australia which may result in greater flow of FDI into Singapore. At the same time, with the business-friendly environment in Singapore, export-oriented FDI from other countries may also increase, as firms seek to establish their production in Singapore in order to enjoy tariff-free exports to the Australian market.
- As shown in Figure 2 below, the increased FDI in Singapore increases its AD from AD_1 to AD_2 . In the long run, the increased capital accumulation also causes Singapore's productive capacity and hence AS to increase from AS_1 to AS_2 . Overall the real output increases from Y_1 to Y_2 while general price level increases from P_1 to P_2 , allowing Singapore to achieve sustained growth with no significant upward pressure on the general price level. The increase in productive capacity due to the increased FDI therefore helps to dampen demand-pull inflation in the Singapore economy, and enables it to achieve the aim of price stability.



3. Explain how the SAFTA may result in favourable BOP in Singapore

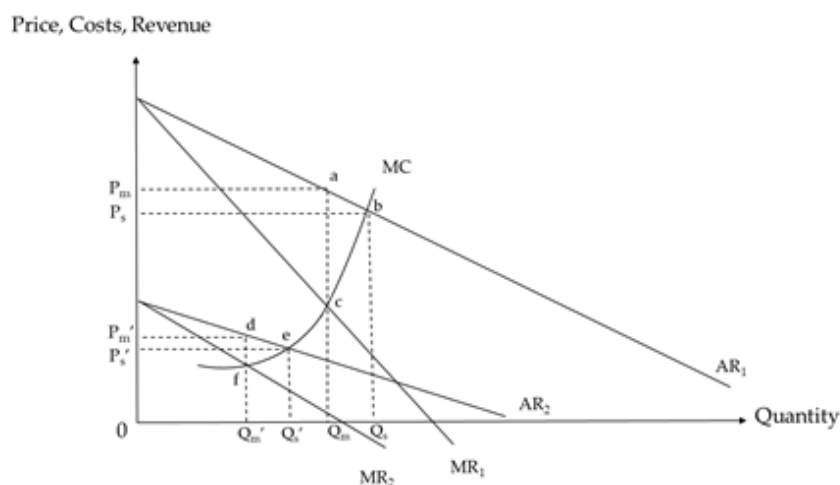
- As Australia removes non-tariff barriers on Singapore's exports, the volume of Singapore's exports to Australia increases, which increases its export revenue, ceteris paribus. Likewise, with the removal of tariffs on Singapore's exports, the fall in prices will result in an increase in quantity demanded for Singapore's exports in Australia. If

Australia's demand for Singapore's exports is price elastic, there will be an increase in export revenue. The increase in net export revenue improves Singapore's trade balance and hence current account and BOP.

- In addition, with greater FDI flows into Singapore due to the SAFTA, this will improve Singapore's capital and financial account, and hence its BOP.

Anti-thesis: The SAFTA may also help Singapore achieve its microeconomic aims of efficiency and equity

1. Explain how the SAFTA may help reduce market dominance in Singapore thus achieving greater allocative efficiency and equity in certain markets
 - The signing of the SAFTA could bring about increased FDI into Singapore which results in greater competition faced by domestic firms in certain industries. This reduces the demand for the goods and services produced by domestic firms, and makes the demand more price elastic due to the greater availability of substitutes from foreign firms.
 - As shown in Figure 3, the new demand and MR curves facing each firm is now AR_2 and MR_2 . At the new profit maximising level of output at Q_m' , where $MC = MR_2$, a lower price P_m' is charged compared to the initial price P_m .
 - This helps the Singapore government achieve its microeconomic objective of allocative efficiency in the industries that see an increase in number of foreign firms, as production is likely to move closer to $P=MC$. As seen in Figure 3, deadweight loss is reduced from area abc to area def.
 - By allowing for more market competition and by lowering prices to goods and services, this would also improve equity, especially if the issue of market dominance is in markets for necessities. With lower prices, more consumers will be able to access the goods, even those with lower ability to pay for the good.
 - In addition, with the introduction of more competition in markets, it would reduce the likelihood of large local firms earning supernormal profits and wealth being concentrated in the hands of a small number of producers.



2. Explain how the SAFTA may help encourage greater R&D and innovation in Singapore thus achieving greater allocative efficiency in markets
 - Signing the SAFTA may increase local firms' ability and willingness to engage in R&D and innovation, which helps achieve greater allocative efficiency in markets. R&D and innovation generate positive externalities as there are external benefits to third parties such as other firms if they are given access to the outcomes of the research and innovation. As firms only consider their marginal private benefits (e.g. increased profits) and marginal private costs (e.g. monetary cost of engaging in research) of engaging in

R&D, the level of R&D will be below the socially optimal level. There is allocative inefficiency due to under-allocation of resources to R&D activities.

- The increased access to the Australian market results in increased revenue for the export-oriented industries in Singapore. Assuming that costs remain unchanged, the higher revenue results in higher profits enjoyed by the Singapore firms. This increases the firms' ability to invest in R&D and innovation.
- Moreover, as local firms face increased competition from foreign firms, they may have greater incentive to invest in R&D and innovation so as to improve and further differentiate their products in order to enjoy a higher and more price inelastic demand. This would allow them to charge higher prices and increase their total revenue and hence profits.
- The increased level of R&D among domestic firms upon signing the SAFTA will thus lead to greater allocative efficiency in the markets, achieving the microeconomic aim of the government.

Evaluative conclusion

- **[Stand]:** While the signing of the SAFTA may help the Singapore government achieve its macroeconomic aims, it can also enable it to fulfil its microeconomic aims of efficiency and equity. The increased competition with foreign firms reduces market dominance and encourages R&D among local firms, which improves allocative efficiency and equity in Singapore. Hence, it is not true that the signing of the FTA with Australia enables Singapore to achieve only its macroeconomic objectives.
- **[Situation]:** Nevertheless, due to Singapore's small domestic market and vulnerability to external shocks, the main reason for signing the SAFTA is likely to achieve the macroeconomic aims of sustained growth and full employment. This is especially so with the slowdown in economic growth in many advanced economies, as well as the rise of protectionist sentiments in several countries, including the US, which is a major export market of Singapore.
- **[Magnitude]:** On the other hand, the outcomes of greater allocative efficiency and equity may be seen as merely positive unintended consequences of signing the SAFTA. There are already measures put in place to achieve greater efficiency and equity even prior to signing of such FTAs. For instance, laws such as the Competition Act exist to regulate anti-competitive conduct by firms and promote more competition by encouraging more firms to enter industries dominated by large firms.
- Hence, while it is not true that the SAFTA only fulfils Singapore's macroeconomic aims, achieving the macroeconomic aims is probably the main reason for signing the FTA.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For a rigorous and balanced answer that analyses how signing the SAFTA enables Singapore to achieve both its macroeconomic and microeconomic aims.	8 – 10
L2	For an answer that provides a balanced but undeveloped discussion on how signing the SAFTA enables Singapore to achieve <u>both</u> its macroeconomic and microeconomic aims. OR For an answer that provides a one-sided analysis of how signing the SAFTA enables Singapore to achieve its macroeconomic <u>or</u> microeconomic aims.	5 – 7
L1	For an answer that is mostly descriptive, with some inaccuracies and is not in context.	1 – 4
Level	Evaluation/Synthesis	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on the extent to which signing the SAFTA enables Singapore to achieve only its macroeconomic aims.	4 – 5
E2	For a judgement based on economic analysis and makes some attempt at a judgment on the extent to which signing the SAFTA enables Singapore to achieve only its macroeconomic aims.	2 – 3
E1	For an unexplained judgement, or one that is not supported by economic analysis	1