

2025 EJC Prelim Exam H2EC P2 EQ1
SAMS (Suggested Answer and Mark Scheme)

1. Using innovative urban farming technologies, Singapore aims to produce 30% of its nutritional needs locally by 2030. While consumers are interested in buying local farm produce, local food manufacturers are still reliant on imported farm produce as their raw materials.

(a) Explain how a rise in the prices of imported farm produce leads to a rise in the consumer expenditure on local farm produce **and** a fall in consumer surplus in the local food manufacturing market. [10]

(b) Discuss whether the Singapore government could rely solely on using supply-side policies to increase the sales volume of local farm produce. [15]

Question Analysis (a)			
Framework		Details	
Approach	Command	Explain - 10m Explain R1 and R2 - No EV needed	
	Context	-Market for local farm produce and -Market for local food manufacturing	
	Start Pt.	Rise in the prices of imported farm produce	
	End Pt.	-Rise in consumer expenditure (Price x Quantity) and -Fall in consumer surplus (difference between max. price consumers are willing to pay and market price)	
Content		(R1) A rise in the prices of imported farm produce leads to a rise in consumer expenditure on local farm produce.	(R2) A rise in the prices of imported farm produce leads to a fall in consumer surplus in the local food manufacturing market.
	Explain	- A rise in the prices of imported farm produce will lead to consumers substituting towards relatively cheaper local farm produce. - Assuming that $XED > 1$, demand for local farm produce increases by more than proportionate. - As equilibrium price and quantity both increases, consumer expenditure on local farm produce increases.	- A rise in the prices of imported farm produce will lead to an increase in cost of production for local food manufacturers. - Supply of local manufactured food will fall. - As equilibrium price rises and equilibrium quantity falls, consumer surplus falls.

Introduction

A rise in the prices of imported farm produce in Singapore, which could be due to an external supply shock, will have serious implications for related markets in Singapore, given our heavy reliance of imported food. Specifically, it can result in a rise in consumer expenditure (calculated as equilibrium price multiplied by equilibrium quantity) on locally grown farm produce, and a fall in consumer surplus (the difference between the maximum amount that a consumer is willing and able to pay for a good and the actual amount paid) in the local food manufacturing market.

(R1) A rise in the prices of imported farm produce leads to a rise in consumer expenditure on local farm produce.

Consumers, seeking nutritional needs, can choose between produce sourced from overseas or those grown locally. As from the preamble, consumers in Singapore are interested to buy local farm produce, it can be assumed that imported farm produce and locally grown farm produce are generally regarded as close substitutes for direct consumer consumption. For example, imported romaine lettuce and locally produced romaine lettuce would be considered close substitutes for a significant number of consumers given that they are highly similar in appearance as well as taste and marginally different at best. Given that there is likely to be a similar local variant to a significant number of imported farm produce, the Cross Elasticity of Demand (XED) value between imported farm produce and local farm produce can be said to be more than 1. A rise in the price of imported farm produce would lead to consumers substituting towards locally grown alternatives which will become relatively cheaper. There would be a more than proportionate increase in demand for local farm produce in response to the rise in price of imported farm produce leading to a rightward shift of its demand curve from DD_1 to DD_2 . This creates a shortage of Q_1Q_3 at the prevailing price P_1 as quantity demanded Q_3 exceeds quantity supplied Q_1 . The upward pressure on price increases equilibrium price until the shortage is eliminated. Equilibrium price increases from P_1 to P_2 and equilibrium quantity increases from Q_1 to Q_2 . As consumer expenditure is given by equilibrium price multiplied by equilibrium quantity, consumer expenditure increases from P_1Q_1 to P_2Q_2 .

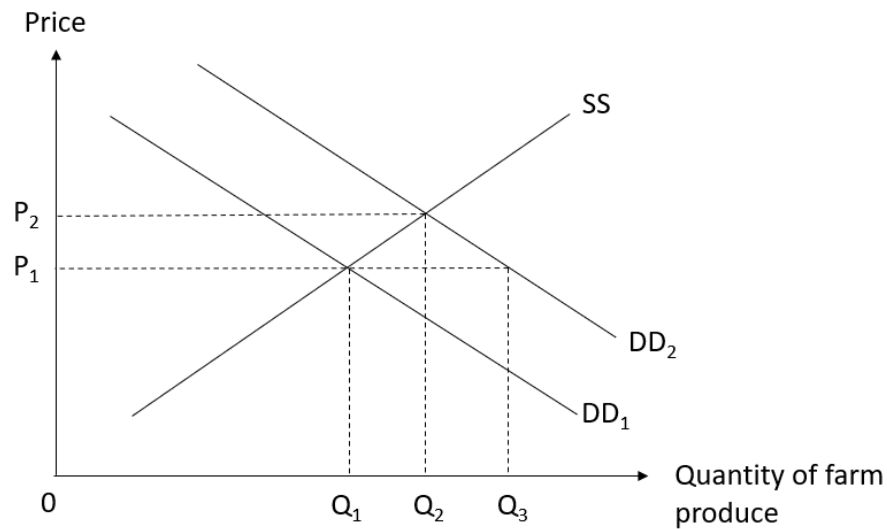


Fig 1: Market for farm produce (Singapore)

(R2) A rise in the prices of imported farm produce leads to a fall in consumer surplus in the local food manufacturing market

Imported farm produce serves as a crucial raw material or input for local food manufacturers. For example, many local bakeries and noodle manufacturers heavily rely on imported eggs as a primary ingredient. A rise in the prices of imported farm produce directly increases the cost of production for these local food manufacturers. Higher input costs reduce the profitability of producing manufactured food products, making firms less willing and able to supply at each price level. This results in a decrease in the supply of local manufactured food products, causing its supply curve to shift leftward from SS_1 to SS_2 in Fig 2. This creates a shortage of Q_1Q_3 at the prevailing price P_1 as quantity demanded Q_1 exceeds quantity supplied Q_3 . The upward pressure on price increases equilibrium price until the shortage is eliminated. Equilibrium price increases from P_1 to P_2 and equilibrium quantity decreases from Q_1 to Q_2 .

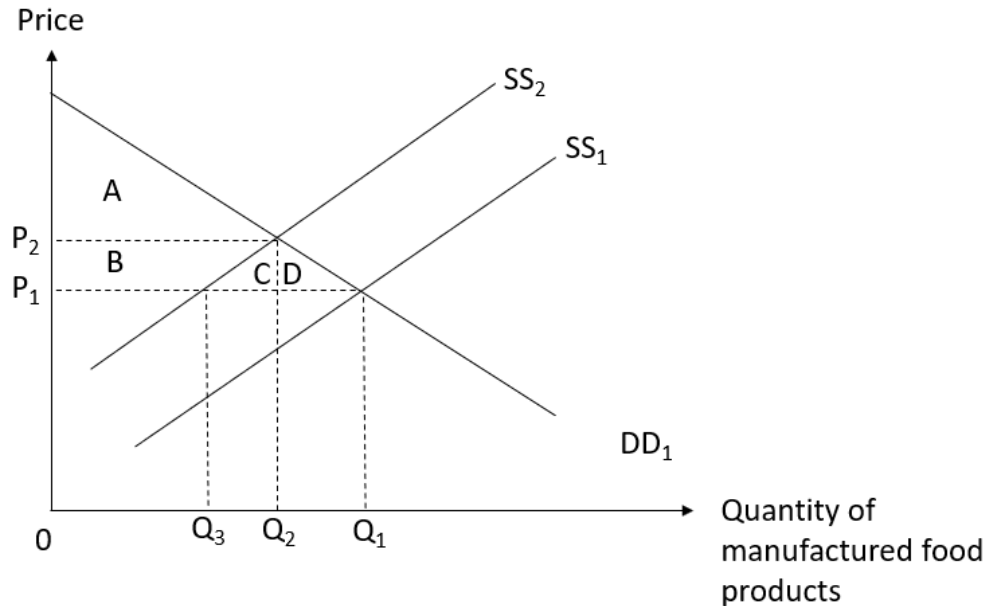


Fig 2: Market for manufactured food products (Singapore)

Consumer surplus is the difference between the maximum price consumers are willing and able to pay and the amount actually paid, represented by the area below the demand curve and above the equilibrium price. With a higher equilibrium price and a lower equilibrium quantity, the area representing consumer surplus will fall from $A+B+C+D$ to A . This means consumers derive less net benefit from consuming local manufactured food products.

Conclusion

In conclusion, as Singapore is heavily reliant in imported food, a rise in the prices of imported farm produce has serious implications for related markets in Singapore, such as a rise in consumer expenditure on locally grown farm produce and a fall in consumer surplus in the local food manufacturing market. This is why Singapore aims to produce up to 30% of its nutritional needs locally by 2030 and reduce its reliance on imported food.

Mark Scheme

Levels	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of the impact of rising prices of imported farm produce prices on increasing consumer expenditure on local farm produce and decreasing consumer surplus in local food manufacturing market - Relevant, thorough answer that is precise, logical and reasoned - Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10

L2	For an answer that shows an under-developed explanation of the impact of rising prices of imported farm produce prices on increasing consumer expenditure on local farm produce and decreasing consumer surplus in local food manufacturing market • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge of the impact of rising prices of imported farm produce prices on increasing consumer expenditure on local farm produce and decreasing consumer surplus in local food manufacturing market • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1-4

(b) Discuss whether the Singapore government could rely solely on using supply-side policies to increase the sales volume of local farm produce. [15]

Question Analysis (b)			
Framework		Details	
Approach	Command	Discuss - 10m Explain R1 and R2 - 5m Evaluate IEV1 + IEV2 + SEV	
	Context	Market for local farm produce in Singapore	
	Start Pt.	-Supply-side policies and -an alternative policy (e.g. demand-side policies)	
	End Pt.	Sales volume of local farm produce	
Content		(R1) The Singapore government can rely on supply-side policies like improvements in technology to increase the sales volume of local farm produce.	(R2) The Singapore government can also rely on demand-side policies like public education to increase the sale volume of local farm produce.
	Explain	- Improvement in technology increases efficiency and reduces the cost of production of local farm produce. - Give an example of a technological improvement - Supply thus increases, increasing equilibrium quantity.	- Demand-side policies like public education will increase the demand of local farm produce. - Give an example of public education campaigns - Demand thus increases, increasing equilibrium quantity. - Assume $PES > 1$, quantity supplied rises MTP, so

		- Assume $PED > 1$, quantity demanded rises MTP, so significant rise in sales volume.	significant rise in sales volume.
	IEV	Evaluate the limitations of R1 analysis in the given context i.e. limitations of supply-side policies in the Singapore context	Evaluate the limitations of R2 analysis in the given context i.e. limitations of demand-side policies in the Singapore context
	SEV	Make a stand and justify it on whether the Singapore government could rely solely on using supply-side policies to increase the sales volume of local farm produce, given the limitations of each policy and the context of Singapore	

Introduction

Singapore's '30 by 30' food security vision prompts the question of whether relying solely on supply-side policies can effectively increase the sales volume of local farm produce. While supply-side measures are crucial for boosting production capacity, they are insufficient on their own. A sustainable increase in sales volume also necessitates a robust response from the demand-side via measures such as public education.

(R1) The Singapore government can rely on supply-side policies like improvements in technology to increase the sales volume of local farm produce.

Supply-side policies directly target the production capabilities and costs of local farms. Examples include heavy investment in innovative urban farming technologies and infrastructure, such as advanced vertical farms and high-tech egg farms. Seng Choon Farm in Singapore for instance has computer-controlled feed mills, egg grading machines and robotic packing systems. When the Singapore government provides support such as subsidies, research and development for the uptake of these technologies, firm operations can become more efficient with reduced labour and land requirements per unit output. This will result in a fall in unit cost of production for local farm produce. This increased profitability incentivises existing farms to be more willing and able to increase their production at each price level. Consequently, there is an increase in the supply as seen from a rightward shift of the supply curve from SS_1 to SS_2 of local farm produce in Fig 3. This creates a surplus Q_1Q_3 at the original price P_1 and a downwards pressure on the prices of local farm produce. Falling prices incentivize consumers to increase the quantity demanded for local farm produce. As from the preamble and as explained in part (a), it can be assumed that the demand for local farm produce is price elastic as consumers consider local farm produce as close substitutes to the imported ones. This means that the falling prices of local farm produce will lead to a more than proportionate rise in equilibrium quantity increases from Q_1 to Q_2 , thereby significantly increasing the sales volume of local farm produce.

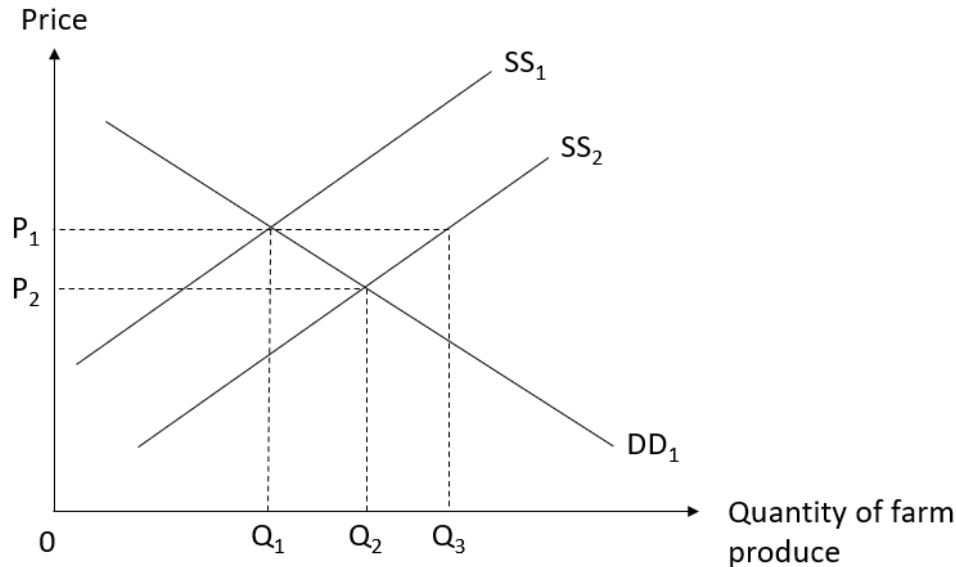


Fig 3: Market for farm produce (Singapore)

IEV1

However, there might be some limitations to supply-side policies which makes it less effective in increasing the sales volume of local farm produce. For example, the assumption of price elastic demand for local farm produce may not hold true in the Singapore market or in the short-term. Singapore lacks natural resources and has no comparative advantage in the agriculture sector. This means that local farm produce may be less price competitive, of lower quality and offer less variety compared to imported farm produce, especially for farm produce such as fruits and vegetables where Singapore imports a wide variety and from many different sources at very competitive prices. So, consumers may see local farm produce as weak substitutes for imported farm produce. This is even more true in the short-term, where consumers need time to find comparable local farm produce as substitutes and change their consumption habits. Hence, when supply-side policies increase the supply of local farm produce, the fall in prices of local farm produce may lead to a less than proportionate rise in quantity demanded, making it less effective in increasing the sales volume of local farm produce.

(R2) The Singapore government can also rely on demand-side policies like public education to increase the sale volume of local farm produce.

The Singapore government, through agencies like the Singapore Food Agency (SFA), actively implements demand-side policies through public education initiatives such as the "SG to SG" campaign. These campaigns aim to raise consumer awareness about the benefits of locally grown food, such as its freshness, shorter food miles (lower carbon footprint) and the importance of supporting local farmers for national food security (e.g., contributing to the '30 by 30' vision). Recipes using local produce are also advertised to the general public. By influencing consumer tastes and preferences and enhancing the perceived value of local produce, these efforts seek to

increase the demand for locally grown farm produce. As seen from Fig 4, the rightward shift in the demand curve from DD_1 to DD_2 . This creates a shortage Q_1Q_3 at the original price P_1 and exerts an upwards pressure on price. Rising prices incentivise producers to increase quantity supplied, leading to an increase in equilibrium quantity from Q_1 to Q_2 , thereby increasing the sales volume of local farm produce. Assuming price elasticity of supply of local farm produce can be more price elastic in the long-term, there can be a more than proportionate rise in quantity supplied, hence a more significant rise in sales volume of local farm produce.

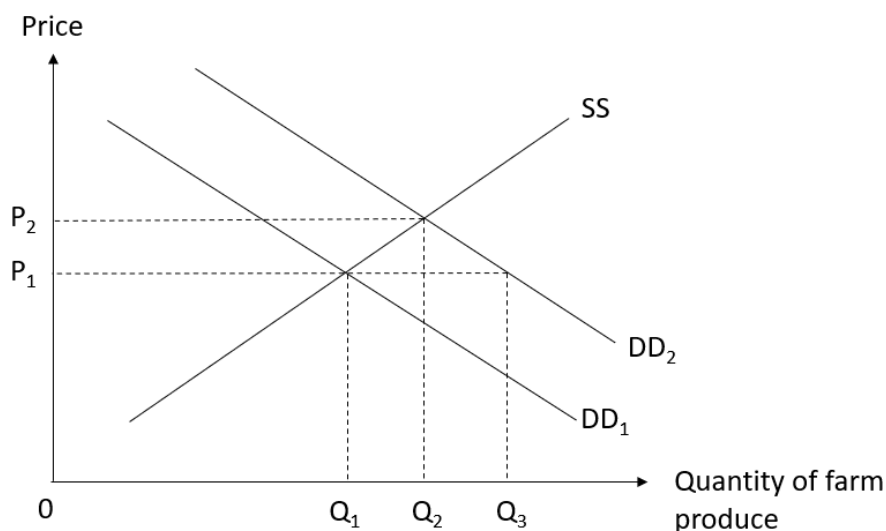


Fig 4: Market for farm produce (Singapore)

IEV2

However, there might be some limitations to demand-side policies such as public education campaigns which makes it less effective in increasing the sales volume of local farm produce. For example, changing deep-seated consumer habits and preferences is a challenging and time-consuming process. People's consumption choices are often driven by convenience, habit and immediate affordability which can be resistant to informational campaigns alone. There's a risk that while awareness may increase, it may not translate into sufficient behavioural change or sustained purchasing patterns.

Furthermore, the effectiveness of public education in significantly boosting sales volume is limited by the **globalised palate of Singaporean consumers**. Having access to a vast array of international produce year-round due to our openness to trade, many consumers have developed strong preferences for specific imported varieties or origins. For example, while public education might promote local leafy greens, it may not be able to shift demand significantly away from deeply ingrained preferences for **premium imported vegetables like Japanese Komatsuna or specific varieties of organic French beans**, which are often prized for their perceived superior quality, specific texture or unique taste profiles, and for which an equivalent local urban farm variant may not fully satisfy the same discerning taste. This means that even with increased

awareness and appreciation for local produce, a substantial segment of consumers will continue to prioritise and purchase their preferred premium imported items, thus restricting the overall increase in sales volume for locally grown produce.

SEV

Overall, given the limitations of supply-side policies, the Singapore government could not solely rely on them. Supply-side policies are essential to create the capacity for increased sales volume, while demand-side policies are crucial to cultivate the appetite to absorb that increased supply. Only by simultaneously addressing both the ability of local farms to produce cost-effectively and the willingness of consumers to purchase them can the government achieve a sustainable and substantial increase in sales volume.

Moreover, when both policies are used, they can also address the limitations of each other. For example, supply-side policies are less effective in increasing sales volume when demand for local farm produce is price inelastic. So, if demand-side policies are also implemented, such as public education campaigns, it can increase the price elasticity of demand for local farm produce as they can be advertised as closer substitutes for imported farm produce. So when supply of local farm produce, the fall in price of local farm produce will lead to a more than proportionate increase in quantity demanded, hence more significantly increase the sales volume of local farm produce. The same applies when supply-side policies can enhance the effectiveness of demand-side policies. If the new agriculture technologies can increase the price elasticity of supply by reducing the long gestation period, then when demand for local farm produce rises, the rise in price of local farm produce will lead to more than proportionate rise in quantity supplied, hence a more significant rise in sales volume of local farm produce.

These are, however, more long-term policies, medium term at best. In the short term, the government could consider direct consumer vouchers for local produce to immediately incentivise consumption of local farm produce and effectively amplify sales volume in the same vein as the climate voucher, ensuring a holistic pathway to increasing self-reliance.

Mark Scheme

Levels	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of how supply-side and demand-side policies by the government can influence local farm produce sales volume • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge	1-4

	- Shows some knowledge but has not properly grasp the meaning of the question - Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context - Have basic errors of theory	
Levels	Evaluation	Marks
E3	For an answer that builds on appropriate analysis and evaluates the assumptions and relevance and synthesizes economic arguments to arrive at well-reasoned judgements on whether the Singapore government can solely rely on supply-side policies to increase sales volume of local farm produce, given the limitations of each policy and in the Singapore context	5
E2	For an answer that makes some attempt at evaluation or a conclusion but does not explain the judgement or base it on appropriate analysis	3-4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis	1-2

2025 EJC Prelim Exam H2EC P2 EQ2
SAMS (Suggested Answer and Mark Scheme)

2. The Internet has changed the distribution of information, where expensive printing plants and large distribution networks are no longer essential. The large-scale adoption of smartphones has also accelerated the transition by existing news companies from printed newspapers to digital news platforms, alongside new entrants that operate online only.

- (a) Explain how barriers to entry affects the level of competition in the digital news platforms, **and** how news companies consider the level of competition when deciding on the price and output levels for digital news. [10]
- (b) Discuss whether government intervention is always needed when barriers to entry are high in a market. [15]

Question Analysis (a)				
Framework		Details		
Approach	Command Word	Explain -10m Explain R1 and R2 -No EV needed		
	Context	Digital news platforms, news companies		
	Start point	1) Barriers to entry 2) Level of competition		
	End Point	1) Level of competition 2) Price and output levels		
Content		R1: Barriers to entry affects the level of competition in digital news platforms.	R2: Level of competition affects the price and output levels for digital news.	
	Explain	Lower BTEs in the digital news platforms • Increase ability of new/potential firms to enter • Increase existing and potential level of competition	High level competition (assuming firms are still price-setters with some market power) • Each firm has a small demand and price elastic demand (AR and MR close to origin and with gentler slope) • Profit maximising firm sets output where $MC=MR$; price at AR corresponding to profit-maximising output	

INTRODUCTION

Barriers to entry can affect the number and size of firms operating in the digital news platforms, and this in turn affects the competition faced by firms. A firm will take this into consideration when deciding on their price and output level.

REQUIREMENT 1: Barriers to entry affects the level of competition in the digital news platforms.

- Lowered barriers to entry are likely to increase the level of competition in digital news platforms.
- Barriers to entry refer to anything that prevents or impedes the entry of firms into an industry and thereby impacts the profits that firms can make in the long run.
- It can be natural and/or man-made BTEs.
- From the preamble, with the internet, expensive printing plants and large distribution networks are no longer essential. These are natural high BTEs that are no longer relevant. This will lower the high fixed costs/high start-up costs in terms of expensive printing networks, as well as lower the need to control the supply chain in terms of large distribution networks.
- This will mean that new firms will face lower BTEs and lesser impediments to enter the market.
- Thus, the ability of new firms to enter the industry will be higher.
 - Ceteris paribus, this increases the number of firms in the market and lowers the market share of incumbent firms, **increasing the actual level of competition** in the digital news platforms.
 - For example, the new companies such as the Straits Times used to be a monopoly with low level of competition when it only had printed newspapers. However, in the current digital news platforms, Straits Times is just one of the many news companies, alongside with the new entrants that operate online only such as Mothership. It is now with a high level of competition.
 - This will also mean that the number of potential firms entering the market will be higher, **increasing the potential level of competition** in the digital news platforms.

REQUIREMENT 2: News companies consider the level of competition when deciding on the price and output levels for digital news.

- In deciding on the price and output level, news companies will consider the level of competition, which influences the level of market power the firm has.
- In digital news, although there is low BTE and high competition in the market, each firm still holds some market power.
- A firm with market power would have AR diverging from MR, with MR always lower than AR. This is because the firm can set price, or output, but not both. For a firm to sell more of a unit of good, it has to lower the prices of all preceding units of output.

- However, as there is high competition, each firm has a small market share, more close substitutes and low market power. This results in the firm facing a small demand and a price elastic demand. Hence in Figure 1, the AR (=DD) and MR lines are close to the origin and with gentler slope.
- The firm would set the output and price levels that maximise its profits.
 - If the firm were to produce Q_1 , the MR (the extra revenue from selling one more unit) is greater than the MC (the extra cost of producing that additional unit). Producing this additional unit will benefit the firm as the extra unit will add to its total profits, and the firm will increase its output to increase profits.
 - By producing an Q_2 , the MC (the extra cost of producing one more unit) is greater than the MR (the extra revenue from selling that additional unit). Hence, doing so will not benefit the firm and in fact will lead to lower profits. A profit maximising firm will then decrease output.
 - At output Q_E , $MR = MC$. Any change in output level would lower the firm's profits; hence the firm would set output at Q_E to maximise profits.
- Since the firm has set output, price will be determined by AR. At Q_E , AR corresponds to price P_E . The firm will hence be selling digital news at price P_E .
- With high market competition in the digital news platforms, at the profit-maximising output, each firm has to set price P_E that is closer to marginal cost (MC). This is because their demand is more price elastic with more close substitutes. They have less market power to raise price above MC as it will lead to a more than proportionate fall in quantity demanded, leading to less revenue and falling profit.

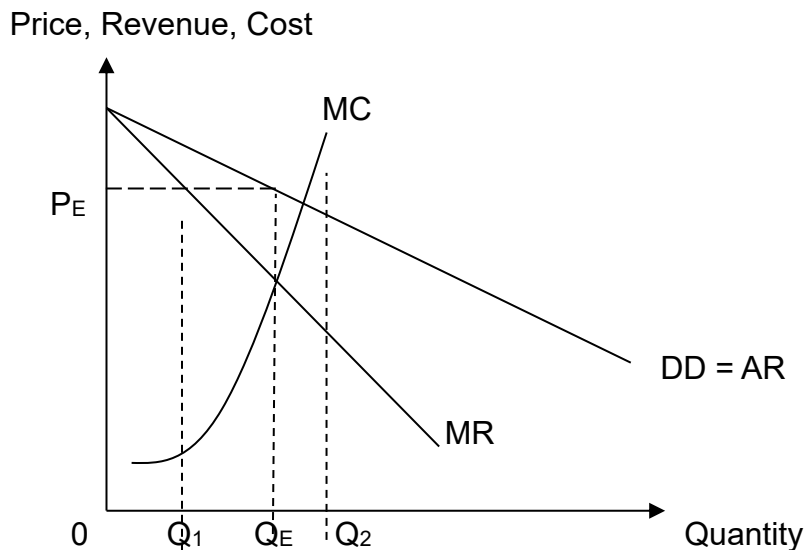


Figure 1: Price and output levels of a firm with more competition (AR & MR closer to origin and with gentler slope)

CONCLUSION

In conclusion, there is low barriers to entry in the digital news market, resulting in high level of competition. The news companies have to take into consideration this high level of competition when setting its profit-maximising output and price levels.

MARK SCHEME

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For an answer that shows a well-developed explanation of how BTEs affect the level of competition in the digital news market and how the level of competition affects how firm sets price and output levels in digital news - Relevant, thorough answer that is precise, logical and reasoned - Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation - Relevant answer but theory may be incompletely explained - Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge - Shows some knowledge but has not properly grasp the meaning of the question - Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context - Have basic errors of theory	1-4

(b) Discuss whether government intervention is always needed when barriers to entry are high in a market. [15]

Question Analysis (b)			
Framework		Details	
Approach	Command Word	Discuss -10m for R1 and R2 -5m for IEV1, IEV2 and SEV	
	Context	None stated – preferably in the news market i.e. printed newspapers and/or digital news	
	Start point	High barriers to entry	
	End Point	(1) Negative impact on firm's efficiency and consumer welfare so govt intervention is needed (2) If market is contestable, then possible positive impact on firm's efficiency and consumer welfare so govt. intervention may not be needed	
Content		R1: Government intervention is needed when barriers to entry are high because of the negative impacts on firm's efficiency and consumer welfare.	R2: Government intervention may not be needed when barriers to entry are high if market is contestable, then possible positive impacts on firms' efficiency and consumer welfare.
	Explain	Government intervention needed when high barriers to entry with low levels of competition:	No government intervention needed when barriers to entry are high if the market is contestable: Dominant firms are more willing to pass on cost savings

		• High demand and low price elasticity of demand: allocative efficiency not achieved, so consumer surplus not maximised • Firms lack competitors so no incentive to invest in R&D despite the ability to do so with large supernormal profit, so lack dynamic efficiency and consumers lack quality and variety of goods and services, lower consumer welfare and choice	from IEOS in terms of lower prices as part of limit pricing strategy to deter potential rivals, so lower price, higher consumer surplus. • Dominant firms are then willing to conduct R&D using their large supernormal profit to deter potential rivals ○ process innovation leads to lower AC, MC, leading to lower price, higher consumer surplus ○ product innovation leads to better quality/higher quality of goods and services, higher consumer welfare
	IEV	Evaluate the limitations of R1 analysis in the given context i.e. challenge the assumption of profit-maximising firms in the news market	Evaluate the limitations of R2 analysis in the given context i.e. challenge the assumptions of contestable markets in the news market
	SEV	Make a stand and justify it on whether government intervention is always necessary when BTEs are higher in the market, given the limitations of each argument and in the given context	

INTRODUCTION

With high barriers to entry, there would be low levels of competition in the industry, and firms would have high market power. This may lead to detrimental effects on the firm's efficiency and consumer welfare, hence the need for government intervention. However, if the market is contestable, i.e. high BTE can be lowered, then government intervention may not be needed.

REQUIREMENT 1: Government intervention is needed when barriers to entry are high because of the negative impacts on firm's efficiency and consumer welfare.

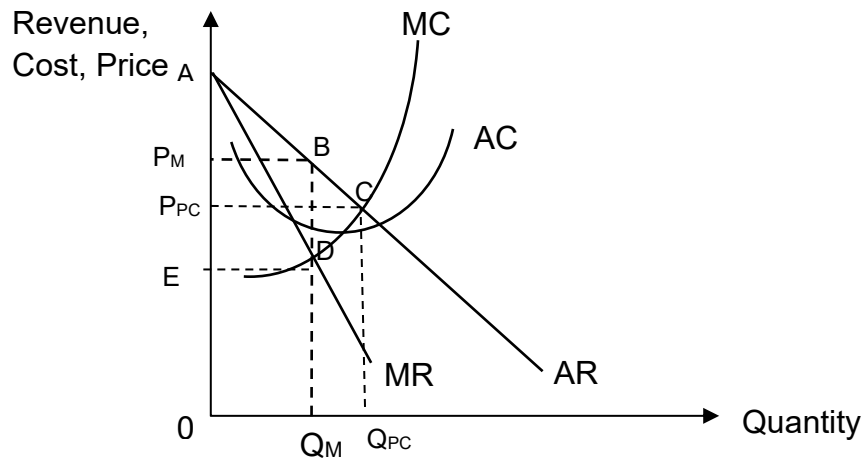


Figure 2: Allocative inefficiency when barriers to entry are high

- With high barriers to entry, firms have high price setting ability, where AR diverges from MR. They will set output to Q_M to maximise profits, charging a price of P_M .
- However, at this output, price exceeds marginal cost. This means that society values an additional unit of good more than the cost incurred to produce it, and the good is under-produced. Allocative efficiency is not achieved.
- The socially optimum level of output is where $P=MC$, at output Q_{PC} , and a corresponding price of P_{PC} . Summing the excess of P over MC for output Q_M to Q_{PC} , we arrive at the deadweight loss to society due to under-production.
- In addition, consumer surplus is lower with barriers to entry: with high barriers to entry, consumer surplus is ABP_M , compared to the situation where barriers to entry are absent and consumer surplus is area ACP_{PC} .
- For example, when news companies doing printed newspapers had high BTEs and market dominance, government intervention would be necessary to prevent excessive subscription pricing.
- Moreover, when there is high BTEs, dominant firms can earn large supernormal profits (area P_MBDE) as the high BTEs protect them from competitors that may compete away their profits. However, due to the lack of competitors, they may not have the incentive to invest in R&D despite the ability to do so with large supernormal profit. This results in the lack of dynamic efficiency. In terms of lack of process innovation, it could mean lower efficiency and higher cost of production over time, resulting in higher prices for consumers and lower consumer surplus. In terms of product innovation, it means lower quality and less variety of goods and services, lower consumer welfare and choice.

- For example, in the decades of printed newspapers, there were not much improvement in the product and yet rising unit cost and prices of printed newspapers.

IEV1

However, there are some limitations in the above analysis. For example, the assumption that firms are profit-maximising may not hold in the news market. The news market is a strategic market as it controls information dissemination for the country. So, although news companies in the printed newspaper market were protected by high BTEs and had market dominance, they may not set a high profit-maximising price as they have a social obligation in information dissemination. They would consider ensuring the prices of printed newspapers were still accessible to the low-income group, hence achieving equitable resource allocation.

REQUIREMENT 2: Government intervention may not be needed when barriers to entry are high if market is contestable, then possible positive impacts on firms' efficiency and consumer welfare.

- Governments may not need to intervene when barriers to entry are high, if the market is contestable. A market is said to be contestable if there is a threat of potential entrants to the market.
- Due to strong barriers to entry, firms could be producing on a larger scale of production. As such, they are able to reap economies of scale, such as technical economies of scale, where the high fixed cost of machinery can be spread out over a large output, resulting in lower average and marginal costs of production. When this happens, and producers pass on cost savings to consumers, they could enjoy lower prices and higher consumer surplus.
- Also, with high barriers to entry, firms can retain their supernormal profits in the long run, giving them higher ability to conduct R&D. If the market is contestable, dominant firms are then willing to conduct R&D using their large supernormal profit to deter potential rivals.
- Process innovation leads to lower AC, MC, leading to lower price, higher consumer surplus,
- Product innovation leads to better quality/higher quality of goods and services, higher consumer welfare.
 - For instance, in the digital news market, firms are faced with the potential threat of new firms entering as technology allows for easier entry and exit from the market.
 - If firms conduct process innovation, and streamlines their production cycle, such as by deploying AI to generate summaries and conduct fact checks more quickly, this leads to an increase in productivity, lowering AC and MC.
- In Figure 3, when MC is lowered,

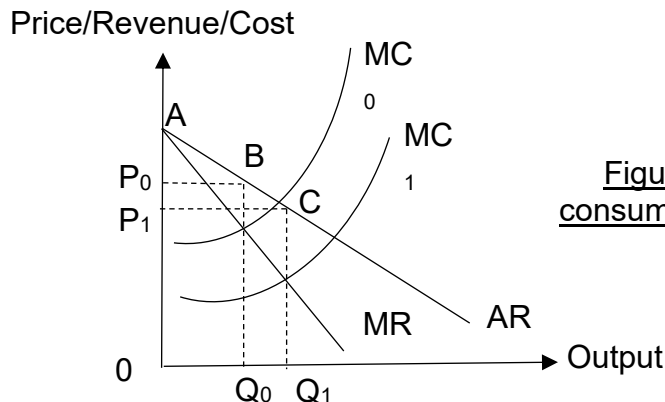


Figure 3: fall in price and increase in consumer surplus with process innovation.

- price will be lowered from P_0 to P_1 , and consumer surplus increases from AP_0B to AP_1C .
- At the same time, productive efficiency is attained as the firm seeks the lowest cost of production possible per unit of output.
- Thus, despite high barriers to entry, governments need not intervene if the market is contestable and there are possible positive impacts on firms' efficiency and consumer welfare.

IEV2

However, there are some limitations in the above analysis. For example, the assumption that markets are contestable are due solely to free market forces such as technological improvements in the news industry with the growth of the Internet. For example, for digital news, many traditional newspapers responded to digital entrants by investing in online platforms, developing mobile apps, and experimenting with paywall models to provide differentiated services. Such changes must also be supported by government policies, such as deregulating the media industry and less censorship. Hence government intervention may still be needed to allow for the market to be contestable.

SEV

In conclusion, government intervention is not always required when barriers to entry are high. While intervention can correct allocative inefficiency and lead to lower prices, market forces and technological innovation can also dismantle barriers, as seen in the transition from print to digital news, making government intervention less necessary.

However, new forms of digital concentration suggest that intervention may still be necessary in some cases to ensure fair competition and consumer protection. For instance, in small news markets like Singapore, while there is more competition in the digital news market compared to printed news, there is still some degree of market

dominance as the major news companies are still MediaCorp and Singapore Press Holdings.

Ultimately, whether government intervention is needed depends on the persistence and nature of barriers, as well as the balance between risks of market failure and government failure. Governments need to consider not only whether to intervene, but the degree and type of intervention required.

MARK SCHEME

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For an answer that shows a well-developed explanation of when government intervention is needed when BTEs are high, and when it may not be needed when the market is contestable. • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1-4
E3	For an answer that builds on appropriate analysis and evaluates the assumptions and relevance and synthesizes economic arguments to arrive at well-reasoned judgements on whether government intervention is always necessary when BTEs are high in the market, given the limitations of each argument and in the given context	5
E2	For an answer that makes some attempt at evaluation or a conclusion but does not explain the judgement or base it on appropriate analysis	3-4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis	1-2

2025 EJC Prelim Exam H2EC P2 EQ3
SAMS (Suggested Answer and Mark Scheme)

- 3 Healthcare markets face many issues relating to information, including imperfect and asymmetric information, as well as cognitive bias.
- (a) Explain how imperfect information **and** asymmetric information can cause a healthcare market to fail. [10]
- (b) Discuss the effectiveness of policy measures that could be used to correct the market failure caused by these two types of information failures in healthcare. [15]

Question Analysis Part (a)			
Framework		Details	
Approach	Command word	Explain - 10m explain for R1 and R2	
	Context	Healthcare market	
	Start Point	Imperfect information; Asymmetric information	
	End point	Market failure; Allocative efficiency	
Content	Content	R1: Imperfect information can cause the healthcare market to fail. - Unaware of the actual benefits of consuming vaccinations $MPB_A > MPB_P$ $Q_P < Q_S \rightarrow$ Under-allocation of resources $\rightarrow$ Deadweight loss $\rightarrow$ Market failure	R2: Asymmetric information can cause the healthcare market to fail. - Adverse selection in the healthcare market e.g. low quality TCM and chiropractic practitioners - Moral hazard in healthcare market (principal-agent problem)

INTRODUCTION

Market failure occurs when the free market fails to allocate resources in a way that maximises societal welfare. When consumers or producers have imperfect information regarding their decisions i.e., information failure, market failure will result.

REQUIREMENT 1: Imperfect information can cause the healthcare market to fail.

- Information failure in terms of imperfect information arises when economic agents **lack critical information relating to their private costs and private benefits** to make rational decisions on choices and resource allocation.

- Consumers may not buy certain goods or services even though they are beneficial, due to imperfect information on the actual benefits of consuming them. For example, consumers may be unaware that the actual benefit of early detection of illnesses such as breast or colorectal cancer is the increased probability of survival to almost 100%. They may only know that screening detects malignant tumours, but do not know that cancer screening can detect pre-cancerous stage cancer. This can increase chances of recovery for the consumer.
- This makes consumers underestimate their actual marginal private benefit $MPB(\text{Actual})$ from cancer screenings, causing $MPB(\text{Actual})$ to be higher than $MPB(\text{Perceived})$.

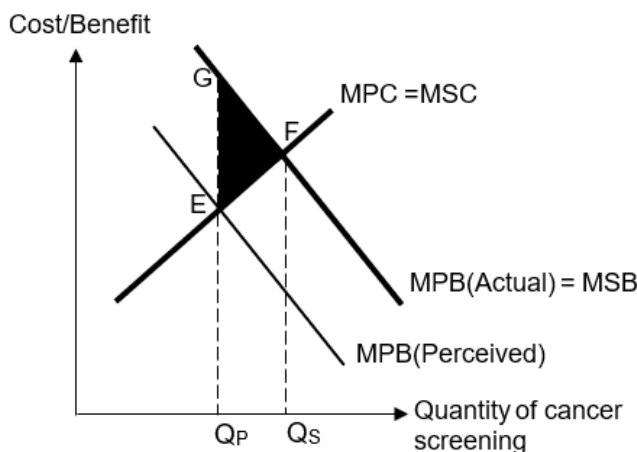


Figure 1: Imperfect information on actual MPB of cancer screening

- In Figure 1, assuming no externalities, $MPB(\text{Actual})$ equals to marginal social benefit (MSB), and marginal private costs equals to marginal social costs ($MPC = MSC$). MPC is the cost of cancer screening to the consumers, such as the screening fees.
- Hence, imperfect information causes an under-consumption of $Q_P Q_S$. Between Q_P and Q_S , Area $Q_P G F Q_S$ which is the total social benefit is greater than area $Q_P E F Q_S$ which is the total social cost. This means that societal welfare could have been gained by increasing quantity consumed up to the socially optimal output of Q_S . This forgone societal welfare is the deadweight loss (area EFG) due to under-consumption of and under-allocation of resources to cancer screening, leading to allocative inefficiency and hence market failure.

REQUIREMENT 2: Asymmetric information can cause the healthcare market to fail.

Moral hazard refers to a situation where economic agent behaves in a way that is detrimental to society because the agent does not fully enjoy the benefits or bear the costs of his actions

- It arises when one person (agent) is performing some tasks on behalf of another person (principal), and this is known as the principal-agent problem. If the action of the agent cannot be perfectly monitored, the agent would tend to undertake more risk or put in less effort than what is desired by the principal.
- For example, in the healthcare market, patients (principal) rely on doctors (agent) for good medical advice because they lack knowledge about the medicine or treatment that help them recover.
- While some doctors selflessly act only in their patients' best interest, others might take advantage of their medical knowledge to exploit patients or the companies that insure them (or doctors have agreements with pharmacies to sell certain medicines). Doctors may

recommend expensive and/or excessive medication or treatment to earn more for themselves. This is also known as “physician-induced demand” where some doctors take advantage of patients' lack of medical knowledge to provide them with more care than necessary, or to charge a higher fee.

- There is overconsumption of medications and treatments because these doctors do not bear the cost of their recommendations (i.e., cost of purchasing the medication/treatments) and thus mislead the patients to perceive MPB to be greater than actual MPB, leading to over-consumption of unnecessary medical services and products.
- This leads to an overallocation of resources, resulting in welfare loss in the market, hence market failure.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of how imperfect information and asymmetric information leads to market failure in the healthcare market • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8 – 10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5 – 7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1 – 4

(b) Discuss the effectiveness of policy measures that could be used to correct the market failure caused by these two types of information failures in healthcare. [15]

Question Analysis Part (b)			
Framework		Details	
Approach	Command word	Discuss - 10m explain for R1 and R2 - 5m for IEV1, IEV2 and SEV	
	Context	Healthcare market	
	Start Point	Explain 2 policy measures to address imperfect information and asymmetric information	
	End point	Correct market failure = remove DWL / improve social welfare = more allocative efficient	
Content	Content	R1: Public education to correct imperfect information	R2: One policy to correct asymmetric information

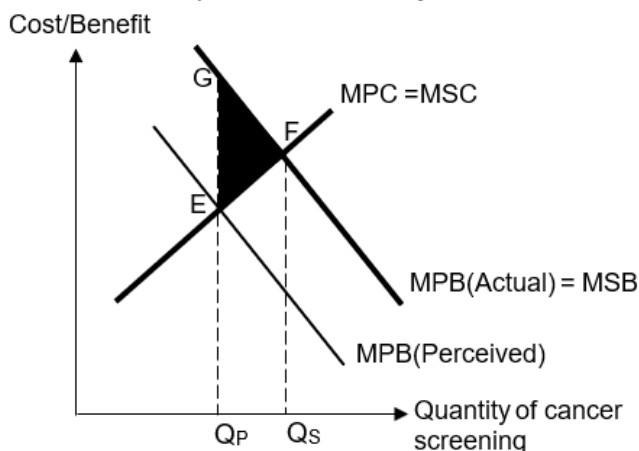
		and market failure in healthcare markets.	and market failure in healthcare markets.
		Public education →reduce imperfect info →Shift MPBp towards MPBactual →Increase Q to Qs →Remove DWL →Allocative efficiency →Correct market failure	Possible policies could be -legislations and regulations to close the info. gap -direct provision of healthcare
		Evaluate the limitations of R1 analysis in the given context i.e. limitations of public education policy in healthcare markets	Evaluate the limitations of R2 analysis in the given context i.e. limitations of the chosen policy in healthcare markets
		Make a stand and justify it on whether the policies are overall effective, given the limitations of each policy and the given contexts	

INTRODUCTION

To correct the market failure caused by imperfect information, a government can adopt public education (moral suasion). To address asymmetric information, direct provision/legislations and regulations (to address adverse selection or moral hazard) can be adopted.

REQUIREMENT 1: Public education (Moral suasion) to correct imperfect information in healthcare markets

- Governments can provide information to correct the MPB from MPB(Perceived) to MPB(Actual) and help consumers make informed choices regarding the consumption of cancer screening.
- For instance, campaigns such as the National Breast Cancer Awareness Month aims to elevate public awareness about breast cancer. Through a series of events and activities such as webinars to disseminate accessible and accurate medical information, the campaign focuses on the prevention and early detection through cancer screening.



- When MPB(Perceived) is corrected to MPB(Actual) for goods/services which were under-consumed, the socially optimal amount Q_s where $MSB = MSC$ will be achieved since consumers will consume up to where $MPB(Actual) = MPC$. Hence, deadweight loss is eliminated, and allocative efficiency is achieved.

IEV1

- Limitations: However, despite having a breast screening program for over 20 years, uptake rates remain suboptimal, even though the service is accessible. This shows that time is needed before seeing the desired results as is time required to change the mindsets of consumers, even in a developed country like Singapore. This could be due to the fast-paced, hectic lifestyle in Singapore.
- Intermediate EV (IEV): To reduce the limitations of public education campaigns, governments can leverage on cognitive bias like salience bias to make the benefits of cancer screening more immediate using visual cues or highlight the consequence of inaction.
- As a result, correction of the market failure will not eradicate welfare loss but rather results in a smaller welfare loss as consumption increases towards Q_s .
- The measure requires time for consumers to change their perceptions and increase their consumption.

REQUIREMENT 2: Policy to correct asymmetric information in healthcare market

- To overcome the problem of moral hazard, the government can use legislation and regulation to restrict the ability of the informed party from taking advantage of hidden information, and equalising information among parties.
- The government implements a law which makes it mandatory that the doctor has to share the purpose of the medication/treatment and the associated costs and effects to the patients, failing which, the patient can put up a case against the doctor for malpractice.
- Hence, the responsibility of the doctor includes diagnosis as well as ensuring that the patient understands the treatment that will be prescribed.
- With more information, the patient can make a more informed decision regarding the treatment/medication prescribed, as well as the projected costs.
- This will reduce overconsumption due to moral hazard and reduce the consumption of excessive treatment/medication towards socially optimum level and reduce the over allocation of resources.
- The corresponding welfare loss will be eliminated, and the market will be corrected.
- [IEV] However, it is difficult for the government to monitor each and every clinic or consultation. The costs of monitoring will be very high and there will be discrepancies across the prescriptions since it will be tailored to the needs of the patients, depending on the frequency of their visits, severity of their conditions or even their preferences for certain treatments or drugs. As a result, it will be difficult to establish that market failure has been corrected. It is likely that the punitive measure will result in a much smaller welfare loss/market failure.

Summative EV (SEV)

- **[Stand]** In conclusion, the effectiveness of the policies would depend on the general receptivity of the population to messages from the government and the government's budget position.

- **[Justification]** In a developed country like Singapore, public education is likely to be more effective due to a strong education system which allows for a better understanding of the beneficial health effects of cancer screening. This is likely to make the general population more receptive to educational campaigns on the beneficial effects of cancer screening.

OR

- **[Justification]** Although the various policies would incur high administrative cost, the Singapore government has accumulated large amount of reserves and achieved budget surplus for many years. Hence, it is likely to be able to fund the above policies and ensure that they can be sustained and effective in the long term.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of how at least 2 policy measures that could be used to correct the market failure caused by these two types of information failures in healthcare • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8 – 10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5 – 7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1 – 4
Level	Evaluation	Marks
E3	For an answer that builds on appropriate analysis to evaluate contemporary issues, perspectives and policy choices, that recognises unstated assumptions and evaluates their relevance, and that synthesises economic arguments to arrive a well-reasoned judgements on whether on whether the policies are overall effective, given the limitations of each policy and the given contexts	5
E2	For an answer that makes some attempt at evaluation or a conclusion that answers the question but does not explain the judgement or base it on analysis	3 – 4
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration	1 – 2

2025 EJC Prelim Exam H2EC P2 EQ4
SAMS (Suggested Answer and Mark Scheme)

- 4 “As an advanced economy with a small labour force that already sees high employment levels, it is an economic imperative that Singapore relies on productivity to drive economic growth moving forward,” said Deputy Prime Minister Lawrence Wong.
- (a) Explain the difference between labour productivity and productive capacity of an economy, **and** the link between productivity and economic growth. [10]
- (b) Discuss the policies that the Singapore government is currently using to achieve both high labour productivity and high employment. [15]

Question Analysis Part (a)			
Framework		Details	
Approach	Command word	Explain -10m explain for R1 and R2 -No EV needed	
	Context	The economy	
	Start Point	-Labour productivity and productive capacity -Productivity and economic growth	
	End point	-Conceptual differences -Cause-and-effect linkages	
Content	Content	R1: Difference between labour productivity and productive capacity of an economy	R2: Link between productivity and economic growth is higher productivity can lead to potential economic growth.
		State the key differences in the two concepts - Different definitions and factors of labour productivity and productive capacity -Different examples -Different graphical analysis: using the PPC, explain the difference between these concepts – an increase in labour	Explain how productivity can be increase through increasing quality of resources and/or use of technology Then explain how rising productivity can lead to potential economic growth using outwards shift of PPC or rightwards shift of LRAS in ADAS model

		productivity can be explained through a pivotal shift of the PPC curve (for labour intensive goods) whereas an increase in productive capacity is an outward shift of the PPC curve.	
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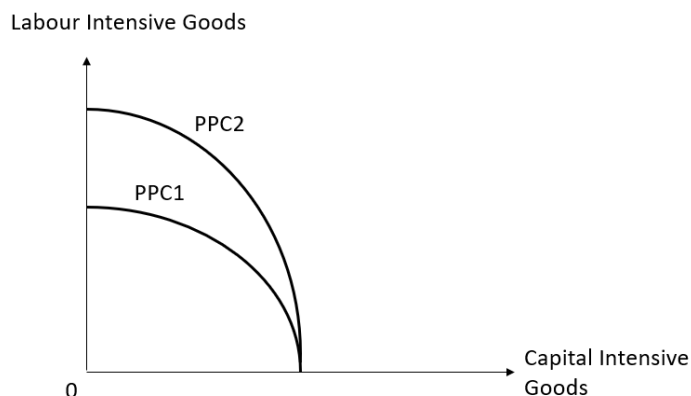
INTRODUCTION

- Labour productivity and productive capacity are two key concepts in understanding an economy's efficiency and potential.
- Improvements in labour productivity can enhance an economy's productive capacity and drive economic growth over time.

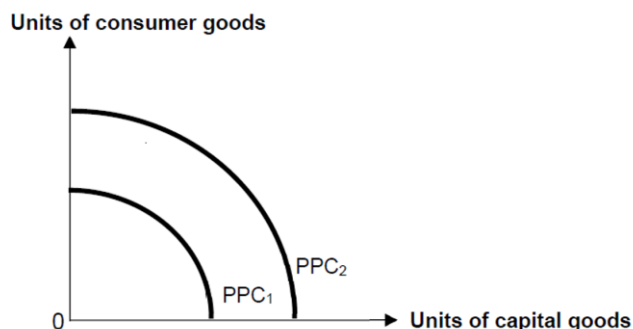
REQUIREMENT 1: Difference between labour productivity and productive capacity of an economy

- **Different definitions:** **Labour productivity** is the output per worker, showing how efficiently labour is used. It rises with more skills training, or technology.
 - However, **productive capacity** is the maximum potential output of an economy when all resources are fully and efficiently employed. It rises with a higher quantity of resources, better quality of resources, more factor mobility or higher level of technology.
- **Different examples:** **Labour productivity** measures how much goods and services each worker produces. It is calculated by dividing the total output of economic goods and services by the number of workers or the total hours they worked. For example, if 100 workers produce 10,000 consumer goods (e.g. handmade textiles), each worker produces 100 handmade textiles. If those workers work a total of 4000 hours, then output per hour is 2.5 handmade textiles. And if the workers received some skills upgrading, they will be more efficient and labour productivity increases. The 100 workers may be able to produce 20,000 handmade textiles, and it means 5 handmade textiles per labour hour.
 - However, **productive capacity** is the maximum potential output of an economy when all resources are fully and efficiently employed. An increase in productive capacity means that an economy is able to produce more goods and services than before. For example, with a given level of current resources of land, labour and capital, Singapore may have a maximum potential national output of about SGD\$700 billion in real terms. And if Singapore continues to invest in AI technology and its applications across the different sectors, its labour and capital resources may be more efficient. This means more output even if the quantity of labour and capital resources are the same. This increases the maximum potential national output of Singapore to be more than SGD\$700 billion in real terms.

- **Different Graphical Analysis:** When **labour productivity increases**, each worker can produce more goods or services in the same amount of time, leading to higher overall output. For example, in a labour-intensive industry like textile manufacturing, if workers become more skilled or use better tools, they can produce more garments per day without increasing the number of workers.
- This means the same workforce generates greater total production, contributing to economic growth and allowing the economy to meet higher demand for goods and services. This can reflect diagrammatically with a pivotal shift of the PPC from PPC1 to PPC2.



- In contrast, **an expansion of productive capacity** of an economy due to new technologies such as AI, it can increase the efficiency of labour and capital resources across all sectors, be it labour-intensive or capital-intensive goods. On a Production Possibility Curve, an increase in productive capacity is shown as an outward shift from PPC1 to PPC2, reflecting the economy's ability to produce higher quantities of goods and services in both labour and capital-intensive sectors.



REQUIREMENT 2: Link between productivity and economic growth is higher productivity can lead to potential economic growth.

- An increase in the quality of factors of production enhances productivity levels, allowing the economy to produce more goods and services with the same amount of resources.
- For instance, training future-ready workers through education and upskilling initiatives like SkillsFuture raises labour productivity, while better healthcare ensures a healthier workforce.

- Similarly, adopting new work processes and developing new technologies through research and development further boost efficiency.
- This means there can be more output per input. With the same amount of resources, the economy can potentially produce more output when all resources are fully utilised.
- These improvements shift the PPC outward from PPC1 to PPC2, reflecting a higher productive capacity. This outward shift represents potential economic growth, as the economy's long-run ability to produce has increased.
- With higher productivity and better-quality resources, the economy can sustain higher levels of output over time without causing inflationary pressures.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of the difference between labour productivity and productive capacity of an economy, and the cause-and-effect linkages between productivity and economic growth • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1-4

(b) Discuss the policies that the Singapore government is currently using to achieve both high labour productivity and high employment. [15]

Question Analysis Part (b)		
Framework		Details
Approach	Command word	Discuss
	Context	Singapore
	Start Point	-Supply-side policies (e.g. SkillsFuture) can achieve both high labour productivity and high employment -Demand management policies (e.g. expansionary fiscal policy) that directly achieve high employment and indirectly achieve higher labour productivity
	End point	High labour productivity and high employment
Content	Content	

		R1: Explain how supply-side policies such as SkillsFuture can achieve both high labour productivity and high employment	R2: Explain how demand management policies such as expansionary fiscal policy can directly achieve high employment and indirectly increase labour productivity
		Supply-side policies as such SkillsFuture increases labour productivity with skills upgrading + reduce structural unemployment for low-skilled workers to acquire the new skills required with technology advancements	Expansionary Fiscal Policy Direct effects → Increase G and/or reduce T → Rise in AD leads to fall in demand-deficient unemployment +Indirect effects → Reduce T attracts FDI → Attracts foreign talents → Invest in human capital → Invest in technology that increase labour efficiency → Rise in labour productivity
		IEV1 Evaluate the limitations of R1 analysis in the given context i.e. limitations of supply-side policies (SkillsFuture) in Singapore	IEV2 Evaluate the limitations of R2 analysis in the given context i.e. limitations of demand management policies (EFP) in Singapore
		SEV Make a stand and justify it on whether the policies that the Singapore govt. is currently using to achieve both high labour productivity and high employment are effective and/or appropriate, given the limitations of each policy and the context of Singapore	

INTRODUCTION

The Singapore government implements a wide-range of policies that enhance labour productivity and maintain high employment. There are supply-side policies such as SkillsFuture, as well as demand-management policies such as expansionary fiscal policies. When used together, these policies aim to achieve high labour productivity and high employment by developing workforce skills, encouraging innovation, and supporting business efficiency, while creating job opportunities across sectors and demographics.

REQUIREMENT 1: Supply-side policies such as SkillsFuture can achieve both high labour productivity and high employment

High Labour Productivity

- In Singapore, the government has strategically used supply-side policies such as SkillsFuture, which enables workers to learn new skills and upgrade themselves.
- Quality of the labour force improves, while greater access to education and training ensures that more individuals are equipped with relevant competencies. As workers acquire new skills, labour productivity rises.
- Even with the same number of workers employed, each unit of labour will now be able to produce more output per man hour.

High Employment i.e. lower structural unemployment

- SkillsFuture also helps with lowering structural unemployment.
- As Singapore adopts new technologies such as AI to strengthen its comparative advantage in high-value added goods and services production, the low-skilled workers find themselves increasingly displaced by new technologies. Yet they lack the relevant skills needed in new jobs created with each technological advancement. With the skills mismatch and occupational immobility, they are structurally unemployed.
- With SkillsFuture, these low-skilled workers can upgrade their skills and make themselves more relevant and more employable for the new jobs. Supply-side policies also reduce skill mismatches and enabling workers to become employed in industries where labour is in demand. Such policies improve the occupational mobility of factors of production, allowing workers to transition into expanding sectors as the structure of the economy changes. This is more appropriate for the long run, achieving higher and more sustainable employment.

IEV1

However, there are some limitations to the supply-side policies such as SkillsFuture to achieve high labour productivity and high employment in the Singapore context.

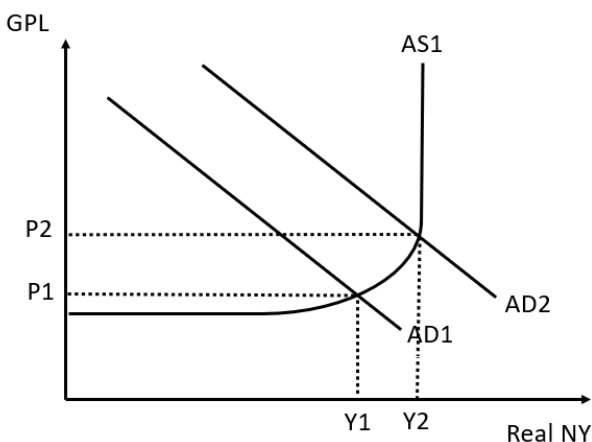
- **(-) Mismatch / Effectiveness of Training:** If training programmes are not aligned to industry needs, structural unemployment may persist. For instance in Singapore, there are still persistent lack of high skilled labour in AI related industries. This could be because our low-skilled workers are retraining in areas with low labour demand (e.g. retail) and they may still struggle to find jobs in growth sectors like AI.

- **(-) Time lag:** Education and training take years before productivity gains appear. SkillsFuture and WSQ courses cannot immediately resolve unemployment for retrenched workers. For instance in Singapore, technology advances rapidly and the pace of skills upgrading may not be fast enough. There is a lack of IT professionals in AI itself, and definitely so the lack of trainers who are skilled in AI and its applications.

REQUIREMENT 2: Demand management policies such as expansionary fiscal policy can directly achieve high employment and indirectly increase labour productivity

Achieve high employment

- Expansionary fiscal policy raises aggregate demand (AD) in the economy.
- EFP can be in the form of rise in G, for instance, large-scale public sector job creation and infrastructure projects (e.g., Tuas Mega Port, Changi Terminal 5) directly increase government spending (G), which raises AD.
- EFP can also be in the form of lower taxes, for instance, tax incentives for businesses, such as corporate income tax rebates or investment allowances, reduce costs and increase profitability, prompting firms to increase investment (I).
- On the household side, personal income tax reliefs or direct cash transfers increase households' disposable income, thereby boosting consumption expenditure (C), a key component of AD.
- Since $AD = C + I + G + (X - M)$, the increase in C, I and G would lead to an increase in AD, as shown by a rightward shift of AD curve from AD_1 to AD_2 .
- The increase in AD would lead to a fall in unplanned inventories, which would lead to firms stepping up on production by increasing demand for factor inputs including labour. As firms hire more factor of production, household income and purchasing power increase and they are more able to spend on goods and services, increasing induced consumption. This results in another round of increase. Firms would employ even more factor inputs from households to further increase production and hence will pay households even more factor income. This multiplier process of an increase in income and induced consumption is repeated over many rounds, leading to more than proportionate increase in RNY at Y_2 .
- Increase in output reduces unemployment as labour is a derived demand, hence reducing demand-deficient unemployment and achieve high employment.



Achieve high labour productivity

- Rise in G, especially on infrastructure and technology, also enhances the efficiency of capital and labour resources. For instance, improved transport, logistics, and digital networks allow workers to produce more output per hour, raising labour productivity.
- Lower corporate taxes that attract FDI can contribute to more investments in technology and human capital. This capital-deepening enables workers to operate more advanced equipment, producing more output per worker and increasing labour productivity.
- Lower personal income tax reliefs or cash transfers increase disposable income, which can be partly used for education, upskilling and quality healthcare. All these can also increase labour productivity.
- Higher labour productivity means more output per labour hour.

IEV2

However, there are some limitations to the demand management policies such as EFP to achieve high employment and high labour productivity in the Singapore context.

- **Global context:** Singapore is a highly open economy. Even if fiscal policy boosts domestic AD, weak external demand (e.g., downturn in global electronics) may limit firms' willingness to expand output and hire.
- **Inflationary pressure:** If AD rises faster than AS, inflationary pressures may build without sustainable employment gains.
- **Structural unemployment:** Productivity improvements from government-supported automation such as use of digital and AI technologies in Singapore SMART Nation and National AI Strategy may allow firms to produce more with fewer workers, this leads to structural unemployment.

SEV

- The Singapore government uses supply-side policies (e.g. SkillsFuture) and demand management policies (e.g. EFP) to achieve high labour productivity and high employment.
- **Supply-side policies (e.g. SkillsFuture) are more effective in the long-term** as they directly enhance skills and employability.
- **Demand management policies (e.g. Expansionary fiscal policies) provide short-term employment gains** but risk jobless growth if productivity improvements come from automation or capital-deepening.
- **The best approach is a combination**, with supply-side measures as the foundation and fiscal support to maintain demand during downturns.
- Singapore government is in a strong fiscal position to support both supply side and fiscal policy into the long run.
- Retraining older workers and integrating technology is crucial in Singapore's ageing labour workforce, as it enables workers to be more productive and remain employable.

Mark Scheme

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For an answer that shows a well-developed explanation of how supply-side policies (e.g. SkillsFuture) and demand management policies (e.g. EFP) that the Singapore government is currently using can achieve both high labour productivity and high employment • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1-4
E3	For an answer that builds on appropriate analysis and evaluates the assumptions and relevance and synthesizes economic arguments to arrive at well-reasoned judgements on whether the policies that the Singapore govt. is currently using to achieve both high labour productivity and high employment are effective and/or appropriate, given the limitations of each policy and the context of Singapore	4-5
E2	For an answer that makes some attempt at evaluation or a conclusion but does not explain the judgement or base it on appropriate analysis	2-3
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis	1

2025 EJC Prelim Exam H2EC P2 EQ5
SAMS (Suggested Answer and Mark Scheme)

- 5 China has been experiencing continuous deflation, with prices falling for six consecutive quarters since 2023. China's economy continues to be weighed down by over-capacity and economic uncertainty. Excess production has sparked off price wars amongst firms.

Adapted from Channel News Asia

- (a) Explain why persistent price wars can be unhealthy for a Chinese firm but healthy for China's balance of trade. [10]
- (b) Discuss whether over-capacity or economic uncertainty is the main reason for deflation in China. [15]

Question Analysis Part (a)			
Framework		Details	
Approach	Command word	Explain -10m explain for R1 and R2 -No EV needed	
	Context	China	
	Start Point	Persistent price wars	
	End point	1) 'Unhealthy for a Chinese firm' = Fall in a firm's profit 2) 'Healthy for China's BOT' = Improvement in balance of trade position i.e. larger BOT surplus in China's context	
	Content	R1: Persistent price wars can be unhealthy for a Chinese firm as it leads to a fall in profits.	R2: Persistent price wars can be healthy for China's balance of trade as it leads to an improvement in balance of trade position i.e. larger BOT surplus in China's context.
		Persistent price war → lead to a fall in total revenue → fall in profits (TR – TC)	Persistent price war → rise in export revenue → fall in import expenditure → rise in BOT surplus (X-M)

INTRODUCTION

- Persistent price war refers to a firm introducing **price cuts** to **increase revenue** and its **competitors respond by also reducing prices** to protect their market share.
- Price war can be unhealthy to a Chinese firm as price war would lead to **a fall in revenue** hence **reducing the firm's profit** level.
- However, price war can **improve China's balance of trade position** by **increasing export revenue and decreasing import expenditure** as domestic prices fall and China's goods and services become relatively more price competitive than its trading partners.

REQUIREMENT 1: Price war can be unhealthy for a Chinese firm such as BYD as it leads to a fall in profits.

- Assuming the price war happens in the electric car market, and if BYD, a Chinese electric vehicle firm decides to reduce price and Nio, its rival firm, could reduce price more aggressively in response to the price cut by BYD due to a lower unit cost of production, the demand for BYD would fall as consumers would switch to the cheaper alternative. This is especially so in an oligopoly such as the electric car market where there is mutual interdependence between the large firms such that the decision by one firm will have an effect on other firms.
- The fall in demand could also be exacerbated by consumers expecting lower prices in the future, hence withholding purchases. This would be illustrated by a fall in Average Revenue (AR) curve in figure 1 from AR_0 to AR_1 , which is accompanied by a corresponding fall in Marginal Revenue (MR curve) from MR_0 to MR_1 .

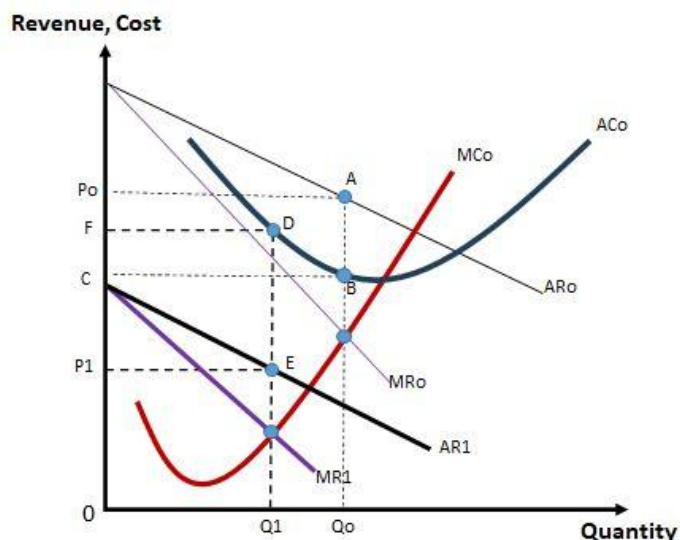


Figure 1: A fall in profit due to price war for BYD

- Assuming BYD aims to maximise profits, it will produce at Q_0 initially where MR_0 intersect MC and charge a price at P_0 . The original profit is thus area CP_0AB . With the fall in demand ($DD=AR$), the profit maximising output level decrease to Q_1 and price decreases to P_1 . BYD

now earns a subnormal profit of P_1FDE . BYD will be forced to shut down if $AR < AVC$ in the short run or the subnormal profit persist in the long run.

REQUIREMENT 2: Price war can be healthy for China's balance of trade as it leads to an improvement in balance of trade position i.e. larger BOT surplus in China's context.

- Given China's endowment of a large pool of low-wage workers and an abundance of land and natural resources, China has a comparative advantage in manufacturing and is a large exporter of manufactured goods and services, including electric vehicles.
- Assuming the price war happens in the electric vehicle market in China and/or other major exporting industries, the price of Chinese exports would be relatively cheaper to its trading partners, such as USA's Tesla. Since there are strong substitutes available in the global electric vehicle market, the demand for Chinese's export would be price elastic. A fall in export prices would have led to a more than proportionate rise in quantity demanded for exports and export revenue (X) would rise.
- At the same time, when prices of domestically produced goods fall due to the price war, imports would become relatively more expensive. Assuming $XED > 1$, demand for imports fall more than proportionately, leading to a fall in import expenditure (M).
- With an increase in X and a fall in M, this would lead to an improvement in BOT position.
- The increase in (X-M) would be healthy for China's BOT if it leads to a larger BOT surplus in China's context.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of how persistent price wars can lead to fall in profit of a Chinese firm, and improvement in BOT for China • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1-4

(b) Discuss whether over-capacity or economic uncertainty is the main reason for deflation in China. [15]

Question Analysis Part (b)			
Framework		Details	
Approach	Command word	Discuss	
	Context	China	
	Start Point	1) Over-capacity → AS reason 2) Economic uncertainty → AD reason	
	End point	Leads to Deflation	
Content	Content		
		R1: Over-capacity is a supply-side reason for China's deflation.	R2: Economic uncertainty is a demand-side reason for China's deflation.
		Explain how a rise in LRAS → overcapacity → leads to deflation	Explain how economic uncertainty → a fall in AD -> would lead to deflation.
		IEV1 Evaluate the limitations of R1 analysis in the given context i.e. the limited extent of the rise in LRAS	IEV2 Evaluate the limitations of R2 analysis in the given context i.e. the limited extent of the fall in AD
		SEV Make a stand and justify it on whether over-capacity or economic uncertainty is the main reason for China's deflation, given the limitations of each factor and in China's context	

INTRODUCTION

- Deflation refers to a sustained fall in the general price level in the economy.
- Overcapacity happens when LRAS increases too fast relative to AD, leading to spare capacity where resources are not fully employed.
- Economic uncertainty refers to consumers and investors being uncertain about job prospects and expected rate of returns or profits of their investment projects respectively which affects their consumption and investment decisions. The economic uncertainty could be due to the ongoing US-China trade war and rising youth unemployment problem in China.

REQUIREMENT 1: Over-capacity is a supply-side reason for China's deflation.

- China's over-capacity problem is likely due to her investment-led growth strategy, supported by government subsidies and cheap loans.
- The increase in investment raises the quantity of capital in China's economy, as firms invest in more capital goods such as machinery and equipment. With a higher quantity of resources, it means the economy can produce a higher potential level of national output when all resources are fully utilised. This means the productive capacity of the economy has expanded, shown by a rightward shift of LRAS from $LRAS_1$ to $LRAS_2$ in figure 2 and the potential/maximum output level increase from Y_{f1} to Y_{f2} , ceteris paribus.
- Assuming that AD is constant, the increase in LRAS results in overcapacity, where China's manufacturing capacity exceeded the demand for goods and services. Therefore, resources are underutilised, and the excess resources leads to a fall in input prices. Firms then pass on the cost savings to consumers in the form of lower prices, leading to a fall in general price level (GPL) from P_0 to P_1 .
- And if the Chinese government continues with its investment-led growth, LRAS will continue to rise. The problem of overcapacity will persist, and general price level (GPL) will fall continuously, hence resulting in deflation.

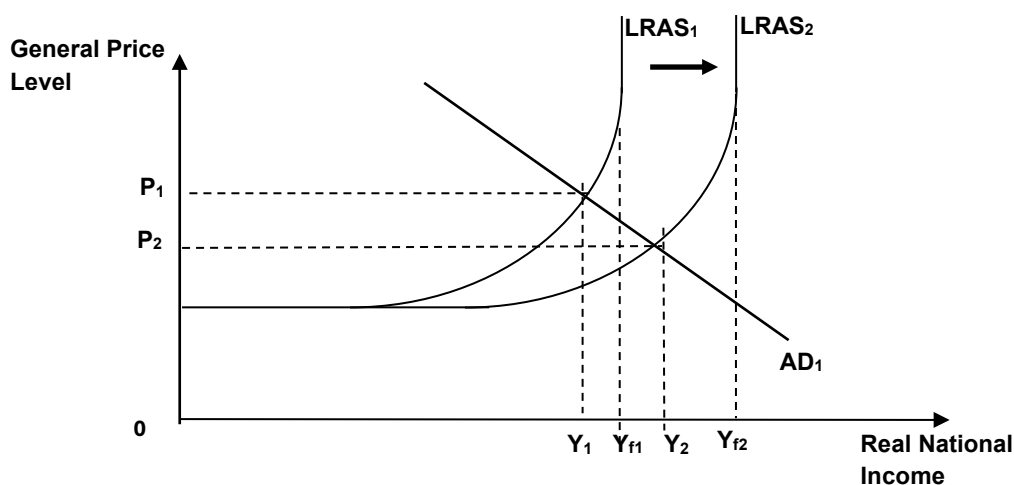


Figure 2: Over-capacity leading to deflation

IEV1

However, over-capacity might not be the main reason for China's deflation because there are other factors that limit the extent of the rise in LRAS. The increase in LRAS might not be significant as China is also facing falling birth rate due to her one-child policy. Hence the fall in quantity of labour would dampen the increase in LRAS. Moreover, the overcapacity problem might not persist in the long run since China is changing from investment-led to consumption-led growth.

REQUIREMENT 2: Economic uncertainty is a demand-side reason for China's deflation.

- Economic uncertainty would lead to a fall in AD, hence contributing to China's deflation.
- Economic uncertainty may lead to poor economic outlook in households in terms of future income and job security. This would lead to a fall in autonomous consumption (C) by households.

- As firms expect households to cut back on spending, there will be pessimism such as fall in future revenue and profitability. This would lead to a fall in investments (I) by firms.
- Since $AD = C + I + G + (X - M)$, the fall in C and I would lead to a fall in AD, as shown by a leftward shift of AD curve from AD_1 to AD_2 in figure 3.
- The fall in AD would lead to an increase in unplanned inventories, which would lead to firms cutting back on production by reducing demand for factor inputs including labour. As firms hire less factor of production, household income and purchasing power fell and they are less able to spend on goods and services, decreasing induced consumption. This results in another decrease in AD to AD_3 . Firms would employ even less factor inputs from households to further decrease production and hence will pay households even less factor income. This reverse multiplier process of fall in income and induced consumption is repeated over many rounds, leading to more than proportionate fall in RNY at Y_1 .
- With the fall in derived demand for factor inputs, there will be surplus of FOP, which exert a downwards pressure of factor prices. This means that cost of production would fall, and firms will then pass on the cost savings to consumers, leading to a persistent fall in GPL from GPL_1 to GPL_3 . This leads to deflation in China.
- Furthermore, the economic uncertainty might lead to a deflationary spiral. With a fall in AD and GPL, households expect prices of goods and services to fall further in the future and will thus postpone their current spending, leading to a fall in consumption and a further fall in AD. Hence this vicious cycle of lower GPL and AD would lead to a persistent fall in GPL.

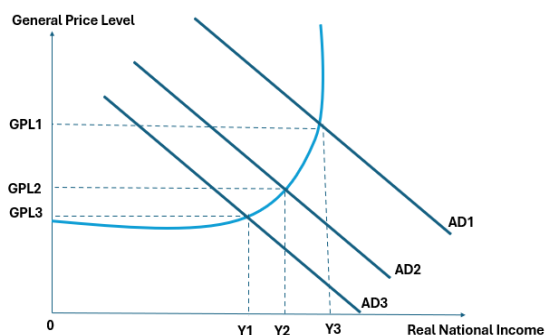


Figure 3: Economic uncertainty leading to deflation

IEV2

However, economic uncertainty might not be the main reason for China's deflation because there are other factors that limit the extent of the fall in AD. The decrease in AD might not be significant since the Chinese government has been putting in policies measures such as lowering interest rates and increasing government spending to boost AD and reduce economic uncertainty. China has also been relying less on export-led growth hence the trade war has caused less uncertainty than before as firms and investors know that the trade war would affect China's economy less significantly.

SEV

- In conclusion, economic uncertainty is likely to be the main reason for China's deflation. Over-capacity is also partly due to AD not increasing fast enough as compared to the increase in

LRAS. Hence it could be argued that economic uncertainty has contributed to the overcapacity problem.

- However, it also depends on how persistent the trade war is. The more prolonged the trade war, the more economic uncertainty it would create, especially since China's consumption-led growth has not been very successful yet. With President Trump not likely to continue his presidency due to his age, it is likely that the trade war is a short term one hence economic uncertainty would not be the main reason.

MARK SCHEME

Level	Knowledge, Application / Understanding and Analysis	Marks
L3	For an answer that shows a well-developed explanation of how over-capacity and economic uncertainty each lead to China's deflation • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question • Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	1-4
E3	For an answer that builds on appropriate analysis and evaluates the assumptions and relevance and synthesizes economic arguments to arrive at well-reasoned judgements on whether over-capacity or economic uncertainty is the main reason for China's deflation, given the limitations of each factor and in China's context	4-5
E2	For an answer that makes some attempt at evaluation or a conclusion but does not explain the judgement or base it on appropriate analysis	2-3
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis	1

2025 EJC Prelim Exam H2EC P2 EQ6
SAMS (Suggested Answer and Mark Scheme)

- 6 Developing economies are characterised by low average wages, under-utilised resources and weak governance for key areas such as the environment.
- (a) Explain how developing countries and developed countries experience different negative impacts of globalisation. [10]
- (b) Discuss the view that protectionism could be justified, even if they lead to negative, unintended consequences. [15]

Question Analysis Part (a)			
Framework		Details	
Approach	Command word	Explain -10m explain for R1 and R2 -No EV needed	
	Context	Developing and developed economies Developing countries = 'low average wages, under-utilised resources and weak governance for key areas such as the environment'	
	Start Point	Globalisation	
	End point	'Negative impacts of globalisation' = macroeconomic problems (BUGPEES)	
	Content	R1: Globalisation could lead to unsustainable growth in developing economies due to	R2: Developed economies: They are also likely to face the problem of structural unemployment due to changing Comparative Advantage
		Developing Economies likely to attract FDI in manufacturing sector due to abundance of low-cost labour and natural resources. Growth might be unsustainable due to pollution due to massive production and depletion of natural resources.	Developed economies lose CA in labour intensive manufacturing to developing economies They gain CA in more high-tech manufacturing Workers in labour intensive manufacturing face structural unemployment due to mismatch of skills.

INTRODUCTION

Globalisation is defined as the **increasing inter-connectedness of global economies** in these 3 areas:

- (i) **Increased trade flows**, in terms of exports and imports of goods and services
- (ii) **Increased capital flows**, in terms of long-term capital flow (FDI) and short-term capital flow (hot money)
- (iii) **And increased labour flows**, in terms of foreign labour, both talents and workers

Globalisation with increased trade, capital and labour flow can bring about some of these benefits to the government, as well as other related **negative impacts** to the government.

The types of negative impacts vary with the different stages of development.

REQUIREMENT 1: Globalisation could lead to unsustainable growth in developing economies due to weak governance in key areas such as the environment.

Massive rise in output due to rising X and FDI

- **The availability of low-cost labour in a developing country** will lead to an influx of foreign direct investment especially in the manufacturing sector due to the higher returns on investments as compared to developed countries.
- The lower cost of labour also translates to lower cost of production in goods and services in the manufacturing sector. Should these goods be exported to other countries, there will be a large rise in export revenue due to the greater price competitiveness which is a result of the lower production cost.
- This would lead to a large increase in AD causing output to rise.

Massive rise in manufacturing output leading to unsustainable growth

- **Sustainable growth** refers to the rate of economic growth that can be sustained over a period of time without creating other significant environmental problems such as depleted resources and environmental pollution for future generations.
- Higher production levels mean more burning of fossil fuels for power and transport, releasing greenhouse gases and air pollutants. Industrial processes discharge chemicals, heavy metals, and waste into water and soil. Poor waste management can worsen land and water pollution.
- To sustain rapid growth, firms extract more raw materials (e.g., metals, minerals, timber) and use more water and energy. Over time, this depletes non-renewable resources faster than they can be replenished, reducing long-term availability and damaging ecosystems.
- The expansion of electronics and steel manufacturing in some Asian economies has caused significant deforestation, water contamination, and high carbon emissions due to heavy reliance on coal and mineral extraction.
- With greater pollution and fast depletion of natural resources, the boom in the manufacturing sector could lead to unsustainable growth in developing economies.

- **This is especially relevant for developing countries as they tend to have weaker governance over key areas such as the environment.** It could be due to lack of willingness and ability to do so. Developing countries prioritise economic growth over the environment so as to lift up income levels, hence they are not willing to invest in cleaning up the environment or set high taxes on pollution that deters FDI. They may also face tighter budget and resource constraints, such as less direct tax revenue, more limited expertise and less access to green technologies.

REQUIREMENT 2: Globalisation could lead to structural unemployment in developed economies due to changing comparative advantage (CA).

Change in CA

- **Theory of CA** states that **free trade between nations is beneficial to all** if each **specialises and trades according to its CA**.
- A country has a comparative advantage in the production of a good/service if it can produce it at a lower opportunity cost i.e., if it has to forgo less of other goods in order to produce it.
- The reasons for CA can be due to differences in factor endowments, in terms of both quantity and quality of resources. Higher quantity of resources results in lower resource prices, while higher quality resources result in greater efficiency. This is why some countries can produce at a lower unit of production, incur a lower opportunity cost in terms of other goods and services forgone, and hence having a CA in the production of a good/service.
- Large developing countries such as China and India are naturally endowed with an abundance of low-skilled workers. The large supply of low-skilled workers leads to a surplus of such workers in the labour market and exerts a downwards pressure on wages. This allows producers to enjoy a lower labour cost, especially in the labour-intensive industries. This means that producers incur a lower opportunity cost i.e. they give up less of the production of other good/service. Hence developing countries has a CA in the production of goods and services, especially in the labour-intensive industries such as agriculture and clothes manufacturing.
- When these countries embrace globalisation and free trade, other developed countries will need to develop CA in other areas such as more high-tech manufacturing such as pharmaceuticals through technology advancement. This results in a change in CA.

Mismatch of Skills resulting in Structural Unemployment

- With technology advancement, **workers would need to acquire new skills, either in current industries or in new industries.** Workers may find their existing skills irrelevant to handle the new technologies or the jobs in the new sectors and face difficulties in securing new jobs. **This mismatch of skills contributes to structural unemployment.**

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of the negative impact of globalisation relevant to a developing economy and another negative impact of globalisation relevant to a developed economy - Relevant, thorough answer that is precise, logical and reasoned - Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation - Relevant answer but theory may be incompletely explained - Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge - Shows some knowledge but has not properly grasp the meaning of the question - Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context - Have basic errors of theory	1-4

(b) Discuss the view that protectionism could be justified, even if they lead to negative, unintended consequences. [15]

Question Analysis Part (b)			
Framework		Details	
Approach	Command word	Discuss	
	Context	Any Country	
	Start Point	Protectionist Policy	
	End point	R1: Argument For Protecting Domestic Employment and Output (BUGPEES) IEV1: Negative, Unintended Consequences (BUGPEES) R2: Argument For Protecting Infant Industry (BUGPEES) IEV2: Negative, Unintended Consequences (BUGPEES)	
Content	Content		
		R1: Argument For Protecting Domestic Employment and Output How tariffs work by increasing prices of imports and thus ensuring employment	R2: Argument For Protecting Infant Industry How non-tariff policies such as subsidies could help develop infant industries to compete

		and increases domestic output	with bigger foreign competitors
		IEV1 Evaluate the limitations of R1 analysis in the given context i.e. the negative, unintended Consequences	IEV2 Evaluate the limitations of R2 analysis in the given context i.e. the negative, unintended Consequences
		SEV Make a stand and justify it on whether protectionism could be justified, given the negative, unintended consequences and consideration of possible contexts	

INTRODUCTION

Protectionism involves government intervention in international trade through the imposition of trade barriers to prevent the free entry of imports to protect their domestic economy from foreign competition.

While there are instances when protectionism may be viewed as a feasible policy option, most would argue that it is never a long-term solution. Furthermore, protectionism could bring positive impacts in the short-term such as higher domestic output and employment; but might bring negative macroeconomic impacts in the longer term, such as higher inflation, worsened material standard of living and possible deterioration of the balance of trade (BOT).

I will be first discussing how protectionism could be seen as beneficial, before discussing how protectionism is ultimately costly, for each protectionist policy. The impact of protectionism also differs across countries.

REQUIREMENT 1: Protectionism is justifiable as it protects domestic employment and output.

- When an import tariff is imposed, the price of the imported good in the country will rise. This will reduce the quantity demanded for imports. An example was an import tariff implemented by the US on imported steel.
- The tariff also makes the domestically produced goods, which are substitutes for the imported good, relatively cheaper. The quantity demanded for domestically produced goods will increase, leading to a rise in the **domestic production of output, hence actual economic growth** (*students may also elaborate on rise in C, rise in AD and multiplied rise in RNY, leading to actual economic growth*).
- This leads to an increase in the derived demand for labour derived by firms, leading to a **fall in demand-deficient unemployment and a higher employment rate**.
- A rising employment signifies a better utilisation of resources, leading to **higher productive efficiency**.
- At the same time, government revenue increases due to the tariffs from imports, hence a healthier fiscal budget with larger budget surplus, c, and ceteris paribus. A larger fiscal budget allows the government to invest in innovative technologies and upgrade skills of

labour force. This can expand the productive capacity of the economy and lead to higher potential EG.

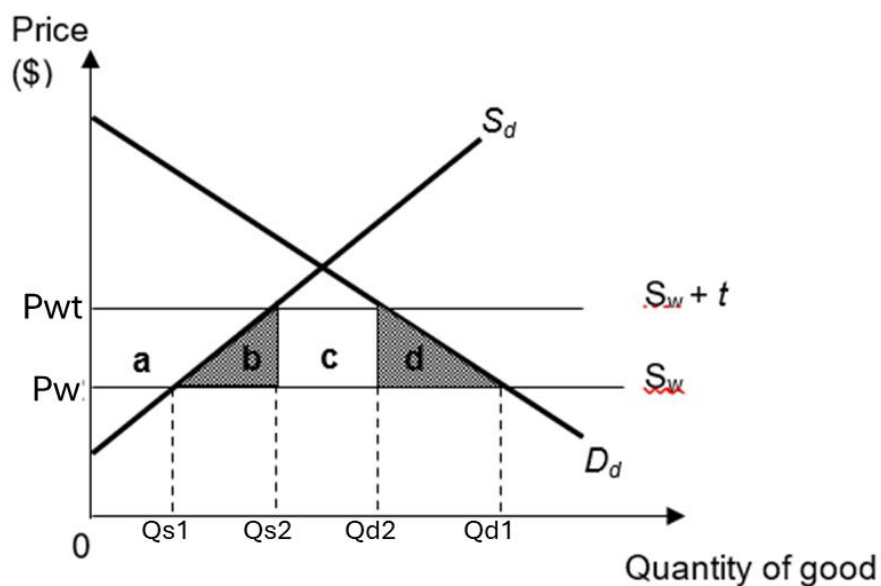
Diagrammatic representation

- Assuming that the country that imposes the tariff is a small country whose actions cannot affect the world price of the good.
- Being a small country, it can purchase all it wants at the world price at P_w . Thus, the supply of imports is perfectly elastic at the world price of P_w as illustrated by the horizontal supply curve (S_w).
- The domestic demand and supply curves for the good are D_d and S_d respectively. Initially, the price of the good in the domestic market is equal to the world price of P_w , and the total quantity demanded is Q_{d1} .

When the country imposes a tariff of t per unit of import, the world supply curve shifts to $S_w + t$ and raises the price of the good to P_{wt} .

The import tariff has the following effects:

- raises the price of the good to P_{wt} .
- lowers the quantity demanded from Q_{d1} to Q_{d2}
- increases domestic production from Q_{s1} to Q_{s2} units of the good
- reduces imports from $Q_{s1}Q_{d1}$ to $Q_{s2}Q_{d2}$ units.



IEV1

However, despite the rise in domestic output and employment, protectionism may also result in negative, unintended consequences. The severity of the negative consequences will depend on

the country's reliance on the targeted trading partner in terms of exports. For a small economy with a small domestic market like Singapore, the consequence will be more severe.

- A tariff would perpetuate the problems of inefficiency and the misallocation of resources. This is shown in Fig. 1. When a tariff is imposed, there is a deadweight loss to society which is equal to area (b + d). If resources are not allocated efficiently then the economy would be less productive and allocative efficient and would be producing further away from the PPC boundary after the tariff.
- Since protecting the domestic firms would only perpetuate the problems of inefficiency and misallocation of resources. Domestic firms that are unable to compete with the foreign producers should reallocate their resources to other industries in which they have a comparative advantage. Displaced workers can go for re-training or upgrading skills to keep themselves relevant in the job market.
- Protectionism could lead to a 'beggar-thy-neighbour effect'. This means that when foreign countries suffer a fall in their export earnings due to the protectionism adopted against them by trading partners, their national income and purchasing power falls and causes them to import less. This reduces the demand for exports of the country which first imposed the protectionist barrier, resulting in a fall in AD and multiplied fall in real national income via the multiplier, hence **decreasing actual growth**. As less output of goods and services is produced, firms will use less of their resources to increase production. Hence, the derived demand for labour to produce these goods also decreases, **increasing demand deficient unemployment**.

Requirement 2: Argument For Protecting Infant Industry

- When a country has lost its CA, it must develop new niche areas that will enable it to sustain its economic growth. In the course of developing the new niche areas, this transitional period of structural adjustment and reallocation of resources may be painful and costly to the citizens. Hence, there could be a need for trade restrictions during this transitional period of structural adjustment so as to reduce economic instability.
- Infant industries are newly established, but they have potential CA. As they are still in the infancy stage, they are usually small and hence tend to produce at a higher average cost, due to the inability to reap fully the economies of large-scale production. As a result, these firms are unable to compete with the larger and more established firms and hence they are forced to shut down.
- An example could be the car industry in Malaysia where domestic car brands such as Proton and Perodua were unable to compete with the more established foreign brands such as Honda and Toyota during their initial entry into the industry.
- A **subsidy** could be implemented to 'protect' these infant industries. This could artificially lower the cost of production resulting in lower prices. Consumers will turn to the relatively cheaper domestic goods produced by the infant industry. If such an industry is protected from foreign competition, it can eventually grow big and efficient enough to compete in the world market as they are now big enough to enjoy economies of large-scale production and other benefits associated with large firms. These firms will contribute to the economy in the form of **higher national income and employment**.

Although there are some merits to the infant industry argument, it is difficult to identify new industries that have the potential to grow big, be competitive globally and contribute to the economy in the long run. Identifying the 'wrong' industries for protection may prove to be costly for the country as the subsidy could result in a **strain on the country's fiscal budget**.

Furthermore, some of these industries may not grow. They remain as perpetual 'infants'. The subsidies enable them to survive despite being inefficient and mismanaged. Thus, the economy has to bear the consequences of loss of economic welfare due to **inefficiency and the opportunity costs** incurred from the subsidy expenditure.

One example could be Proton Holdings, Malaysia's national car company. In its infancy, Proton commanded more than 70% share of the domestic passenger vehicle market, thanks largely to protectionist measures in the form of tariff and non-tariff barriers. Today, the "infant" is still unable to match the performance of the more-established imported cars.

In this case, whether this argument is justifiable would depend on the **government's ability** to identify a new industry that have the potential to compete internationally in future. The main danger will be the case of governments continuous protection of a misidentified infant industry which will highly likely to occur due to the '**sunk costs**' that the government had already incurred through the large subsidies provided during the initial development stage.

SEV

Protectionist policies especially in the case of tariffs often result in inefficiency in resource allocation and the loss of consumer welfare. Hence, protectionism should only serve as a **short-term measure** to solve the country's domestic economic problems. Prolonged protection of infant industries also runs the risk of **complacency and thus inefficiency**. In the **long run**, it is best to allow free trade to maximise the gains in production and consumption according to the Theory of Comparative Advantage.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	For an answer that shows a well-developed explanation of possible justifications for protectionism (benefits) and the related negative, unintended consequences • Relevant, thorough answer that is precise, logical and reasoned • Strong ability to apply theory to the questions and the context, and the analysis is clear with illustrations (e.g. graphs), relevant examples, depth and scope	8-10
L2	For an answer that shows an under-developed explanation • Relevant answer but theory may be incompletely explained • Some ability to apply theory to the question and the context, but the analysis lacks clarity, depth and/or scope	5-7
L1	For an answer that shows limited knowledge • Shows some knowledge but has not properly grasp the meaning of the question	1-4

	• Mostly irrelevant and contains a few valid points made incidentally in an irrelevant context • Have basic errors of theory	
E3	For an answer that builds on appropriate analysis and evaluates the assumptions and relevance and synthesizes economic arguments to arrive at well-reasoned judgements on whether protectionism could be justified, given the negative, unintended consequences and consideration of possible contexts	4-5
E2	For an answer that makes some attempt at evaluation or a conclusion but does not explain the judgement or base it on appropriate analysis	2-3
E1	For an answer that gives superficial evaluative statement(s) without supporting analysis	1