



EUNOIA JUNIOR COLLEGE
JC2 Preliminary Examination 2024
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 1

9570/01**26 August 2024****2 hours 30 minutes**

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

Answer **all** questions.

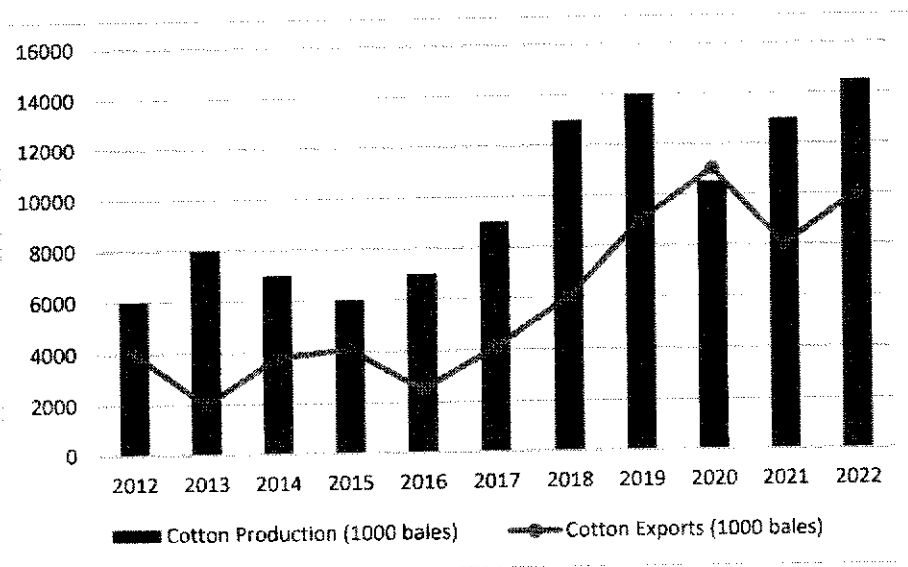
The number of marks is given in brackets [] at the end of each question or part question.

Please note that Paper 1 takes up 40% of the total score.

Question 1: Towards sustainable fashion**Table 1: World cotton production and consumption (in million bales)**

Year	Production	Consumption
2021	115	118
2022	120	110

Source: USDA Foreign Agricultural Service, accessed 30 July 2024

Figure 1: Brazil cotton production and exports

Source: Global Cotton Outlook 2022/23, Texas Tech University, accessed 30 July 2024

Extract 1: Brazil's cotton exports surge

Low prices for corn have pushed farmers in Brazil to plant cotton instead, resulting in a sharp rise in cotton production. In recent years, Brazil overtook the US as the world's largest cotton exporter. The South American country exported 12.4 million bales in the 2023 harvest season compared with 11.8 million bales that came out of the US, according to estimates by the US Department of Agriculture.

Brazil's soaring output has more than offset the impact of consecutive years of drought in the US. Meanwhile, global demand for cotton has fallen. Over the past few years, shoppers have increasingly opted for alternative man-made fabrics like polyester and petroleum-based fabrics, which are cheaper and quicker to produce than cotton, but have a much larger environmental toll.

Source: Financial Times, 16 July 2024

Extract 2: Unfavourable plight of cotton farmers

Farmers are at the end of a long and complex value chain, often receiving the lowest prices while bearing high production costs. They are generally at a disadvantage when it comes to price negotiations because they lack access to market information. In addition, many small-scale farmers do not belong to farmer organisations, which leaves them little bargaining power or influence on the prices offered.

Cotton farmers receive a small share of the retail price of a garment, not exceeding 10%. Revenues for cotton farmers vary across countries and tend to increase with the size of the farms. Small cotton farmers earn the least compared to large and medium-sized farmers in many producing countries. Some governments thus implement programs such as minimum support price to support farmers.

Source: 2023 Global Market Report, Cotton Prices and Sustainability, 10 July 2023

Extract 3: Fast fashion: How clothes are linked to climate change

Producing clothes uses a lot of natural resources and creates greenhouse gas emissions which are responsible for climate change. Overall, the fashion industry is responsible for 8-10% of global emissions, according to the UN - more than the aviation and shipping combined.

Fast fashion clothing is produced rapidly to follow current trends in the industry. Low cost is also achievable as the firms have a massive scale of production. Fast fashion allows cost-conscious consumers to regularly update and expand their wardrobes with knockoff end vogue styles. However, the earth's environment is paying the hefty price.

Most of fashion's environmental impact comes from the use of raw materials. Synthetic materials like polyester require an estimated 342 million barrels of oil every year. To deliver on low price points for fast changing styles, these 'real time' brands rely on fossil fuel-based synthetic materials that are cheaper, adaptable, and more widely available than natural materials. As a result, polyester has grown to become the number one synthetic fibre and now represents more than half of all global fibre production. It is derived from non-renewable resources, requires a great deal of energy for extraction and processing and releases significant byproducts.

Government rule makers must price negative externalities. Synthetic materials like polyester, for example, should be taxed to reflect its true cost. This would discourage their use, lead to innovation and accelerate the adoption of renewable energy. A governmental committee in the UK has also recommended a tax on polyester. For the fashion industry, this would increase the price of synthetics making natural materials like cotton more attractive.

Adapted from: BBC, 29 July 2022

Extract 4: Generation Z (Gen Z) is emerging as the sustainability generation

Major global events like Covid-19 pandemic have a way of shaping the lifetime spending habits of the generations that come of age during them. For more than a year you could sense the collective sigh of the universe as factories shut down, the skies turned blue over Beijing for the first time in decades, and once-clogged highways were emptied as we adapted to working and learning from our homes. We've learned to do less, spend less, and waste less and no cohort has been as profoundly influenced as Generation Z (those born after 1997). The pandemic didn't start the sustainability revolution, but it has put it into hyperdrive, and Gen Z is in the driver's seat.

As the economy begins to recover, the consumer research on retail fashion brands makes it clear that the next normal is all about saving the planet. According to a recent study, Gen Z is the most likely to make purchase decisions based on values and principles (personal, social, and environmental). The vast majority of Gen Z shoppers prefer to buy sustainable brands, and they are most willing to spend 10 percent more on sustainable clothing than fast fashion. Sustainable clothing is more expensive as many sustainable brands opt for better, more durable fabrics, including natural fibres. But this is costly, take for example, cotton costs 25% more than polyester.

Now virtually every company now proclaims its devotion to sustainability. Previously it would have seemed improbable that two leading sporting companies, Allbirds and Adidas, would be collaborating on creating a sport performance shoe with the lowest carbon footprint ever. Or that Walmart would be partnering with ThredUp, an online thrift store, to sell 'pre-owned' garments by name-brand fashion houses like Anne Klein and Tommy Hilfiger.

Adapted from: Forbes, 30 April 2021

- (a) With reference to Table 1, what can be concluded about the change in world price of cotton in 2022. [2]
- (b) With reference to Figure 1 and Extract 1, explain **one** demand and **one** supply factor that could impact world cotton prices. [4]
- (c) 'Some governments thus implement programs such as minimum support price to support farmers.' (Extract 2)

Explain how the above price control supports farmers and **one** possible unintended consequence of the policy. [4]

- (d) (i) 'Synthetic material like polyester, for example, should be taxed to reflect its true cost.' (Extract 3)
- Explain what is meant by 'true cost' of polyester. [2]
- (ii) Discuss the appropriateness of UK's government plan to tax polyester to ensure that its 'true cost' has been accounted for. [8]
- (e) In light of the mass production (Extract 3) and changing Gen Z behaviour (Extract 4), discuss the extent to which a fashion firm like Adidas should switch over to manufacturing more sustainable clothing. [10]

[Total: 30]

Question 2: The age of deglobalisation**Table 2: Trade balance of India with China**

Year	Import from China (Billion USD)	Export to China (Billion USD)
2018	76.87	18.83
2019	74.92	17.97
2020	66.78	20.87
2021	97.59	28.03
2022	118.77	17.49

Source: General Administration of Customs China, 2023

Table 3: Singapore's Economic Indicators

Year	Real GDP Growth Rate	Annual Inflation Rate
2020	-3.9%	-0.18%
2021	8.88%	2.3%
2022	3.65%	6.12%

Source: Macrotrends, 2023

Extract 5: 15 countries, including Singapore, sign RCEP, the world's largest trade pact

The world's largest trade pact was inked on 15 Nov 2020 by ministers from 15 countries including Singapore, in a move likely to spur the region's economy. Building on existing free trade deals among members, the Regional Comprehensive Economic Partnership (RCEP) will broaden and deepen economic linkages across the Asia-Pacific, ease trade in goods and services and facilitate the flow of foreign investments. RCEP members account for 30 per cent of the world's economy and one-third of its population. They comprise all 10 Association of Southeast Asian Nations (ASEAN) members and key partners Australia, China, Japan, South Korea and New Zealand.

Prime Minister Lee Hsien Loong described the signing of the pact as a 'major step forward for the world, at a time when multilateralism is losing ground, and global growth is slowing'. 'It signals our collective commitment to maintaining open and connected supply chains, and to promoting freer trade and closer interdependence especially in the face of Covid-19 when countries are turning inwards and are under protectionist pressures,' he said.

Mr Lee joined several leaders in expressing the hope that India will be able to sign on in future, so that 'participation in the RCEP will fully reflect the emerging patterns of integration and regional cooperation in Asia'. New Delhi pulled out of talks last November after seven years of negotiations following concerns over trade imbalances. Yesterday, the RCEP leaders reiterated that the door remains open for India.

Some have raised concerns that China stands to benefit the most as the group's largest economy, but ministers noted that the RCEP gives members' businesses greater access to the vast Chinese market. Chinese Premier Li Keqiang said the signing was a victory for multilateralism and free trade, adding: "Let people choose unity and cooperation in the face of challenges, rather than conflict and confrontation."

The pact will eliminate tariffs for at least 92 per cent of goods, with additional preferential market access for exports. The flow of goods will also be faster. More companies will be able to provide services in the region, with foreign shareholding limits raised for at least 50 sub-sectors including professional services, telecommunications and financial services.

Adapted from: The Straits Times, 16 November 2020

Extract 6: India firms, farmers applaud PM Narendra Modi's move to reject RCEP trade deal

New Delhi's 11th-hour rejection of the Regional Comprehensive Economic Partnership (RCEP) - which was meant to account for half of the world's population - comes as India battles slowing manufacturing and consumption. The pact would have increased India's access to other Asian markets, but New Delhi feared its domestic industries would be hit hard if the country was flooded with cheap made-in-China goods, particularly in key employment sectors such as agriculture and textiles.

In a tweet late on Monday, Indian dairy Amul applauded Prime Minister Modi's 'exemplary leadership and support' to dairy farmers, who would have been exposed to more competition under the RCEP. Confederation of All India Traders (CAIT), warned the deal would have allowed Chinese manufacturers to overwhelm 'the Indian market with Made In China products at very low prices... thereby creating a disequilibrium'. B. M. Singh, convenor of the All India Kisan Sangharsh Coordination Committee, said the rejection of the deal was 'a huge victory for farmers'. 'We should not go for an open agreement like the RCEP simply because we can't compete with other big countries,' Singh shared.

But experts cautioned that New Delhi, which has a long history of protectionism, may lose out as it tries to become a more globally competitive economy. 'In an era in which manufacturing requires the ability to become more - not less - integrated into global supply chains, this decision appears for the moment to make it harder to boost manufacturing in India,' the Council on Foreign Relations senior fellow Alyssa Ayres wrote. 'The central issue for the Indian government isn't in the wording of a trade deal, but in the competitiveness of the Indian economy,' Ayres added in a blog post underlining the need for New Delhi to undertake further reforms to kick-start economic growth.

Source: The Straits Times, 5 November 2019

Extract 7: Sentiment is turning towards deglobalisation

The rise of globalisation was never entirely smooth or assured. The reduction of global trade that was bookended by the two world wars was followed by 60 years of increased globalisation. This included the hyper-globalisation period from 1990 to 2008.

However, the 2008 financial crisis, trade wars, disenfranchised middle classes in developed economies and rising concerns about over-reliance on trade with single partners is increasingly leading to a period of deglobalisation i.e. lower trade, capital and labour flows.

This is exacerbated by recent disruptions to global supply chains such as the war in Ukraine, growing ideological differences and the green transition have prompted governments and corporations to reconsider external dependencies. They are looking closer to home and to trusted partners for more resilient growth models.

Source: World Economic Forum, 17 January 2023

Extract 8: Can Singapore flourish in a disrupted world?

2022 so far has been the year that no one really saw coming. While many of us have learnt to live with Covid-19 and travel has rebounded to some extent, major disruptions to the global economy will have protracted impact on businesses and societies. Faced with a world where deglobalisation is a feature and strategic decoupling is a reality – how can Singapore thrive?

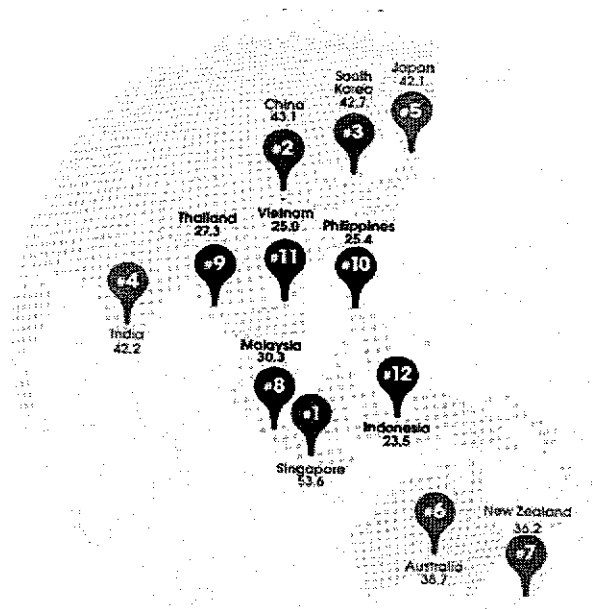
The challenges today are manifold – whether geopolitical, economic or social – with key examples being the Ukraine-Russia conflict, heightened inflation, deglobalisation and downward pressure on growth. Can Singapore thrive in a such a world? This depends on how well we manage our resources, and whether we can stay agile and grasp the opportunities that present themselves.

We will continue to improve long-term infrastructure to supercharge digital connectivity, ensure a conducive startup environment and provide access to capital, research and talent. Notably, we are on track to achieving nationwide 5G coverage by 2025 so that businesses and consumers can enjoy faster network speeds and new applications. Additionally, we are committed to maintaining a stable digital environment and defending the cybersecurity space for end-users. We are doing this by advocating for international cyber norms and being a trusted data hub.

We have also selectively brought in talents from around the world who can translate technological innovations into scalable and viable business models. As of end-July, we have attracted over 250 such talents from 37 countries, with experience in areas such as artificial intelligence (AI) and cybersecurity.

Adapted from: Singapore Economic Development Board, 12 October 2022

Figure 2: Artificial Intelligence Readiness Score (AIRS) & Ranks 2023 (Asia Pacific Region)



The AIRS measures how ready a country is in adopting Artificial Intelligence. The higher the score, the higher the readiness. # refers to the rank.

Source: Campaign Asia, 2023

- (a) (i) Using Table 2, calculate and show how the trade balance of India with China has changed between 2018 and 2022. [2]
- (ii) Suggest **one** possible reason for the change observed in the trade balance in **a(i)**. [2]
- (iii) Using the circular flow of income model, explain how the observed changes in the trade balance between 2018 and 2022 could have caused India's national income to fall. [4]
- (b) With reference to Extracts 5 and 6, discuss why some countries such as China pursue greater economic integration through RCEP while others, such as India, do not. [8]
- (c) (i) With reference to Extract 7, explain **two** causes of deglobalisation. [4]
- (ii) In the face of deglobalisation, discuss how supply side policies, such as building long term infrastructure and attracting talents, allow Singapore to achieve its macroeconomic objectives. [10]

[Total: 30]

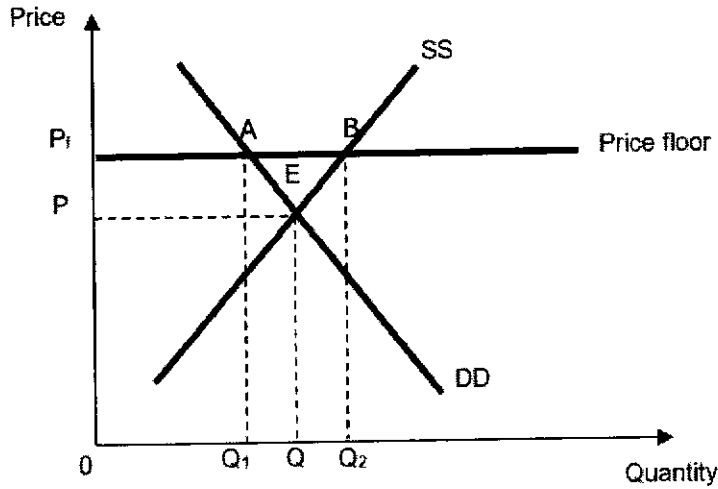
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Question 1: Towards sustainable fashion

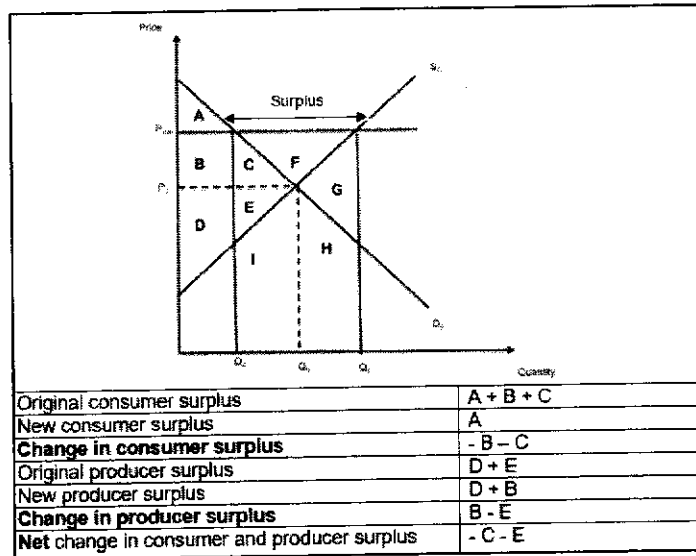
(a)	With reference to Table 1, what can be concluded about the change in world price of cotton in 2022.	[2]
	<p>Production increase indicating an increase in supply while consumption fell indicating a decrease in demand resulting in a surplus [1]. Hence overall price of cotton in 2022 fell [1].</p> <p>Or In 2022, there is a surplus as production is more than consumption [1]. A surplus result in a downward pressure on price hence overall price of cotton in 2022 fell [1].</p>	
(b)	With reference to Figure 1 and Extract 1, explain one demand and one supply factor that could impact world cotton prices.	[4]
	<p>DD factor: "Shoppers have increasingly opted for alternative fabric" (Extract 1). Polyester, which is a substitute for cotton, is "cheaper and quicker to produce", hence the lower cost of production increases supply of polyester resulting in a decrease in price of polyester [1]. Since polyester and cotton are substitutes, the lower price of polyester (increases quantity demand of polyester and decreases the demand for cotton leading to a decrease in world cotton prices [1].</p> <p>SS factor: As mentioned in Extract 1, "low prices for corn have pushed farmers in Brazil to plant cotton instead, resulting in a sharp rise in cotton production." This has increased the number of sellers producing cotton since cotton and corn are in competitive supply as they use the same resources for production. This increases the world supply of cotton leading to a decrease in world cotton prices [1].</p>	
(c)	Some governments thus implement programs such as minimum support price to support farmers (Extract 2).	
	Explain how the above price control supports farmers and one possible unintended consequence of the policy.	[4]
	<p>A price floor is a legally established minimum price. Farmers affected are permitted to sell the goods at prices at or above the minimum price. A price floor is only effective if it is set above the equilibrium price (or shown on diagram) [1]. A price floor that is set below the market equilibrium price has no effect at all because the market equilibrium price is still attainable.</p> <p>With the implementation of price floor, price of cotton increase from P to P_f. Quantity demand fell from Q to Q₁ and quantity supplied increases from Q to Q₂. There is a surplus of Q₁Q₂. Initially the farmers income is OPEQ. Assuming the government buys back the surplus Q₁Q₂, the income of farmers increases to OP_fBQ₂ [1].</p>	

Or Assuming that demand of cotton is price inelastic as with agricultural goods, The increase in price, because of the price floor, decreases quantity demanded less than proportionately. Overall income of farmers will increase to OP_1AQ_1 [1].



Unintended consequence (2m)

- Allocative inefficiency - deadweight loss of area CE due to changes in consumer and producer surplus

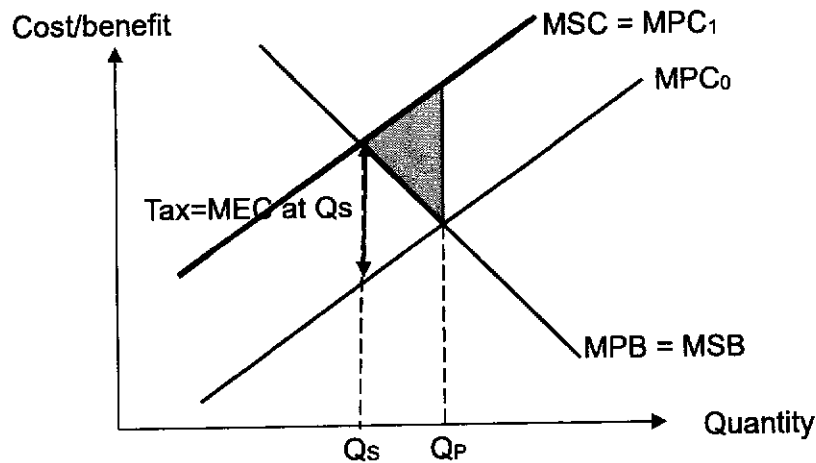


- A price floor might cause firms to be even more inefficient. This is because the high prices might not motivate firms to find a more efficient method of production and to reduce their cost of production, if their profits are being protected by price floors. The high price might discourage firms from producing alternative goods which they could produce more efficiently, or which are in higher demand, because these alternative goods have a lower equilibrium price.

<p>(d)</p>	<p>(i)</p>	<p>Synthetic material like polyester, for example, should be taxed to reflect its true cost (Extract 3). Explain what is meant by 'true cost' of polyester.</p>	<p>[2]</p>
		<p>The 'true cost' of a good in a market reflects all costs involved in producing and/or consuming it. The 'true cost' is the marginal social cost (MSC) which is the sum of Marginal Private Cost (MPC) and Marginal External Cost (MEC) [1]. In the production of polyester, the MPC is the costs incurred by the firm eg to purchase factors of production and the MEC is the healthcare cost to third parties, for example people living near the factories that produces polyester, as "it is derived from nonrenewable resources, requires a great deal of energy for extraction and processing and releases significant byproducts" (Extract 3), in the process of production, harmful toxic waste could be released in to the air and water. [1]</p>	
	<p>(ii)</p>	<p>Discuss the appropriateness of UK's government plan to tax polyester to ensure that its 'true cost' has been accounted for.</p>	<p>[8]</p>
		<p>Negative externality in production exists when there are costs borne by third parties due to the production of a good or service, for which they are not compensated. Due to the negative externality in production, the social costs of producing polyester are higher than the private cost ($MSC > MPC$). The MSC lies above the MPC by a vertical distance equal to marginal external cost (MEC). Assuming no positive externalities, the marginal private benefits (MPB) is equal to marginal social benefits (MSB). In the pursuit of self-interest, the firm considers only its private benefits and private costs when producing polyester. This leads to the market equilibrium output Q_P, where $MPB = MPC$. However, the socially optimal output is given by Q_S, determined by the intersection of the MSB with the MSC. Since $Q_P > Q_S$, the firm over-produces polyester, leading to an over-allocation of resources leading to allocative inefficiency and hence market failure.</p> <p>How taxation works to solve market failure The government could impose a tax per unit on production that is equal to the marginal external cost (MEC). An indirect tax on production has the same effect as an increase in the cost of production of the firm. Thus, the firm is forced to internalise the external costs it inflicts on third parties. The firm will</p>	

reduce its output level to the socially optimum output because of the higher cost and lower profits, *ceteris paribus*.

The free market originally produces at Q_P . The government could impose a tax per unit equals to MEC at Q_S . In doing so, the tax forces firms to internalise the external costs caused by the firm. This shifts the MPC curve vertically upwards to $MPC+Tax$ by the amount of tax, which now coincides with MSC. As a result, firms produce at Q_S . Hence, allocative efficient output is achieved, and the initial deadweight loss is eliminated.



Limitations (therefore inappropriateness) of the policy

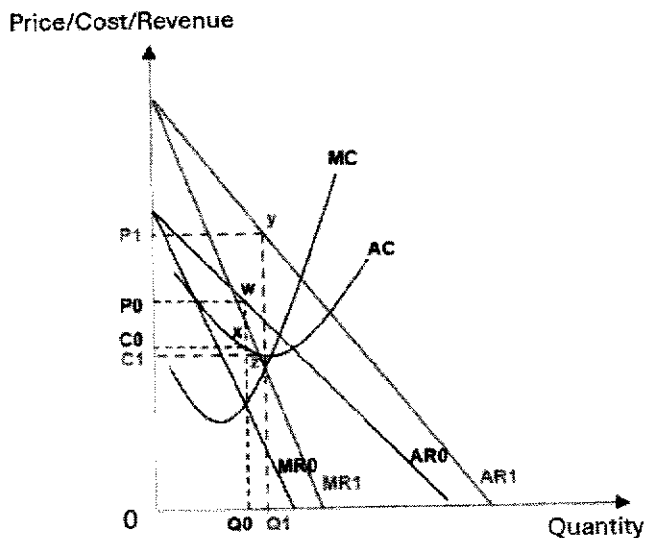
The main problem of using taxes is a lack of information of how much to tax. The damage from pollution is extremely difficult to assess, especially so in monetary terms. An over-estimation or under-estimation of the size of the external cost would lead to over- or under-taxation, which would mean either a less than (due to overestimation) or more than social optimum level of output is produced. However, it is not feasible to use different tax rates for different firms. Each factory produces varying amounts of externality. A newer polyester factory might emit less pollutant due to the use of pollutant abatement technologies. Hence, the MEC caused would be less compared to the older factories. It would be costly and difficult to measure and impose a different tax rate on different firms.

Evaluation

Overall, a tax is appropriate as it targets the root cause of the problem of overproduction of polyester and forces firms to reduce production to the optimal level. Moreover, the tax is also appropriate in the long run, if firms find it too costly to pay taxes for their emissions, they may choose to switch to cleaner methods of production thereby reducing MEC. However, there is limit to which the tax per unit can be increased and a very high tax would hurt the international business competitive of polyester firms and its related products such as clothing in face of stiff international competition from big textile producing countries such as China and India.

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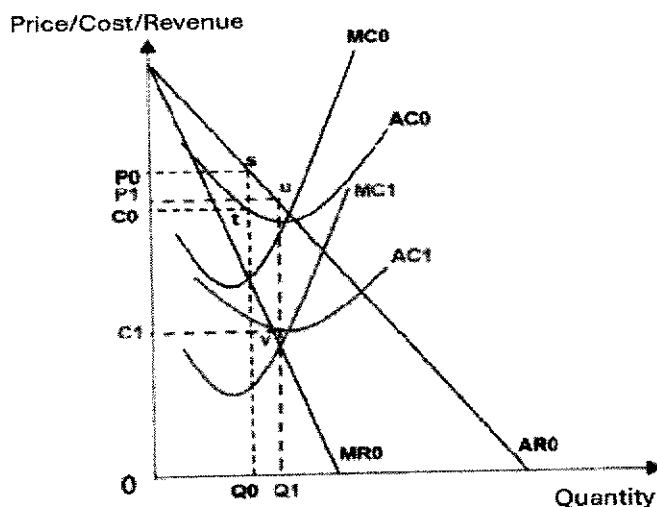
	<table border="1"> <tr> <th colspan="3">Level of response and descriptors</th> </tr> <tr> <td>L2</td> <td>Answers in this level consider how tax as a policy works and a consideration of the limitations in implementing the policy to achieve allocative efficiency in the market for polyester.</td> <td>4-6</td> </tr> <tr> <td>L1</td> <td>Answers in this level show limited understanding of the workings of the policy and its limitations.</td> <td>1-3</td> </tr> <tr> <th colspan="3">Evaluation</th> </tr> <tr> <td>E</td> <td>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</td> <td>1-2</td> </tr> </table> <p><i>Alternative: Negative externality in consumption (the firms are the consumers of polyester) is also acceptable</i></p>	Level of response and descriptors			L2	Answers in this level consider how tax as a policy works and a consideration of the limitations in implementing the policy to achieve allocative efficiency in the market for polyester.	4-6	L1	Answers in this level show limited understanding of the workings of the policy and its limitations.	1-3	Evaluation			E	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	1-2	
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(e)	In light of the mass production (Extract 3) and changing Gen Z behaviour (Extract 4), discuss the extent to which a fashion firm like Adidas should switch over to manufacturing more sustainable clothing.	[10]															
	<p>Like any other firms, fashion firm like Adidas A main objective is to profit maximise. This means that they will produce at profit maximising output, Q_{pm}, where marginal revenue (MR) = marginal cost (MC). They will then charge the maximum price, P_m, which consumers are willing to pay at Q_{pm}. Whether or not a fashion firm should switch over to manufacturing more sustainable clothing would depend on the potential profits to be gained.</p> <p>Point 1: Adidas <u>should switch</u> to manufacturing more sustainable clothing because Gen Z changing behaviour increases demand for sustainable clothing which leads to an <u>increase in profits</u> for firms</p> <p>From Extract 4, there is a change in consumer behaviour towards sustainable clothings especially Gen Z as they "prefer to buy sustainable brands and are most willing to spend 10 percent more on sustainable clothing than fast fashion". These new age consumers demand more sustainable clothing, leading to an increase in AR (=DD) from AR_0 to AR_1 and MR from MR_0 to MR_1 curve respectively. Assuming the firm is pursuing a profit maximising objective, this will result in an increase in output from Q_0 to Q_1, where $MR_1 = MC$. Firms will then charge the maximum price that consumers are willing to pay at Q_1, which is now P_1. Thus, the change in tastes and preferences towards sustainable clothing will result in an increase in both a firm's output and price. Assuming cost remains constant, profits increases from P_0WXC_0 to P_1YZC_1.</p>																



IEV:

The extent of the rise in AR and MR depends on whether sustainability is a temporary fad or here to stay. Given the rapid irreversible degradation of the environment and growing concerns of Gen Z, the shifts will likely be significant as the subsequent cohorts of consumers will also likely have such strong concerns and desire.

Point 2: Adidas should NOT switch to manufacturing sustainable clothing because continuing with mass production is a more profitable option as it allows firms to lower cost through IEOS



	<p>Mass production allow firms to lower average cost through internal economies of scale. Internal economies of scale can be reaped through for example, bulk buying of raw materials as the scale of production is large. The discount obtained from buying a large quantity allows the firms to have cost savings thus lowering the average cost of production. This is reflected by a fall in AC and MC curves from AC_0 and MC_0, to AC_1 and MC_1. At $MC_1=MR_0$, the profit-maximising output will be at Q_1, with the price lower at P_1. Profits increase from $0P_0SQ_0$ to $0P_1UQ_1 \rightarrow$ which is not attainable if Adidas had switched to producing small quantity of sustainable clothing.</p> <p>IEV: However, if produced at too large a scale, the firms could face internal diseconomies of scale instead. This could come perhaps from overproduction leading to the wear and tear of machineries hence the firms need to incur vastly more cost to repair or replace the machines. The extent of increase in profits through continuation with mass production might be much less than expected.</p> <p><u>Summative EV</u></p> <p>On evaluation, in the short run, firms might not want to switch to producing more sustainable clothing as the extent of increase in demand from consumers cannot be ascertain. Firms also incur more cost while they switch to producing more sustainable clothing, for example, having to source for new sustainable supply such as cotton. The increase in cost might be much more than the gains. Instead, a possible strategy for the firm could be to collaborate with other firms such as the example given in Extract 4 of Allbirds and Adidas, where they work together on creating shoes with low carbon footprint. This would allow them to reap economies of scales and lower average cost by doing so. Nonetheless, firms should start the process of sourcing as the sustainable clothing is the trend and would be here to stay in the long run. Firms should start to accumulate expertise in the production of sustainable clothing and could gain more profits in the future.</p> <p><i>Alternative:</i></p> <p><i>R1: Changing behavior plus lower cost through mass production of sustainable clothing</i></p> <p><i>R2: Cost might also increase as sustainable material are more expensive</i></p>	
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Level of response and descriptors		
L2	Answers in this level consider how firms profit changes due to changing demand and cost conditions. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence.	4-7
L1	Addresses only some question requirements accurately. Answers in this level show limited understanding of how firms' profits are affected.	1-3
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis.	1-3

Question 2: The age of deglobalisation

(a)	(i)	Using Table 1, calculate and show how the trade balance of India with China has changed between 2018 and 2022.	[2]
		The trade balance is in an increasing deficit [1] from -58.04 billion USD to -101.28 billion USD. [1]	
	(ii)	Suggest a possible reason for the change observed in the trade balance in a(i).	[2]
		A rise in India's economic growth, national income and purchasing power could have resulted in an increase in demand for Chinese goods by India, which results in an increase in import expenditure and a worsening of the trade balance of India with China. Mark Scheme 1m for identifying reason 1m for explaining how X or M is affected using PED or DD/SS analysis	
	(iii)	Using the circular flow of income model, explain how the observed changes in the trade balance between 2018 and 2022 could have caused India's national income to fall.	[4]

	<p>Circular Flow Model</p> <p>The increase in import expenditure as seen in table 2 will lead to a rise in withdrawals. The fall in export revenue will lead to a fall in injection. Assuming the economy was in equilibrium initially i.e. injections = withdrawals, these 2 changes will result in injections being less than withdrawal causing a disequilibrium in the economy as it faces an unplanned accumulation of stocks/inventories.</p> <p>Firms cut back on production by hiring less resources resulting in a fall in income this will induce less consumption in the economy. Since one person's spending becomes another person's income, the reduced consumption by the first group of factor owners will now result in a reduction in income for another group of factor owners causing multiple falls in national income.</p>													
(b)	With reference to Extracts 5 and 6, discuss why some countries such as China pursue greater economic integration through RCEP while others, such as India, do not.	[8]												
Intro	<p>Question Analysis</p> <table border="1" data-bbox="368 1534 1345 1798"> <tr> <td rowspan="3">Approach</td> <td>Command Word</td> <td>Discuss why- balanced + EV</td> </tr> <tr> <td>Start point</td> <td>Greater economic integration</td> </tr> <tr> <td>End Point</td> <td>BUGP (benefits and costs)</td> </tr> <tr> <td rowspan="2">Content and Context</td> <td>Content</td> <td>Benefits & Costs of greater economic integration</td> </tr> <tr> <td>Context</td> <td>Ext 5 & 6, China & India</td> </tr> </table>	Approach	Command Word	Discuss why- balanced + EV	Start point	Greater economic integration	End Point	BUGP (benefits and costs)	Content and Context	Content	Benefits & Costs of greater economic integration	Context	Ext 5 & 6, China & India	
Approach	Command Word		Discuss why- balanced + EV											
	Start point		Greater economic integration											
	End Point	BUGP (benefits and costs)												
Content and Context	Content	Benefits & Costs of greater economic integration												
	Context	Ext 5 & 6, China & India												

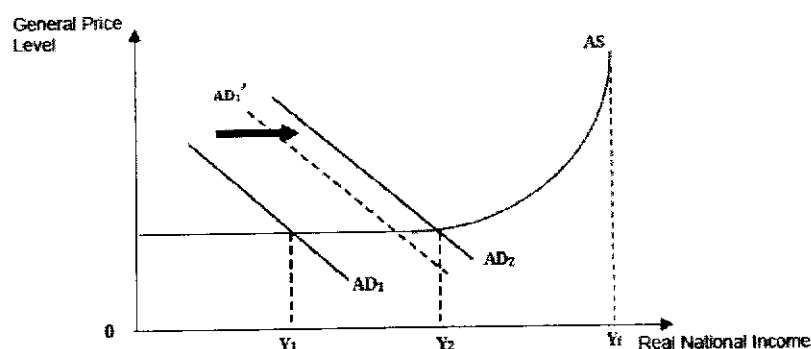
The RCEP is a form of free trade agreement (FTA) which makes trade and investment between 2 or more economies easier.

R1: Countries like China pursue greater economic integration through RCEP due to the benefits it brings.

Such FTAs "ease trade in goods and services and facilitate the flow of foreign investments" (Ext 5) results in a rise in export revenue as well as investments which will in turn result in a rise in AD.

AD increases from AD₁ to AD₂ as seen in Figure 1 below. This increases real national income via the multiplier effect from Y₁ to Y₂, leading to actual growth, as well as lower demand-deficient unemployment as demand for labour increases. The rise in export revenue also improves the BOT position.

Figure 1



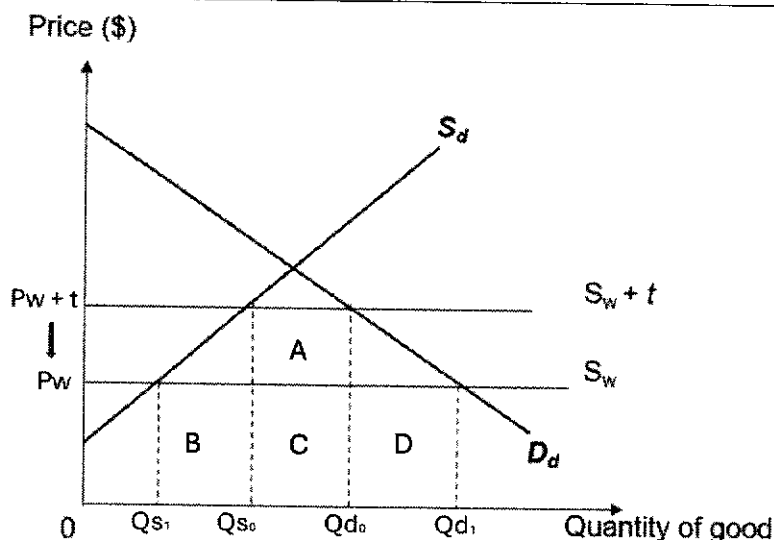
Alternative R1

Students might also mention how FTAs help maintain "open and connected supply chains" (Ext 5) resulting in lower prices of imported raw materials therefore resulting in a fall in production costs and therefore increasing the SRAS, easing cost push inflation.

R2: Countries like India do not pursue greater economic integration through RCEP due to the costs it brings.

FTAs will result in the removal of tariffs causing the world price to fall from $P_w + t$ to P_w . This fall in price will result in a rise in domestic quantity demanded and a fall in domestic quantity supplied. Import volume will increase from $Q_{s0}Q_{d0}$ to $Q_{s1}Q_{d1}$ as seen in Ext 6 where India is "flooded with cheap made-in-China goods" (Ext 6). This will increase import expenditure (M) from areas A+C to area (B+C+D) and possibly worsen a country's BOT.

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The fall in domestic production from Q_{s_0} to Q_{s_1} will also result in increased unemployment in the related industries as the affected sector reduces its demand for factor inputs such as labour. (Tariffs diagram is required to demonstrate worsening of BOT)

Alternative R2:

1. India do not join RCEP to prevent China from dumping goods into India. (Explanation of what dumping is and its purpose as well as effects on India is required.)
2. India do not join RCEP to protect its infant industries. (Explanation of what infant industries are and why they are not able to compete due to the lack of IEOS is required.)
3. India do not join RCEP to prevent structural unemployment. (Explanation of how India might have lost its comparative advantage in the production of agriculture and textile and that tariffs are required to prevent firms from shutting down which will lead to unemployment.)

SEV:

Countries like India should not pursue greater economic integration through RCEP in the short run due to its inability to compete with "other big countries" such as China as their key sectors may not be fully developed.

The impact on unemployment in India due to the RCEP will be severe. This is because the possible influx of "agriculture and textiles" (Ext 6) goods from other countries will have a big impact on employment rates as these are "key employment sectors" in India.

The Indian government should consider intervening in the further development of key sectors such as agriculture and textiles to the point whereby they will be able to compete with their foreign competitors.

Once this is achieved in the long run, countries such as India should pursue greater economic integration as they will be able to reap its benefits.		
Mark Scheme		
Level of response and descriptors		
L2	Question requirements are interpreted accurately. Considers both benefits & costs of freer trade due to FTA to an economy. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence.	4-6
L1	Listing of theories with little to no reference to question and/or case materials Focusing only on either the benefit or cost of FTA, hence lacking in breadth.	1-3
Evaluation		
E2	2 evaluative insights with respect to the question OR 1 well-developed insight.	2
E1	1 evaluative insight that is not further developed.	1
c	(i) With reference to extract 7, explain two reasons for deglobalisation.	[4]
	Deglobalisation occurs when there is "lower trade flows, capital flows and labour flows" (Ext 7) Any 2 reasons 1. Disruptions to global supply chains due to the Russia-Ukraine war could disrupt the flow of goods and services. This could lead to a fall in demand for both exports and imports and thus reduce export revenue and import expenditure which resulted in deglobalisation. 2. Such disruptions could also affect the flow of factor inputs such as raw materials causing average costs to rise. This reduction of profits could have an effect on returns of investment causing a fall in capital flows. 3. Global events such as "financial crisis, trade wars" could also expose economies to external shocks. Such events reduces investor's confidence causing the flow of FDI to fall.	
	(ii) In the face of deglobalisation, discuss how supply side policies, such as building long term infrastructure and attracting talents, allow Singapore to achieve its macroeconomic objectives.	[10]
<u>Question Analysis</u>		

Approach	Command Word	Discuss – balanced + EV
	Start point	Building long term infrastructure and attracting talents
	End Point	Macroeconomic objectives
Content and Context	Content	Macroeconomic policies
	Context	Singapore in the face of deglobalisation

Intro (Establish the problems of deglobalisation)

Deglobalisation occurs when there is “lower trade flows, capital flows and labour flows” (Ext 7). Being a small economy which is highly dependent on external trade and capital flows, Lower trade flows will result in a fall in demand for Singapore’s exports, leading to a fall in growth rates. Similar, reduced access to important FOPs will also increase the price of FOPs, increasing costs of production and reducing SRAS, worsening cost push inflation. This will worsen macroeconomic problems faced by Singapore, such fall in growth rates, as well as rising inflation as seen in table 3.

By building long term infrastructure and attracting talents, Singapore will be able to tackle these issues and at the same time achieve other economic goals such as a lower rate of unemployment.

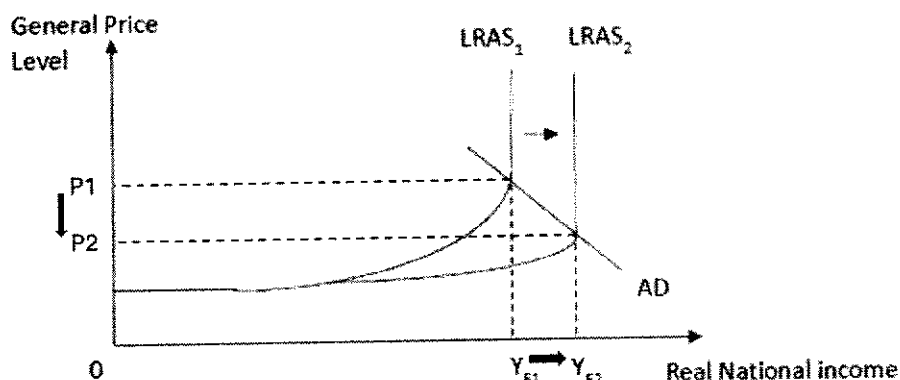
R1: Supply side policies, such as the building long term infrastructure and attracting talents will lead to a rise in LRAS thus allowing Singapore to achieve its macroeconomic objectives of potential economic growth as well as low inflation.

New infrastructures such as “nationwide 5G coverage” allows “businesses and consumers to enjoy faster network speeds and new applications” (Ext 8). These infrastructures also allow Singapore to tap on Artificial Intelligence (Figure 2) resulting in a rise in productivity. As more goods and services can now be produced by the economy, there will be a rise in productive capacity.

The influx of talents not only increase the quantity of labour but also the overall quality as they can “can translate technological innovations into scalable and viable business models” (Ext 8). This will also increase the productive capacity of the country.

When the productive capacity of the economy increases, the full-employment national output level will increase (from Yf1 to Yf2), as the LRAS shifts rightwards (from LRAS1 to LRAS2) as shown in figure 2. This rise in Yf leads to potential economic growth as the economic is now able to produce more goods and services.

Figure 2



There will also be a fall in GPL from P_1 to P_2 due to the increased in the level of spare capacity, dampening demand-pull inflation. Firms now do not need to compete for limited resources bringing down costs and therefore prices.

Limitations + IEV

In the case of supply-side policies, time lag is probably its biggest limitation. The rise in productive capacity due to the building of infrastructure takes longer time to be realised as they often involve structural changes to the economy. The urgent issue of high inflation due to supply chain disruptions resulting in deglobalisation might not be addressed promptly. This is a big concern as the rising prices of essential goods and service will result in a large impact on the material SOL of the people and therefore needs to be addressed immediately

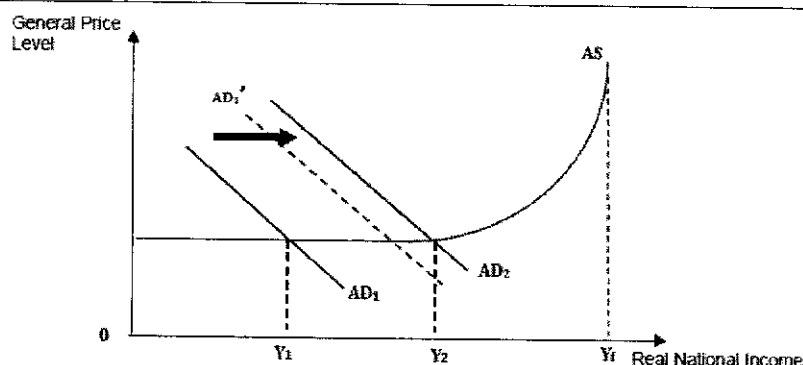
R2: Supply side policies, such as the building long term infrastructure and attracting talents will lead to a rise in AD thus allowing Singapore to achieve its macroeconomic objectives of actual economic growth as well as low unemployment.

The building of infrastructure will lead to a direct rise in government expenditure. These infrastructures will also attract foreign direct investments into the country resulting in a rise in investment expenditure. The influx of talents will also increase consumption expenditure due to a rise in number of households. As these are components of AD, this will result in a rise in AD.

AD increases from AD1 to AD2 as seen in Figure 1 below. This increases real national income via the multiplier effect from Y_1 to Y_2 , leading to actual growth, as well as lower demand-deficient unemployment as demand for labour increases.

Figure 1

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**Limitations + IEV**

The extent to which real national income increase by is determined by the size of the multiplier (k). The size of the multiplier is determined by the marginal propensity to withdraw (MPW), which is the sum of MPS, MPM and MPT.

The k size of Singapore is small. It has a small domestic consumer base and a heavy reliance on imports. This is due to a large MPM (due to being heavily dependent on imports given its resource constraints) and high MPS (due to compulsory savings via CPF). The rise in G and I will lead to smaller multiple increase in real national income therefore limiting the effectiveness of the policy.

SEV: FTA as supporting policy

Even though supply side policies are effective in addressing some of the problems brought about by deglobalisation, especially in the long run, Singapore should supplement this by continuing to sign FTAs such as the RCEP. This will result in increase in demand for Singapore's exports, increase its export revenue (which will result in actual growth via an increase in AD) as well as increasing the inflow of cheaper imports (especially factor inputs so as to ease inflation). Given Singapore's small domestic market and heavy reliance on imports, the signing of more FTAs will still be an important supporting policy in the face of deglobalisation.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
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	L2	Full display of AO1, AO2 and AO3 skills: For an answer that shows well-developed explanation of both form of supply-side policies and their limitations in achieving the intended macroeconomic goal (at least two). Answer is well-contextualised to deglobalisation.	5-7
	L1	Limited display of AO1 and AO2 skills: For an answer that is mostly irrelevant, where there is some knowledge of ADAS, but only contains a few valid points made incidentally. Basic errors of theory may be evident.	1-4
	Level	Evaluation	Marks
	E2	For an evaluation that provides one or two evaluative statements that are well developed, based on prior analysis. A summative statement and a recommendation are also provided.	2-3
	E1	For an evaluative statement that is somewhat developed.	1

Essays

(a) Explain how a profit-maximising firm sets its price and output decisions and why the firm might practise price discrimination. [10]

(b) In the e-commerce market, firms like Amazon and Alibaba are facing growing competition due to increasing ease of setting up online shops.

Discuss the impact of the growing competition on efficiency outcomes. [15]

Qn 1(a) (Question Analysis)

Approach	Command Word	Explain how
	Start point	R1: A profit-maximising firm R2: Reasons for price discrimination
	End Point	R1: Price and output setting decisions R2: Price discrimination
Content and Context	Content	<ul style="list-style-type: none"> Profit-maximising objective Price discrimination
	Context	A firm

Suggested Response**Introduction**

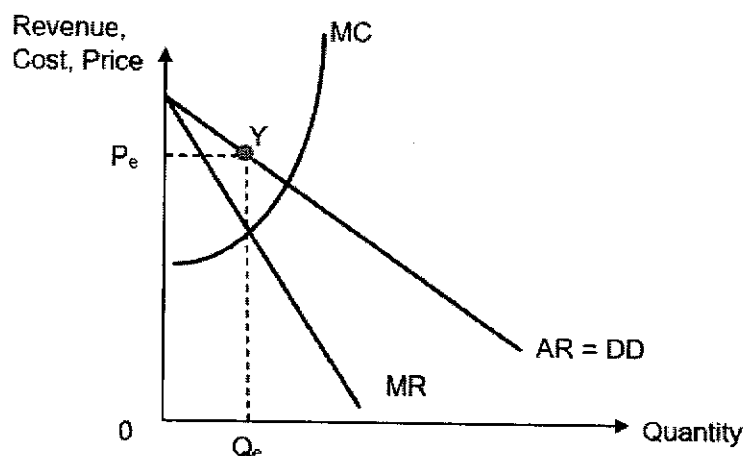
- The traditional assumption is that a firm will profit-maximise. The condition for profit maximization is when an extra unit of output produced is where marginal revenue (MR) = marginal cost (MC). A price-setting firm with market power is assumed.

Requirement (1) – How a profit maximizing firm sets its price and output decision.

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- A price setting firm which has market power faces a downward-sloping demand/average revenue (AR) curve because it has control over price. Thus, $MR < AR$ and the slope of MR is twice that of AR curve. MR is the additional revenue it receives from selling the extra unit.
- Average cost (AC) = Total Cost/Quantity of output. Another crucial cost is MC = the additional cost incurred from producing the extra unit. When a firm produces 1 more unit of output, it incurs extra costs of production associated with the resources that have had to be used such as labor costs and costs of electricity.
- To maximise profits, a firm will set its price P_e and output Q_e based on the $MR = MC$ condition (the marginalist principle). With reference to Figure 1,
 - At Q_1 , whenever $MR_1 > MC_1$, an extra unit of output adds more to total revenue than it does to total cost, so profits will rise. So firm increases output.
 - At Q_2 , whenever $MC_2 > MR_2$, \rightarrow so by reducing output, not making this extra unit, then total profit must increase.
 - Only at Q_e and P_e , produce the very last unit where $MR = MC$, profits is maximised and at its peak.

Figure 1: Profit-maximising outcome for a price-setting firm



Requirement (2) – Why the firm might price discriminate

- Price discrimination means the charging of different prices to different customers or for different units of the **same product** when there are **no differences in costs**.
- The most common form of price discrimination is third degree price discrimination.
- A firm might price discriminate because the conditions for price discrimination are met and allow the firm to do engage in such a pricing strategy:
 - The seller has **some degree of monopoly power** (some degree of market imperfection)
 - The markets can be effectively segmented based on criteria such as location, timing, income, age (so that resale of the good is impossible)

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- The price elasticities of demand differ for different markets (so that the seller will sell at a higher price in the market with a more price inelastic demand and a lower price in the market with a less price inelastic demand to maximise his total revenue)
- Price discrimination enables the firm to earn higher revenue, and assuming cost remains the same, the firm will enjoy higher profits from both markets as compared to charging a single price. Instead of charging a uniform P_e (the profit maximizing price) to all consumers, the firm can:
 - A higher price charged in the market with price inelastic demand will result in a less than proportionate fall in quantity demanded, therefore total revenue increases.
 - The lower price charged in the price elastic demand market will result in more than proportionate rise in quantity demanded, therefore total revenue increases.

Mark Scheme

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> ● Well elaborated and accurate explanation of the analysis of profit maximisation + price discrimination ● Sound profit maximisation analysis and conditions for price discrimination 	8-10
L2	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> ● Accurate but under-developed explanation of the above. ● One sided, imbalanced response with no detailed explanation of profit maximization OR price discrimination. 	5-7
L1	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> ● Answer is mostly irrelevant, with wrong/missing application of ● Shows some knowledge of the profit maximization / price discrimination but lacks elaboration. 	1-4

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(b) In the e-commerce market, firms like Amazon and Alibaba are facing growing competition due to increasing ease of setting up online shops.

Discuss the impact of the growing competition on efficiency outcomes. [15]

Part (b) (Question Analysis)

Approach	Command Word	Discuss – balanced answer with evaluation
	Start point	Growing competition
	End Point	Efficiency outcomes
Content and Context	Content	<ul style="list-style-type: none"> • Imperfect market • Allocative efficiency • Productive efficiency • Dynamic efficiency
	Context	E-commerce market

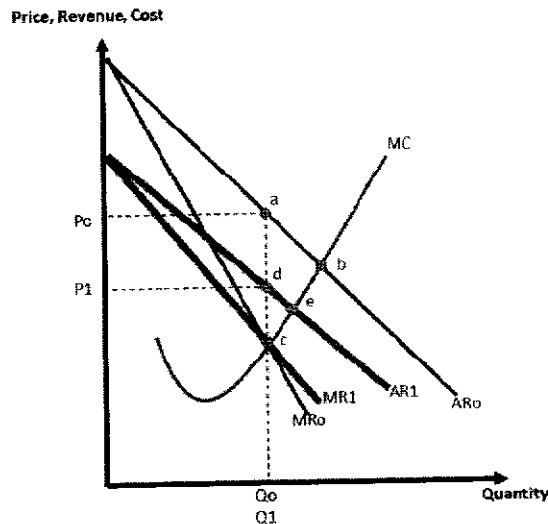
Suggested Response

Introduction

- There are three types of efficiency outcomes – allocative, productive and dynamic efficiencies.
- With the increasing ease of setting up online shops, the barriers to entry in the e-commerce market are now lower, allowing new firms to enter the market. As the number of firms in the market increases, the incumbent firms like Amazon and Alibaba are facing growing competition.

Requirement (1) – Impact on allocative efficiency

- Growing competition makes a market more price competitive as the number of sellers / online retailers
- Demand for e-commerce of the dominant firm such as Amazon and Alibaba to fall and become more price elastic as the number of substitutes in the market increases → hence reducing its monopoly power/market power to abuse its market dominance by raising price and restricting output. With more competition, the dominant firm will compete by reducing price towards MC, hence reducing allocative inefficiency.
- Initially at AR₀ and MR₀ before entry of more competitors, the deadweight loss area is abc. Loss of societal welfare is high due to high market power as wielded by the monopoly.
- With government's policy of lowering barriers to entry, more firms enter the market, resulting in the incumbent firm's AR (due to fall in demand) and MR to fall to AR₁ and MR₁.
- Conceptually: P close to MC
- Diagrammatically: smaller triangle DWL area cde → societal welfare rises and hence society is better off.

Figure 3: Impact of growing competition on allocative efficiency**Intermediate Evaluation (1) – To what extent is the allocative efficiency**

- The **extent** of the positive impact on allocative efficiency depends on how much the barriers to entry are lowered in the e-commerce market. How different forms of barriers to entry are lowered and increasing the ease of entry in the e-commerce market:
 - Online firms can avoid high rents for shop space in popular locations.
 - More firms e.g. Shein are able to adapt well and embrace new technology and built their own platforms and apps, allowing them break into the e-commerce market.
- The **extent** of the positive impact on allocative efficiency depends on whether the existing incumbent firms like Amazon and Alibaba are able to raise the barriers to entry through:
 - Using advertising and marketing to tap on consumers' brand loyalty and cognitive biases which give these brand names substantial market power ie small fall in demand and demand is still fairly price inelastic.
 - Through various aggressive pricing / non-pricing strategies that deter new entrants.

Requirement (2) – Impact on productive efficiency / dynamic inefficiency

- Productive efficiency from firm's point of view: the growing competition will force the incumbent to be more productive efficient (to make efficient use of its resources) in order to maximise profits, that is, it will ensure price charged is on its AC curve ie a given level of output is produced at the lowest cost possible.
- Growing competition → lower profits → Diagram → less W&A to fund research and development and drive forward product and process innovation → dynamic inefficiency e.g. AI, payment and cloud services.

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Intermediate Evaluation (2) – To what extent is the productive efficiency / dynamic inefficiency?

- Productive inefficiency from society's point of view may occur → growing competition may mean that firms will now produce on a smaller scale of production → would not be able to benefit and exploit from economies of scale eg in purchasing and distribution → would not be able to produce on the minimum point of LRAC, but output produced will be further up along the upward-sloping of LRAC.
- The **extent** of dynamic inefficiency will depend on how much the supernormal profits of existing incumbent firms are being eroded → Amazon and Alibaba are still enjoying giant market dominance and thus enormous supernormal / abnormal profits → both are still W&A to carry out R&D and produce innovations

Summative Evaluation

- **Stand:** In conclusion, growing competition is likely to have positive impact on allocative efficiency and productive efficiency and maybe a negative impact on dynamic efficiency.
- **Justification:** Given that the e-commerce market is becoming more contestable, the positive reinforcement on allocative and productive efficiencies will increase to a greater extent.
- **Recommendation:** Consumers benefit as prices are lowered online and products and services become more innovative. However, some firms like Amazon and Alibaba have been able to build substantial market power in the e-commerce market and new firms would find it challenging to compete their market dominance.

Mark Scheme

2 Between 2009 and 2023, the price of dental services in Singapore had risen by 2.9% annually. Although subsidised dental services are available at polyclinics, private dental clinics remain a viable option due to shorter waiting time.

- (a) Explain why a fall in number of dentists and a rise in incomes of many households are **each** expected to cause a rise in expenditure on dental services. [10]
- (b) Discuss whether subsidy is likely to be the most effective way the Singapore government can make dental services remain affordable for all Singaporeans. [15]

Suggested answers (a)

Question Analysis Framework		Details
Approach	Command word	Explain why
	Start point	<p>R1: Explain how fall in number of dentists affect supply of dental services and apply PED analysis to determine the rise in dental expenditure</p> <p>R2: Explain rise in incomes of many households affects demand of dental services apply YED analysis to determine the rise in dental expenditure</p>
	End point	Rise in dental expenditure (PXQ)
Content & Context	Content (Scope of coverage)	<ul style="list-style-type: none"> • Determinants of demand and supply factors • Price adjustment process • PED and YED analysis
	Context	Singapore context

Introduction

- The rise in dental expenditure in Singapore can be analysed through demand and supply framework, along with price elasticity of demand (PED) and income elasticity of demand (YED) concepts. Supply factors such a fall in number of dentists raise the price of dental services while rise in household incomes drive demand and rise in both price and quantity of dental services. PED and YED will help explain consumer responses to price and income changes, offering insights into the increased dental expenditure.

R1: fall in number of dentists raises supply of dental services + PED analysis → rise in dental expenditure

- **Point:** A fall in the number of dentists reduces the supply of dental services as less dentists are available to provide dental services (can be seen as fall in number of suppliers).

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- Explain (explain price adjustment process with diagram):** This shifts the supply curve leftwards from S_0 to S_1 and creates a shortage of distance E^*E_0 at price P_0 as shown on Figure 1 below. This shortage leading to a rise in prices as the market adjusts to the reduced availability of services; consumers will be less incentivised to consume at higher price P_1 and quantity demanded will fall along demand curve D_0 . On the other hand, the upward pressure in price from P_0 to P_1 will incentivise dentists to increase their quantity supplied of services (perhaps through longer operating hours) along the new supply curve S_1 . This process will continue until a new market equilibrium E_1 is attained where a higher equilibrium price P_1 and lower equilibrium quantity Q_1 are attained.

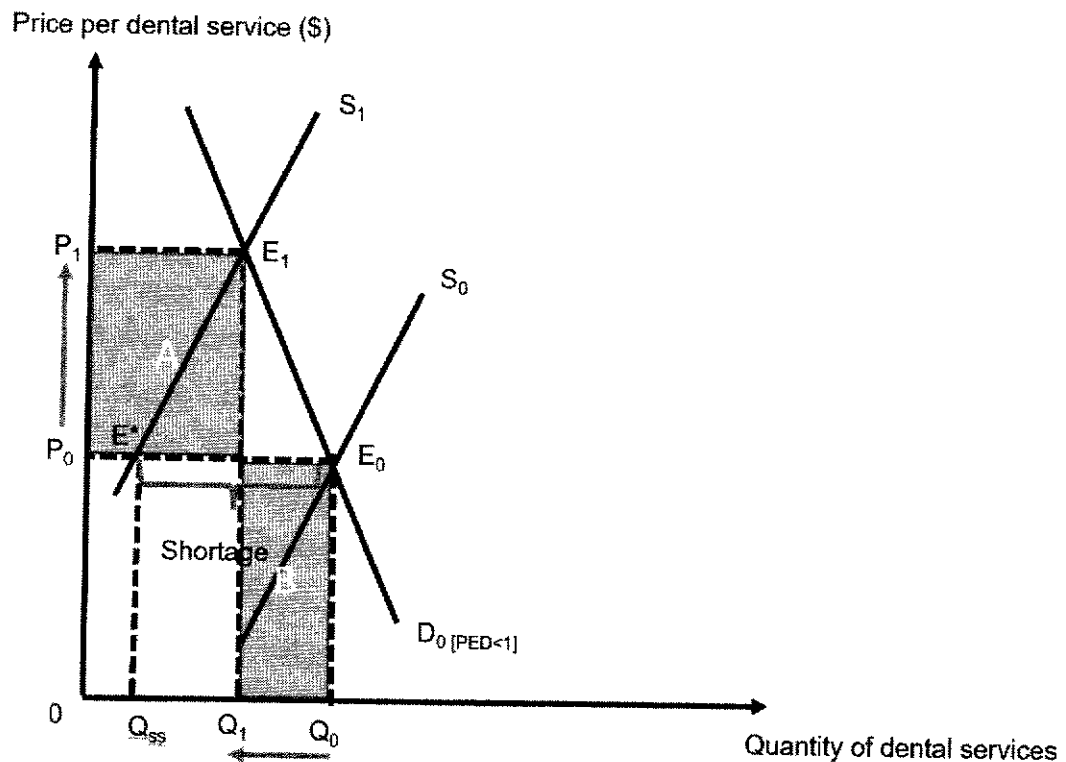


Figure 1: Fall in supply of dental services

- Explain (explain with PED Analysis):** The demand for dental services is likely to be relatively price inelastic, as there are few close substitutes available. In cases of a dental 'crisis', consumers generally have limited options: they can either wait for several months to secure a consultation at a polyclinic or visit a private dental clinic, where appointments also need to be scheduled in advance. Consumers rarely attempt to address dental issues on their own. Consequently, the price elasticity of demand (PED) for dental services is likely to have a low absolute value, typically between 0 and 1, reflecting that consumers are relatively unresponsive to changes in price. As shown in Figure 1, an increase in price would hence result in a less than proportionate decrease in the quantity demanded, from Q_0 to Q_1 .

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- **Link:** This would result in higher overall expenditure of area $0P_1E_1Q_1$ of dental services, where the increase in expenditure (area A) outweighs the fall in expenditure (area B) on Figure 1. Thus, the combination of fall in number of dentists and price inelastic demand can drive up dental expenditure.

R2: rise in incomes of many households raises demand of dental services + YED analysis to determine the rise in dental expenditure

- **Point:** An increase in household incomes leads to a rise in the demand for dental services, as dental care is typically regarded as either a normal necessity (with an income elasticity of demand, YED, between 0 and 1) or a luxury good (YED greater than 1), both of which have a positive YED. Necessity dental services, such as routine check-ups, fillings, and scaling and polishing, exhibit lower income responsiveness. In contrast, luxury dental services, such as braces, crowns, or teeth whitening, are more income-sensitive and experience a greater increase in demand as incomes rise.
- **Explain (explain with YED Analysis):** As household incomes rise, more consumers are choosing luxury cosmetic dental services, such as Invisalign and ceramic crowns, which can cost at least \$4,000. Therefore, the income elasticity of demand (YED) for these dental services is likely to be high, meaning that demand increases more than proportionately with income. This results in a rightward shift of the demand curve from D_0 to D_1 , as illustrated in Figure 2. Given higher demand, ceteris paribus, both equilibrium price and quantity would rise, leading to an increase in total dental expenditure, represented by area $0P_1E_1Q_1$.

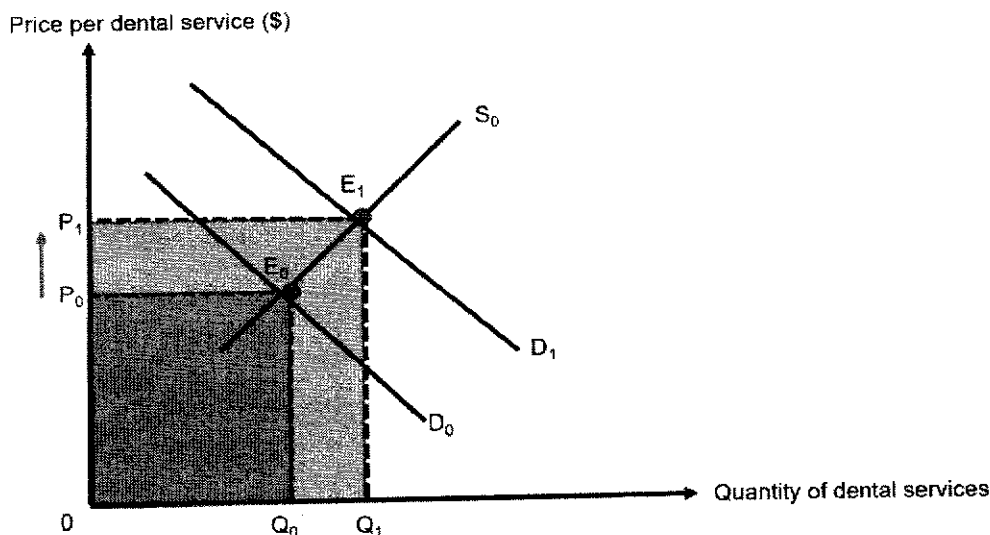


Figure 2: Rise in demand of dental services

- **Link:** Thus, the combination of rise in household incomes and income elastic demand can drive up dental expenditure.

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Mark out of 10	Level / Descriptors
8 - 10	L3 <ul style="list-style-type: none"> • Display of key adjustment processes • Application of relevant elasticity concepts – PED and YED • Need to link to change in P, Q and total expenditure + area of expenditure
5 - 7	L2 <ul style="list-style-type: none"> • Accurate but under-developed explanation of the above • No separate dd/ss analysis but instead did combined shifts without application of PED & YED
1 - 4	L1 <ul style="list-style-type: none"> • Answer is mostly irrelevant, with wrong/missing application of DD/SS analysis. • Applied irrelevant concepts eg. PES or XED/ market failure

- (b) Discuss whether subsidy is likely to be the most effective way the Singapore government can make dental services remain affordable for all Singaporeans. [15]

Suggested answers (b)

Question Analysis Framework		Details
Approach	Command word	Discuss
	Start point	R1: Subsidy is an effective way to reduce price of dental services and ensure affordability R2: Other methods eg. Price ceiling is another effective way to ensure affordability of dental services
	End point	Which approach is more effective
Content & Context	Content (Scope of coverage)	Dd/ss analysis
	Context	Singapore context

Introduction

- Subsidies and price ceilings are possible government interventions to ensure the affordability of dental services in Singapore. Both policies aim to keep dental prices low

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and within reach for consumers, especially those with lower incomes. A subsidy reduces the marginal cost of production, lowering prices for consumers while encouraging higher consumption of dental services. Meanwhile, a price ceiling sets a legal maximum price below the market equilibrium, making dental services more affordable, though it may create excess quantity demanded and potential shortages.

R1: Subsidy is an effective way to reduce price of dental services and ensure affordability

- How-Advantage:** □ A subsidy is an effective way to reduce the price of dental services and improve affordability by lowering the unit cost of production or service provision for dental care providers. In Singapore, subsidies for dental services are effectively implemented through schemes like CHAS (Community Health Assist Scheme) which offers dental subsidies to Singaporeans from lower- to middle-income households for basic dental services such as scaling, polishing, and fillings at participating clinics. This scheme effectively shifts the supply curve to the right, lowering prices for subsidised treatments and making them more affordable as shown on Figure 3 below. When the government provides a subsidy, it effectively covers part of the cost that producers would typically bear, shifting the supply curve to the right from S_0 to S_1 .
- Price Adjustment Process:** As the supply curve shifts to the right, this creates a surplus of distance E_0E^* at the original price level P_0 , putting downward pressure on the price. The price will continue to fall until a new equilibrium is reached at a lower price P_1 and higher quantity Q_1 . This reduction in price helps to make dental services more affordable for most Singaporeans.

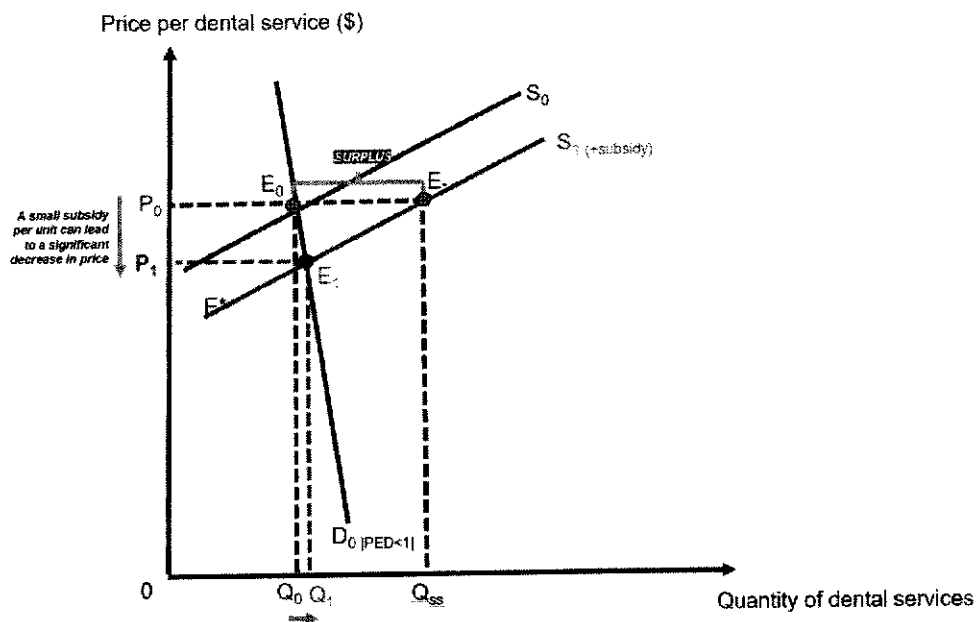


Figure 3: Subsidy to keep dental services affordable

Limitations + iEV#1: However, the magnitude of a subsidy depends on the price elasticity of demand (PED) for dental services. In Singapore, for standard dental services, the PED is relatively elastic. On the other hand, for more complex services that take up a significant portion of consumers' income, such as wisdom tooth removal or braces (where $|PED| > 1$), a larger subsidy would be required to have the same fall in the price of dental services.

[Redacted]

Applied the limitation to SG (contextualising)

- In addition, subsidy provided to polyclinics is not the most effective way to ensure affordable dental services for all Singaporeans as it is still common for middle to higher income consumers to choose/prefer more expensive private dental clinics, over subsidised polyclinics with longer wait times.

Also link to whether subsidy addresses 'affordability to ALL Singaporeans' (answers the qns)

R2: Price ceiling is another effective way to ensure affordability of dental services

- **How-Advantage:** The Singapore Dental Association (SDA) publishes recommended fee guidelines for dental procedures. While these guidelines are not legally binding price ceilings, they serve as a reference point for what is considered reasonable pricing in the industry. This can indirectly act as a price ceiling by guiding private dental practices to keep their fees within a certain range, thus preventing excessive charges for standard procedures. In theory, price ceiling will cap the prices of dental services from rising beyond P_c as shown on Figure 4 below.

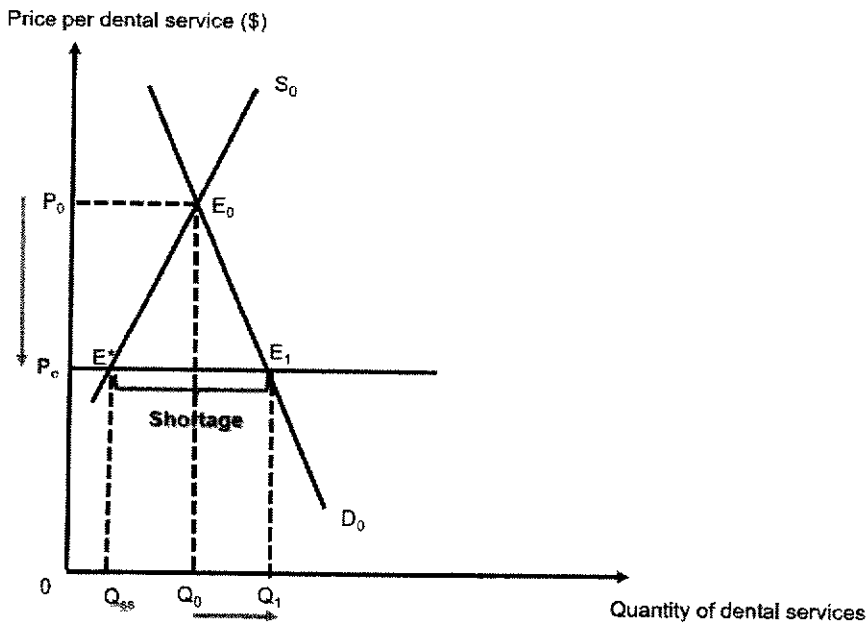


Figure 4: Price ceiling to keep dental services affordable

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- Limitations + iEV#2: [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] However, a shortage or long waiting times at private dental clinics is unlikely to occur in Singapore as the fee guidelines set by SDA are not legally enforceable price ceilings. As a result, private dental clinics have the flexibility to set their own prices, preventing shortages or the emergence of black markets in dental services.
- Summative EV:** In conclusion, subsidy is likely to be a more effective approach for affordable dental services rather than implementing price ceilings, such as fee guidelines.
- While fee guidelines (price ceiling) may help regulate prices for basic dental procedures, they often exclude more complex treatments; for example, the cost of dental braces can vary based on an individual's specific condition, making it difficult to impose a standardised price ceiling for such services. In contrast, subsidies is a more straightforward approach to directly lower price for consumer by reducing out-of-pocket expenses to ensure affordability and accessibility in dental care.
 - Furthermore, consumers, particularly the elderly, may not always be aware of fee guidelines or may face difficulties comparing prices across clinics, reducing the effectiveness of price ceilings in controlling dental costs.
 - Even with subsidies at polyclinics, affluent consumers may still opt for more expensive private dental clinics due to the perception that polyclinic dentists are less experienced or not as qualified.
 - Therefore, SG government could consider providing subsidies for training more skilled professionals in dentistry, which would help increase the supply of dentists and ultimately lower the price of dental services.

Applied the limitation to SG (contextualising)

Provide a stand: subsidy or price ceiling preferred?

Provide a reason to justify your stand through further comparisons

Links back to addressing 'affordability to ALL Singaporeans'

Briefly propose another alternative

	Level / Descriptors
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