ANDERSON SERANGOON JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2019

ECONOMICS
Higher 2

9757/01

Paper 1

29 August 2019

2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Write down your name and class in the boxes of the answer booklet.
Please write clearly and use capital letters.

Write in dark blue or black pen.
HB pencil may be used for graphs and diagrams only.

DO **NOT** WRITE ON ANY BARCODES.

Write your answers in the answer booklet. Use both sides of the paper. Please leave two blank lines in between your answers to each question.

Write the number of the question you are responding to in the first margin. If the question you are responding to also contain parts, for example 1a, write the question part in the second margin.

Do all your rough work in pen using the answer booklet and cross it through without making it illegible.

Do not tear out any part of the answer booklet provided.

All work must be handed in. If you have used any additional booklets (including graph paper booklets) please insert them inside the answer booklet.

Answer **all** questions.

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

This document consists of **7** printed pages and **1** blank page

Question 1

The Pharmaceutical Industry

Figure 1: List Price of Humalog brand Insulin (US$)

Source: Truven Health Analytics, accessed 15 July 2019

Extract 1: Why Insulin defies the normal rules of Economics and keeps getting more expensive

Here's a basic economic principle: The price of a product usually falls over time. That's often because competitors offer alternatives, or new advances make past breakthroughs less valuable. Yet none of the typical pressures have driven down the price of insulin, a life-saving drug for diabetics.

"Insulin manufacturers charge so much for a really simple reason: because they can," said Shannon Brownlee, co-chair of the Lown Institute's Right Care Alliance, a Brookline nonprofit that advocates for affordable health care.

Here's one explanation for why life-saving drugs like insulin defy normal consumer economics: If a good is too expensive, consumers can hold off buying, but with insulin, Brownlee says, "Where is the downward pressure? Customers can't put downward pressure on it because they can't walk away. If they don't take insulin, they'll die."

According to Joseph Doyle, co-director of the Initiative for Health Systems Innovation at MIT's Sloan School of Management, a driver for insulin prices and other drug prices, is patents. He points out that patent laws allow the few dominant insulin makers to minimise competition by patenting incremental changes to their products, which makes it hard for cheaper generics to enter the market.

Talk of profit margins can seem a bit cold when lives are at stake. But drug companies wouldn't pursue lifesaving therapies if there weren't financial rewards, said Amitabh Chandra, director of health policy research at Harvard's Kennedy School of Government. The Massachusetts Biotechnology Council contends that pharmaceutical firms' ability to make large profits can actually save money in the health care system, overall. "If a drug can cure somebody and keep them out of the hospital, it will save trillions of dollars in the long run," said MassBio CEO Bob Coughlin. "And that's what we really need to focus on."

Source: Boston's NPR News Station, 25 June 2019

Extract 2: What drives mergers & acquisitions in the pharmaceutical industry?

The pharmaceutical industry probably sees more merger and acquisition (M&A) activity than any other industry, both in the number of deals and the amount of money spent on acquisitions and mergers. One example would be the merger between two giants, Pfizer and GlaxoSmithKline. A merger between these two large firms would make them the global leader in over the counter drug sales. The proposed transaction is also expected to realise substantial cost synergies, with the joint venture expected to generate substantial total annual cost savings by 2022.

The single most important driver for changes in the pharmaceutical industry is the ever-increasing cost of drug development. Most companies can no longer afford to carry out research and development (R&D) to find innovative compounds. The most-quoted study of drug development costs states that on average, the development of a new drug costs around $1.4 billion. It usually takes ten years from synthesis to approval, thus incurring $1.2 billion capital costs, which results in average total cost of $2.6 billion to develop a new drug.

The other driver for the development costs is the ever-increasing regulatory requirements. Today, a company needs to invest between $2-4 billion per year in R&D to have a meaningful portfolio of drug development programs. Putting this in perspective, in the long-term, pharmaceutical companies spend 20% of their revenue from high-margin original drugs on R&D. Thus, only companies with revenue of $10 billion or higher from original drugs can afford to have a substantial drug development program. Since it is almost impossible for small companies to have revenue of that size, mergers seems a natural option for many.

Meanwhile, payers and regulators strive to replace as many off-patent original drugs as possible with generics. Generics are copies of brand-name drugs, with the same pharmacological effects as the original. They can enter the market once the patent, which typically lasts between 15 and 20 years from the date the application is filed, has expired on the original drug.

This underscores a perennial problem for the pharmaceutical industry: what to do when successful medicines lose patent protection and revenues evaporate. Sanofi is trying to offset declining sales of its top-selling insulin, Lantus, which has lost market share following the introduction of cheaper “biosimilar” versions. Celgene is preparing for the loss of patent protection on its top cancer medicine, Revlimid, which will face generic competition from 2022 at the latest. “As firms are confronted with drugs going off patent and weak research and development pipelines, they have no choice but to do significant acquisitions” said Frank Aquila, a senior corporate lawyer at Sullivan & Cromwell.

Source: Contract Pharma, January 2018

Extract 3: Pharmaceutical industry profits and Research and Development (R&D)

When the challenge of affording prescription drugs is raised, pharmaceutical manufacturers often argue that steps to reduce prices will lead to less innovation in the future. This response presumably applies to policies that use the market, such as shortening periods of exclusivity and making approvals of generics more rapid, as well as regulatory tools such as price controls.

The manufacturers’ argument has validity in that expectations of lower revenues will lead to less investment in R&D. Pharmaceutical innovation has produced an enormous amount of social value. Those benefits from pharmaceutical innovation stem in great measure from patent policy and the granting of marketing exclusivity to new drug products.

The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry. This means that the cost of bringing a new drug to market is very high and the process is risky, while the cost of producing an extra unit of a product that is on the market is frequently “pennies a pill”. In addition, for many drugs, the costs of imitation are low. It is simple and low cost for a firm that did not develop the drug to produce a copy of a new drug. This means that if free competition were permitted, firms spending hundreds of millions of dollars to bring a new drug to market would be unlikely to recoup those investments, as competition would drive prices down to production costs ("pennies a pill").

It is these features of the economics of new drug development that make the establishment of intellectual property rights through the patent system and regulation of marketing exclusivity so important to promoting innovation in prescription drugs. Establishing temporary monopoly power for makers of new prescription drug products enables innovator companies to raise prices above the level of production costs and realise economic profits to compensate for the investment in pharmaceutical R&D.

The fact that patents are granted and marketing exclusivity for new drugs is established does not mean there is no competition. Competition between patented drugs that treat the same medical conditions does occur, but it is based on the clinical features of the drugs and to a more limited extent on price. This is referred to as “differentiated” product competition. One feature of such competition is that manufacturers of the products can raise prices above production costs.

Source: Various

Questions

(a) With reference to Figure 1, describe the trend in the price of insulin. [2]

(b) **(i)** Define contestability and state how the expiry of a patent will affect the contestability of the pharmaceutical industry. [2]

(ii) Using a diagram, explain how the expiry of a patent would lower the profits of a major insulin producer such as Humalog. [4]

(c) “The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry.”

Using relevant examples, explain the difference between fixed and variable costs. [4]

(d) With reference to the data, discuss the factors that are likely to influence firms’ decisions on whether to merge. [8]

(e) Discuss whether a government should be concerned with market dominance in the pharmaceutical industry. [10]

[Total: 30]

Question 2:

Trade Issues in the United States

Table 1: US trade balance in millions U.S. dollars ($)

Year	Exports	Imports
2014	1,621,874	2,356,356
2015	1,503,328	2,248,811
2016	1,451,460	2,186,786
2017	1,546,474	2,339,884
2018	1,665,992	2,540,806

Source: The United States Census Bureau

Extract 4: Understanding the decline in manufacturing employment

The US manufacturing sector started shedding jobs in huge numbers in the early 2000s, coincident with a sharp appreciation of the dollar and a widening trade deficit. Yet, statistics seem to show the sector's output keeping up with the rest of the growing economy. Many economists saw this as a sign that high productivity growth allowed manufacturing output to expand even as the workforce dwindled. This view points to automation, not rising consumption of imports, as the main cause of manufacturing's job losses.

However, Vice-President and Director of Research of the Upjohn Institute, Susan Houseman, cited recent research suggesting otherwise. People have been buying more manufactured products but these products are increasingly made overseas where cost of production is lower. This shift to buying imports is further compounded by an appreciating exchange rate which makes domestic manufactured products more expensive to local buyers and also hampers the export competitiveness of these products.

The Economic Policy Institute's research director, Josh Bivens addressed the importance of managing the exchange rate to minimise damage to the economy. "There needs to be real credibility that the US is now committed to never again allowing the dollar to just destroy the US manufacturing sector," Bivens said. He also echoed Houseman's call to expand vocational training programmes to improve the skills of workers in manufacturing.

But it is not all bad news for workers in the manufacturing sectors. Technology-driven innovation makes workers more productive and productivity has translated into wage gains. Automation has created winners and losers. Regardless of the rate of technological automation, the US needs to do more to help workers make transitions between jobs and occupations. The failure to give workers skills and assistance to move into new jobs or occupations not only contributes to higher structural unemployment, but also breeds resistance to innovation and automation.

Source: W.E. Upjohn Institute for Employment Research, June 2018

Extract 5: Trump's tariffs: European Union gears up for trade war

European Union officials have said they will respond "firmly" if US President Donald Trump presses ahead with his plan for steep global duties on metals. International condemnation has greeted the US President's Thursday announcement that he plans to impose a 25% tariff on steel imports and 10% on aluminium next week.

Canada, Mexico and the EU combined exported $23 billion worth of steel and aluminium to the US last year - nearly half of the $48 billion total steel and aluminium that the US imported in 2017.

European Commission head Jean-Claude Juncker promised to react firmly. The EU has drawn up a target list of 100 US goods worth $3.5 billion for its retaliatory tariffs. The list includes Bourbon whiskey, Florida orange juice, jeans, cosmetics. It could lead to many everyday items becoming more expensive for shoppers in the UK, as shops pass on increased import prices. Canada, Mexico, China, Japan and Brazil also say they are considering retaliatory steps.

Since Mr Trump's announcement, companies in the US that buy metals have already reported higher steel prices and complained that US producers do not have the ability to meet demand. Many US companies also expressed alarm, including beer brewers, which use aluminium for canned beverages. Anheuser-Busch InBev NV, the world's largest beer maker, warned that Mr Trump's plan is "going to put jobs at risk and would be against the US consumer".

Mr Trump has lamented the decline of the US steel industry, which since 2000 has seen production drop from 112 million tons to 86.5 million tons in 2016. The number of employees working in the sector has fallen over the same period from 135,000 to 83,600.

But experts say far more Americans work in industries that depend on steel products, than are employed in steel plants. Steel mills in 2015 employed about 140,000 Americans, according to census data. But 6.5 million Americans work for manufacturers who make things using steel. Critics argue that the tariffs would fail to protect American jobs and ultimately raise prices for consumers.

Source: BBC News, 2 March 2018

Extract 6: Singapore exports show shifting trade patterns

Singapore's exports rose at a faster pace in September from a year ago but the outlook remained murky as shipments of electronics continued to decline. The latest data also reflect the strength of the US economy and the disruptions caused by the trade war between Washington and Beijing.

According to trade agency Enterprise Singapore, exports to the US continued to soar, rising 41.5% on year in September while those to China plunged 17.8%, matching the previous month's rate of decline. Among Singapore's other major export destinations, shipments to the European Union grew 21.6% but those to South Korea, Taiwan, Japan and Hong Kong slipped.

"Since the start of the year, the US and European Union have replaced China as the key drivers for Singapore's exports," Maybank's Kim Eng said in a note.

Selena Ling, head of treasury research and strategy at Oversea-Chinese Banking Corp., said the US economy was in a "sweet growth spot," while there was a diversion of production and trade flows from China. To avoid tariffs imposed by the US on Chinese goods, some companies have begun shifting manufacturing and final assembly of goods to other countries. In a commentary published in the South China Morning Post, George Yeo, Singapore's former foreign minister, said that Sout' reap a windfall from the shift in trade and investments.

Singapore's data showed shipments of electronics declined 0.9% year on year in Sept the 10th consecutive month. However, the decline was offset by stronger shipments of pharmaceuticals. "Were it not for another stellar performance by the pharmaceutical industry, exports overall would have looked dreadful," said Robert Carnell, ING's chief economist and head of research for the Asia-Pacific, pointing to a 67.5% increase in pharmaceutical exports last month.

The increasing importance of the pharmaceutical sector is partly due to the Singapore government's long-term ambition of developing innovative pharmaceuticals, which includes funds and infrastructure support. The setting up of the Biopolis, an international research and development centre for biomedical sciences in Singapore, is such an example.

Source: Nikkei Asian Review, 17 October 2018

Questions

(a) **(i)** With reference to Table 1, summarise the trend in the US trade balance between 2014 and 2018. [2]

(ii) Explain one possible factor that might account for the trend. [2]

(b) With reference to Extract 4:

(i) Explain why the US is concerned with its trade balance. [4]

(ii) Explain the statement "Automation has created winners and losers." [4]

(c) Assess how far the concept of comparative advantage can help to explain the changes in Singapore's patterns of trade as described in Extract 6. [8]

(d) Discuss whether tariffs is the best policy the US could adopt to address her trade imbalance. [10]

[Total: 30]

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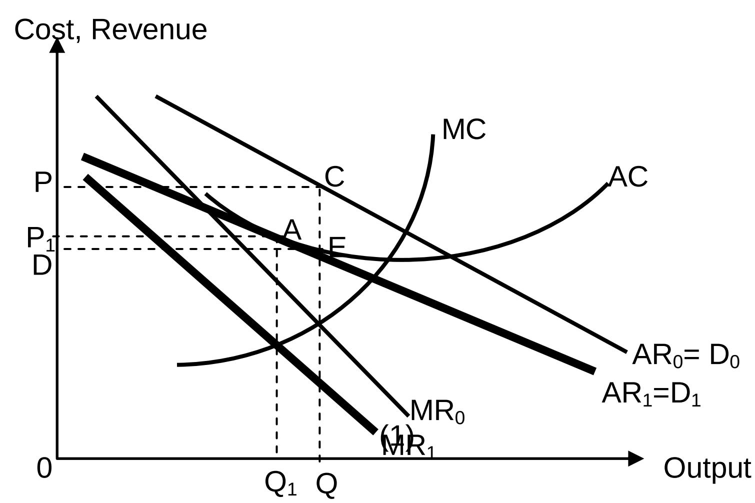
2019 H2 Prelims Paper 1
CSQ 1 The Pharmaceutical Industry
Suggested answers

(a)	**(i)**	**With reference to Figure 1, describe the trend in the price of insulin.**	**[2]**
		Price of insulin is rising (1) and it has increased more than ten times (1). ***Mark scheme*** - Also accept faster rate of increase from 2010 onwards	
(b)	**(i)**	**Define contestability and state how the expiry of a patent will affect the contestability of the pharmaceutical industry.**	**[2]**
		Contestable markets are those that are served by one or few firms, and are kept operating at competitive price and output levels due to the threat of potential competition/ potential entry of new firms. (1) Expiry of the patents will **increase the contestability** (1) by reducing the barriers to entry.	
	(ii)	**Using a diagram, explain how the expiry of a patent would lower the profits of a major insulin producer such as Humalog.**	**[4]**
		When the patent expires, it allows for more firms to enter the industry **(1)** as the main firm no longer have the exclusive rights to produce insulin. The lowered BTE increases the level of competition and reduces the demand for the firm’s insulin. There is leftward shift of the AR and MR lines. The increased level of competition also means more substitutes available, hence the slope of the AR and MR lines will become flatter **(1).** Profit maximising level is where MC=MR. Before the expiry of the patent, supernormal profits earned is at DPCE. After the expiry, Humalog is likely to earn normal profits as shown in the diagram. **(1)**	



<u>Alternative answer that can be awarded 1m</u>

"As the expiry of the patent increase the level of contestability, the incumbent major insulin producer may pre-empt the entrance of new firms by lowering its price. It may be willing to charge a price that is below the profit-maximising price but above its average cost. In such a case, profits may not fall."

- The above explanation is not awarded full credit as it is contingent on the firm's response. The incumbent firm may or may not respond by lowering its price, whereas the entrance of new competitors is a very likely outcome when patent expires. Moreover, the impact on profits is indeterminate from the diagram. Hence only a max of 1m will be awarded if the above explanation was given.

(c) **"The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry."** **[4]**

Using relevant examples, explain the difference between fixed and variable costs.

Fixed costs are costs that do not vary with output and has to be paid even when there is no production. Such examples include rental cost of the facilities, insurance payment, etc.

Variable costs are costs that vary directly with changes in the output. They are incurred due to the use of variable inputs for example wages, costs of ingredients, etc

Mark scheme
1m definition
1m example
Eg w/o context capped at 3m max

(d) **With reference to the data, discuss the factors that are likely to influence firms' decisions on whether to merge.** **[8]**

Benefits	Costs	Constraints	Other perspective
Revenue advantages → market power → price setter → higher profits	Cost advantages eg internal EOS	Funds, availability of resources such as raw materials, capital and labour	Firms' objectives, business risk, contestability of the market

In deciding whether to merge or not, we assume that the firms' aim is to maximize profits. Firms have to consider constraints such as resources in terms of funds and amount of resources such as capital and labour they have which may affect its decision to merge. The firm then determines the relevant benefits and costs after taking these constraints into account.

Perspective 1: Merge to enjoy the cost and revenue advantages.

As firms grow larger through mergers, they may be better placed to take advantage of *economies of scale* - leading to a fall in the average total costs of production. For example, marketing economies of scale arise from the possibility of bulk purchase. When the pharmaceutical firm places large orders for medicine supplies, they are able to negotiate bulk discounts, hence *lowering the cost of each unit of raw material for the firm*. Likewise, an advertising campaign also costs much less per unit of output when the firm expands its scale of production. Since advertising and marketing costs are largely fixed costs, spreading the *total cost of advertising over a larger output* would result in lower cost per unit of output. This cost advantage may prompt the firm to merge.

Besides enjoying cost advantages, the larger merged organisation may experience *advantages from the revenue side*. Having control over a larger share of the market the merged firm would have substantial market power. Being a dominant seller with substantial market power implies that the demand curve facing the firm is rather price inelastic. With this in mind, this allows the firm to set a higher price for Insulin, given that quantity demanded would only fall less than proportionately, resulting in higher total revenue. Firms are thus likely to go ahead and merge to gain the costs advantages.

Perspective 2: do not merge due to other considerations

The level of contestability is also another important determinant for firm to consider to merge or not. For example, if there is a high threat of potential competition or potential entry of new firms, the firm's objective may be changed to that of entry deterrence instead of profit maximize. As such, they may decide to merge to gain market power and then engage in limit pricing. This will deliberately keep prices low and deter potential entrance.

Another important consideration is having to face the different business risk and uncertainty associated with the merger. Uncertainty refers to the imperfect knowledge about the future while risk refers to uncertain consequences that are invariably negative. Uncertainty complicates the firms' decision to merge. For example it is uncertain about the labour costs, government's regulatory framework and taxation policies especially pharmaceutical drugs such as Insulin is considered as essential medicine. In addition, there will be risk in research and development efforts if they are planning to develop a new drug after the merger.

Weigh: On evaluation, the most important consideration would be the revenue advantages since it determines to a large extent on the amount of profits that the firms could enjoy.

Assumption: The nature of the merger also makes an important factor in the decision making. If it is a horizontal merger in similar production stage, higher profit margins may mitigate the risks and uncertainty involved. If the merger involves vertical merger such that firms operating at different stages of the same production process, then it helps to reduce the costs and uncertainty since they have more market control over the source and price of inputs. Lastly, if it is a conglomerate merger, the merged firm is able to enjoy economies of scope which gives them a cost advantage through diversification.

Level	Descriptor
EV 1 – 2m	Evaluative comments
2 4-6m	Detailed analysis of various factors in the context of pharmaceutical industries
1 1-3m	For an answer that only consider costs or revenue advantages OR brief description of both revenue and costs advantages but did not apply to pharmaceutical industries.

(e) Discuss whether a government should be concerned with market dominance in the pharmaceutical industry. **[10]**

Intro:

A government's main objective when it comes to resource allocation in an individual market would be to maximize society's welfare from the production and consumption of the good. Governments would thus be concerned with market dominance if it leads to allocative inefficiency or productive inefficiency. However, market dominance usually allows firms to grow larger as compared to firms in more competitive market structures. With the larger firms, there is often possible benefits that can be enjoyed with respect to consumer welfare. Whether market dominance is a concern in the pharmaceutical industry depends on whether the possible benefits from greater market concentration would be able to outweigh the inefficient behavior from dominant firms.

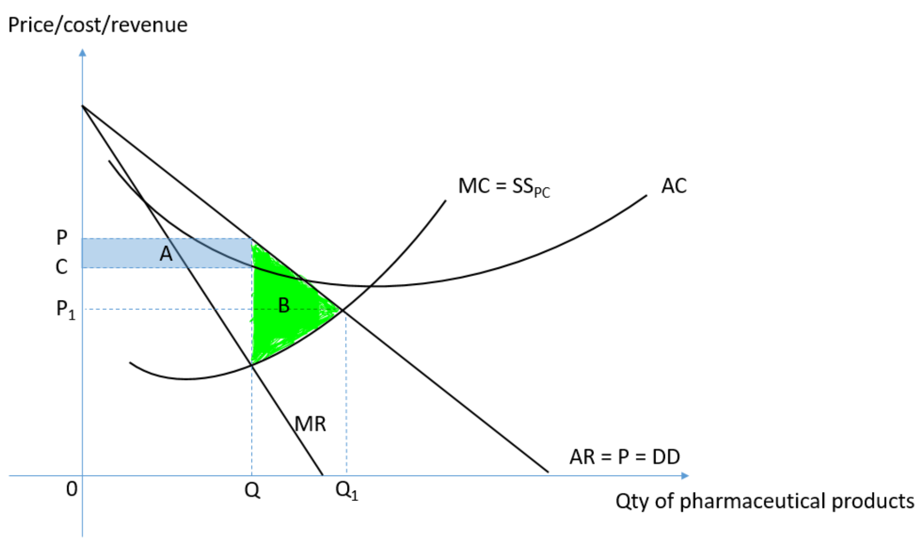


Fig. 1, Monopoly in Pharmaceutical Market

Thesis: Market dominance is a concern.

P1: Dominant firms may be a concern for governments as they may be allocative inefficient.

As a firm becomes increasingly dominant within an industry, they have greater market share and thus greater price-setting power due to lack of available substitutes. If the market were to be completely dominated by one firm, the firm would become a monopoly. As a price-setter, the monopolist faces a downward sloping average revenue (AR) curve and downward sloping MR curve. The monopolist would choose to profit-maximise by producing at an output, seen on the figure 1 as output Q, where marginal revenue (MR) is equal to marginal cost (MC). The firm would charge the highest price that consumers would be willing to pay for this level of output, seen on the diagram as price P, based on the AR curve. In the pursuit of profits, a dominant firm would then restrict output to increase price to the level whereby P > MC. If the market were perfectly competitive instead, assuming costs remain constant, the MC curve would be equal to the supply curve of a perfectly competitive (PC) market. Since PC firms are price takers, the market equilibrium of a PC market would be P1 and Q1 which fulfills the condition for allocative efficiency where P=MC. This would then result in a deadweight loss of area B seen in figure 1. Therefore, the government should be concerned if a firm becomes dominant within the pharmaceutical industry as it would result in consumer welfare not being maximised as the firm would restrict production of pharmaceutical products in order to charge exorbitant prices and earn high profits.

P2: Dominant firms may be a concern for governments as they may be productively inefficient.

Additionally, the government may be concerned with dominance in the pharmaceutical sector as it may lead to productive inefficiency. Productive inefficiency is achieved when firms fully exploit economics of scale and produce using the least-cost combination of factors of production to produce. This is seen when the firm is operating at its minimum efficient scale (MES) where the AC curve is at its minimum point. As explained in the previous paragraph, a dominant firm would use their significant market power to restrict output and charge high prices. Thus the firm does not have incentive to fully exploit economies of scale and will not operate at the minimum point of the average cost curve. In contrast, a firm in the PC market earns only normal profits and operates at the minimum point of their AC curve as they are a price-taker. Furthermore, the high amount of supernormal profits earned by a monopoly can lead to productive inefficiency in the form of X-inefficiency. Since the monopolist is in no danger of shutting down due to sub-normal profits and there is no threat of competition due to high barriers to entry such as patents in the pharmaceutical industry, the firm may then indulge in practice such as over-staffing and prestige projects that would increase the average cost of the firm. Thus dominance in the pharmaceutical industry may lead to wastage of resources as the dominant firm would be productively inefficient and not produce pharmaceutical products at the lowest average cost.

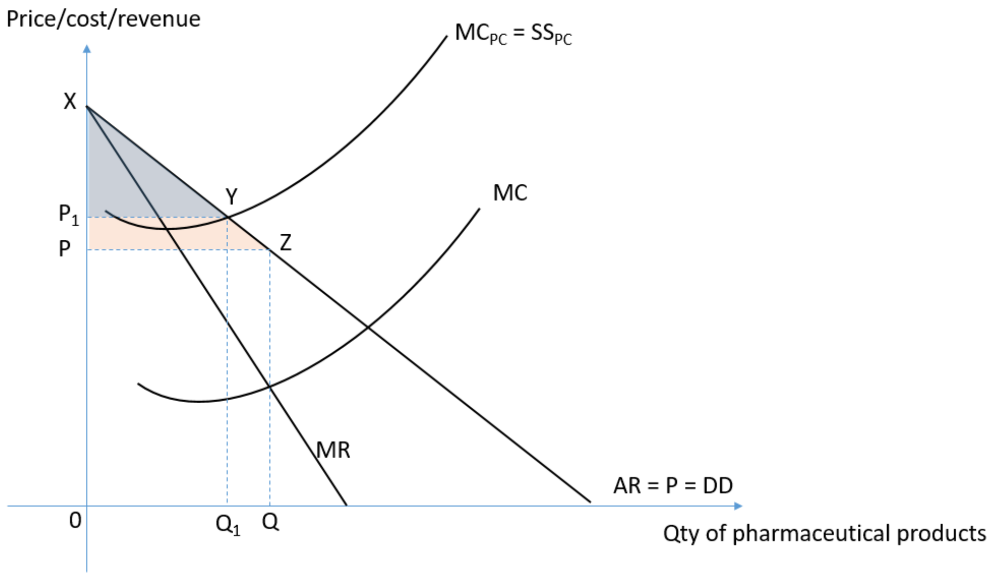


Fig. 2, Higher prices in PC market

Anti-thesis: Allowing market dominance can bring benefits to society.

P3: Dominant firms can bring benefits to society by producing goods at a lower cost and lower price.

In explaining that dominance in the pharmaceutical market would lead to high prices compared to that of a more competitive market, we had made the assumption that the cost curves of firms would remain constant. However, this is not likely to be the case as greater dominance leads to greater market share and thus dominant firms are able to operate on a larger scale as compared to firms in a monopolistically competitive or perfectly competitive market. Larger firms may be able to produce at a lower cost compared to smaller firms through exploiting economies of scale. In the pharmaceutical market, this is likely to take on the form technical economies of scale derived from the indivisibility of inputs. One of the large costs to producing pharmaceutical products is the high initial cost involved in the research and development of new drugs. Since this is a fixed cost that does not increase with output, by operating on a larger scale, this cost is spread out over a larger output and thus serves to reduce average cost. Additionally, the larger dominant firm may also have access to more productive methods of production achieved through R&D that is too costly for smaller firms to afford. This leads to the marginal cost of production for firms in a PC market to be higher than that of dominant firms as seen in figure 2 where MC_{PC} > MC. This leads to the PC market producing the good at a higher price of P1 and a lower quantity of Q1. The consumer surplus then falls from area XZP to that of XYP_1. Consumers are thus better off with dominance in the pharmaceutical market as they are able to purchase more of the good and at a lower price.

P4: Dominant firms can bring benefits through engaging in R&D

Another important difference between dominant firms and firms in more competitive market structures is that dominant firms are able to earn supernormal profits in the long-run while firms in markets with low barriers to entry would be earning only normal profits in the long-run. This ability to earn supernormal profits in the long-run is beneficial to society as investment into research and development is often very costly and is thus the supernormal profits give the firm sufficient financial ability to invest in R&D. Research and development plays a big role with regards to consumer welfare especially in the pharmaceutical industry. Through spending on R&D, consumers would be able to enjoy improvements in the quality of the drugs as well as invention of new drugs to treat different diseases. Thus dominance in the market results in higher consumer welfare in the form of better quality of goods and greater variety.

Conclusion

In conclusion, the benefits of allowing dominant firms in are especially important considering that invention of new drugs and better quality drugs is extremely important in improving the welfare of consumers. Furthermore, the nature of the production of pharmaceutical products makes it likely that there are very significant economies of scale to be reaped and thus allowing dominant firms to grow large can be very beneficial in providing goods at a low cost. However, considering that dominant firms may not keep costs low and may not have a strong incentive to engage in R&D when there is no significant competition, the benefits are thus questionable. A suitable approach for the government to therefore take is to allow the pharmaceutical industry to be dominated by a few large firms but take measures to ensure that the market remains contestable in the form of refining patent laws such that they will eventually expire and thus create a threat of competition for any incumbent firms.

Mark scheme

Level	Descriptor
EV2 2-3m	Evaluative comment that is well justified with reasoning that is relevant to the context of pharmaceutical industry
EV1 1m	An unjustified evaluative comment
2 5-7m	Two-sided answer that considers both benefits and costs to society of dominant firms that is well supported with economic analysis.
1 1-4m	For an answer that is descriptive with regards to benefits and costs to society of dominant firms OR Answer that is one-sided only considering benefits OR costs of dominance

2019 H2 Prelims Paper 1
CSQ 2: Trade Issues in the United States
Suggested answers

(a)	**(i)**	**With reference to Table 1, summarise the trend in the US trade balance between 2014 and 2018.**	**[2]**
		US has a trade deficit (1) with Germany and the deficit is increasing (1)	
	(ii)	**Explain one possible factor that might account for the trend.**	**[2]**
		One possible reason would be the appreciation in the USD as mentioned in extract 4. (1) An appreciation of exchange rate would increase the foreign price of US exports and reduce the domestic price of foreign imports. This would have the effect of increasing the trade deficit as due to falling export sales and increasing import spending. (1)	
(b)	**With reference to Extract 4:**		
	(i)	**Explain why the US is concerned with its trade balance.**	**[4]**
	The US is experiencing an increasing trade deficit. This is reflected as a fall in the (X-M) component of aggregate demand (AD). (1) A fall in AD would result in unplanned stock accumulation and firms would respond by reducing output reflected as a fall in real GDP. (1) As firms reduce output, this would lead to a fall in derived demand for labour. (1) This leads to a surplus of labour which would lead to falling wages and increasing unemployment. (1)		
	(ii)	**Explain the statement "Automation has created winners and losers."**	**[4]**
	The statement refers to the fact that automation has been beneficial for some but negatively impacted others. The negative impact is seen in the structural unemployment that it has caused. (1) Automation would change the skills required for production of a particular good and thus low-skill workers that are easily replaced with machinery would thus lose their jobs and lack the skills to continue to find employment such as operating the machinery and thus become structurally unemployed. (1). On the other hand, automation has made workers "more productive". This means that each worker is able to produce a greater amount of output and thus earn the firm more revenue.(1) Therefore the firm would be willing to pay workers a higher wage, as seen in extract 4 that mentioned that "productivity has translated into wage gains". (1) Thus these workers who are able to remain employed would benefit in the form of higher wages.		
(c)	**Assess how far the concept of comparative advantage can help to explain**		

	the changes in Singapore's patterns of trade as described in Extract 6.	**[8]**
	A country is said to have comparative advantage in the production of a good if it can produce that good at a lower opportunity cost than another country. These differences in opportunity cost can arise due to differences in factor endowments of the different countries, factor qualities and level of technology. The concept of comparative advantage can explain the changes in Singapore's patterns of trade. Patterns of trade refer to the type and volume of goods or services that the country exports and imports, and who the country's trading partners are. Extract 6 states that Singapore's exports of electronics had declined but "the decline was offset by stronger shipments of pharmaceuticals". This means that there has been a change in Singapore's patterns of trade in terms of the main type of goods that we export. And the concept of comparative advantage can explain this change. Extract 6 also states that "the increasing importance of the pharmaceutical sector is partly due to the Singapore government's long-term ambition of developing innovative pharmaceuticals" and the setting up of the Biopolis is such an example. By putting together some of the world's largest pharmaceutical companies to collaborate and conduct research, there will be significant technical economies of scale being reaped, resulting in lower average cost of production. This means that Singapore has acquired comparative advantage in the pharmaceuticals industry as it now has a lower opportunity cost in the production of pharmaceuticals. Pharmaceutical exports from Singapore would be more price competitive and this explains why exports of pharmaceuticals from Singapore had increased. However, there are limitations to the theory of comparative advantage. Some of the assumptions of the theory do not hold true, for example the assumption of free trade, and not taking into account the influence of demand factors. Hence there are other factors that can explain the changes in Singapore's patterns of trade, where "the US and European Union have replaced China as the key drivers for Singapore's exports". This can be explained by the influence of demand factor. The US economy was in a "sweet growth spot", which means that there was economic growth in the US and rise in national income. Thus US' demand for exports from its trading partners would increase, including exports from Singapore, and can explain why Singapore's exports to the US had increased. At the same time, there have been "diversions of production and trade flows from China" due to the trade war between the US and China. China had been experiencing economic slowdown. The diversion of production and trade further reduced production in China, and this could account for their fall in demand for exports from Singapore, thus explaining the change in Singapore's patterns of trade in terms of her trading partners. Overall, the changes in Singapore's patterns of trade in terms of what it exports	

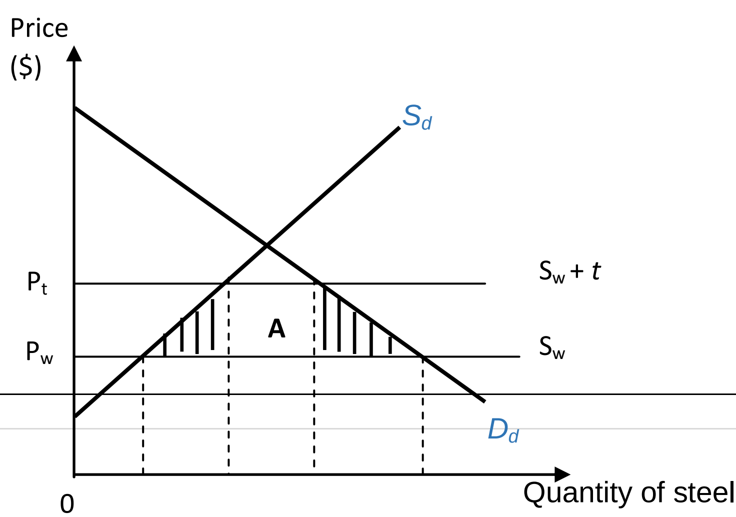
is largely due to the concept of comparative advantage. In particular, it is due to dynamic comparative advantage driven by government policies. Singapore lacks natural resources and is constantly developing new comparative advantage and restructuring to develop new niche growth areas to stay competitive.

In terms of changes in her trading partners, it is mainly due to the economic development of her trading partners.

Level	Descriptor	Marks
2	• Identification of the changes in Singapore's patterns of trade both in terms of the type of exports/imports and her trading partners. • Explanation of how the change in type of exports is due to Singapore's acquisition of new comparative advantage (CA) and another factor not related to CA. Explicit mention of dynamic CA is not required.	4-6
1	• Identification of the changes in Singapore's patterns of trade either in terms of the type of exports/imports or her trading partners. • Some descriptive explanation of how the concept of comparative advantage can explain one of the changes.	1-3
EV	Evaluative comment on how far the concept of CA can explain the changes in Singapore's patterns of trade.	1-2

(d) Discuss whether tariffs is the best policy the US could adopt to address her trade imbalance. **[10]**

Tariffs are taxes imposed on imported goods which will increase the price of imports. In the diagram below, with the imposition of tariffs on steel, the price of imported steel increase from P_w to P_t. The amount of imported steel fall from the quantity represented by distance a-b to the distance c-d. If demand for imports are price elastic due to the availability of substitutes in the form of domestically produced goods, there will be more than proportionate fall in the quantity demanded for imports and hence a fall in import expenditure. The fall in import expenditure, assuming no change to export revenue, will reduce US' trade deficit and address her trade imbalance.



Impact of imposition of tariffs on steel

a c d b

The revenue gained from imports tariffs, shown by area A can help the US government implement policies to boost the competitiveness of her exports to further address her trade imbalance.

However, there are limitations in using tariffs. “European Union officials have said that they will respond firmly” to the tariffs imposed by the US. Such retaliation will increase the price of US’ exports into EU countries and erode the competeveness of their exports, causing a fall in export revenue and worsening her trade deficit. Furthermore, US’ imposition of tariffs on imported steel had raised the cost of production of finished goods that require steel as a factor input. Extract 5 states that “companies in the US that buy metals have already reported higher steel prices and complained that US producers do not have the ability to meet demand”. The higher cost of production will erode competitiveness of US’ exports that use steel as a factor input, worsening her trade balance.

Moreover, there will be negative impact on other aspects of the US economy, chiefly unemployment. Extract 5 states that “6.5 million Americans work for manufacturers who make things using steel”. With the loss of export price competitiveness of these exports, quantity demanded for these exports fall and output and employment level will fall, resulting in a significant number of workers being unemployed.

Finally, tariffs lead to a deadweight loss to the society. As seen from the diagram, consumers pay a higher price and there is a loss of consumer welfare. After considering the gain in producer surplus and tariff revenue to the government, there is still a net loss to society shown by the shaded areas, representing welfare loss to society due to allocative inefficiency.

In view of the limitations and negative impact of imposition of tariffs, the US government should introduce other policies instead. Extract 4 states that “products are increasingly made overseas where cost of production is lower”. Hence the US government should implement supply-side policies that will boost its exports competitiveness to improve her trade balance. The US government could give tax incentives to encourage firms to do research and development to develop more cost-efficient production methods. With lower cost of production, US firms would be able to lower the price of their exports and gain price competitiveness and improve her trade balance.

The tax incentives could also be directed to encourage product innovation. The US leads the world in science and technology. Continued investment in innovation will further improve the non-price competitiveness of its exports and reduce the substitutability of its exports. However, R&D takes time, for example the building of prototype and conducting of tests, and the outcome is not always certain. Hence it will not be able to address US’ trade imbalance in the short run.

Overall, tariff is not the best policy that the US could adopt to address her trade imbalance. It may help to reduce US' import expenditure in the short period of usage, but it does not address the root cause of the trade imbalance. The root cause of the imbalance could be due to erosion of exports competitiveness and loss of comparative advantage to emerging economies. Hence supply-side policies to improve competitiveness and development of comparative advantage in new growth areas would be better policy response for the US.

Furthermore, US' trading partners are likely to retaliate with their own tariffs, as stated in Extract 5, and this give rise to trade wars, mentioned in Extract 6. Trade wars lead to fall in trade volume, shake investors' and firms' confidence, and lead to overall fall in global income, a lose-lose situation for all.

Level	Descriptor	Marks
2	Explanation of how tariffs and one other policy work to address trade imbalance and their limitations.	5-7
1	Explanation of how tariffs work to address trade imbalance and its limitations.	1-4
EV	Evaluative comment on whether tariff is the best policy the US could adopt to address her trade imbalance.	1-3

ANDERSON SERANGOON JUNIOR COLLEGE

JC2 Preliminary Examinations 2019

ECONOMICS
Higher 2

9757/02

Paper 2

16 September 2019

2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Write down your name and class in the boxes of the answer booklet.
Please write clearly and use capital letters.
Write in dark blue or black pen.
HB pencil may be used for graphs and diagrams only.
DO **NOT** WRITE ON ANY BARCODES.

Write your answers in the answer booklet. Use both sides of the paper. Please leave two blank lines in between your answers to each question.
Write the number of the question you are responding to in the first margin. If the question you are responding to also contain parts, for example 1a, write the question part in the second margin.

Do all your rough work in pen using the answer booklet and cross it through without making it illegible.
Do not tear out any part of the answer booklet provided.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from **either** Section A or Section B.

Begin your answer to **each question** on a fresh page of the answer booklet.

All work must be handed in. If you have used any additional booklets (including graph paper booklets) please insert them inside the answer booklet.

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

Indicate on the answer booklet the **question numbers** of the **three** questions you have attempted.

This document consists of **3** printed pages and **1** blank page.

Answer **three** questions in total.

Section A

One or **two** of your three chosen questions must be from this section.

1 Healthcare inflation in Singapore rose 10% in 2018, 10 times more than the Singapore economy's estimated 2018 inflation rate of 1%, according to Mercer Marsh Benefits 2019 Medical Trends Around the World report. The study noted that Singapore's healthcare inflation is partially driven up by supplier-led factors such as high-cost medical equipment as well as demand factors such as its ageing population.

Source: *The Straits Times*, 28 Jun 2019

(a) Explain the demand and supply factors that could have caused the rapid increase in prices of healthcare services in Singapore. [10]

(b) Discuss the policies that the Singapore government could adopt to reduce healthcare inflation. [15]

2 Discuss the extent to which government intervention is the main determinant influencing firms' profits in a country. [25]

3 The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.

(a) Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy. [10]

(b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

Section B

One or **two** of your three chosen questions must be from this section.

4 April 2016 marked 18 consecutive months of negative inflation for Singapore arising from lower global crude oil prices and cheaper housing, utilities as well as transport costs. Faced with a challenging external environment, the Singapore economy will also see a slowdown of growth between 1% and 3% this year.

Source: *Singapore Business Review* 24 May 2016

(a) Explain the internal and external factors that are likely to have contributed to deflation in Singapore. [10]

(b) Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth. [15]

5 **(a)** How do economists compare the economic performance of different countries? [10]

(b) Discuss the extent to which an increase in labour productivity is the key driver to improving living standards in a country. [15]

6 Discuss the benefits and costs of globalisation to different economic agents in Singapore. [25]

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1. In view of an aging population and the sharp rise in prices of medicals services, the Singapore government is going to implement policies to reduce healthcare price inflation.

(a) Explain the demand and supply factors in determining the sharp increase in the prices of healthcare in Singapore.

(b) Discuss the policies that might be used by Singapore government to reduce healthcare price inflation.

Intro:

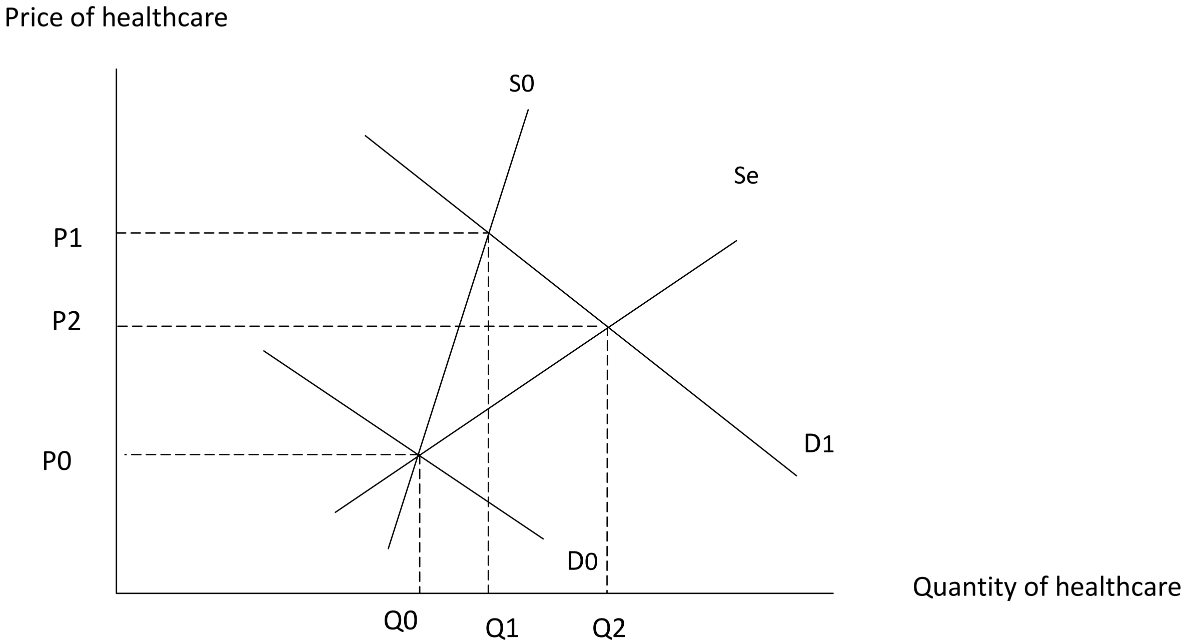
The increase in price of healthcare is due to both demand and supply factors such as aging population and increase in the cost of production. However, the extent of the increase in price is attributed to inelasticity of both DD and SS factors.

Body:

P1: Singapore is experiencing aging population which brings about an increasing rates of chronic disease. Despite that Singaporeans are living longer, on average, they spend eight years out of 82 in ill health. This will increase the frequency of them utilising the healthcare facilities which results in an increase in demand for healthcare services. This is depicted by a rightward shift of the demand curve from D_0 to D_1.

P2: One of the main cause of the sharp rise in price is the issue of moral hazard that healthcare insurance brings about. With healthcare insurance that require zero co-payment coverage, the patient need not pay anything for their treatments. The patient will have a greater incentive to seek medical treatments more frequently and opt for more expensive and perhaps riskier services that they would otherwise not required. Such change in behaviour results in the increase in demand for healthcare services. This is depicted by a rightward shift of the demand curve from D_0 to D_1.

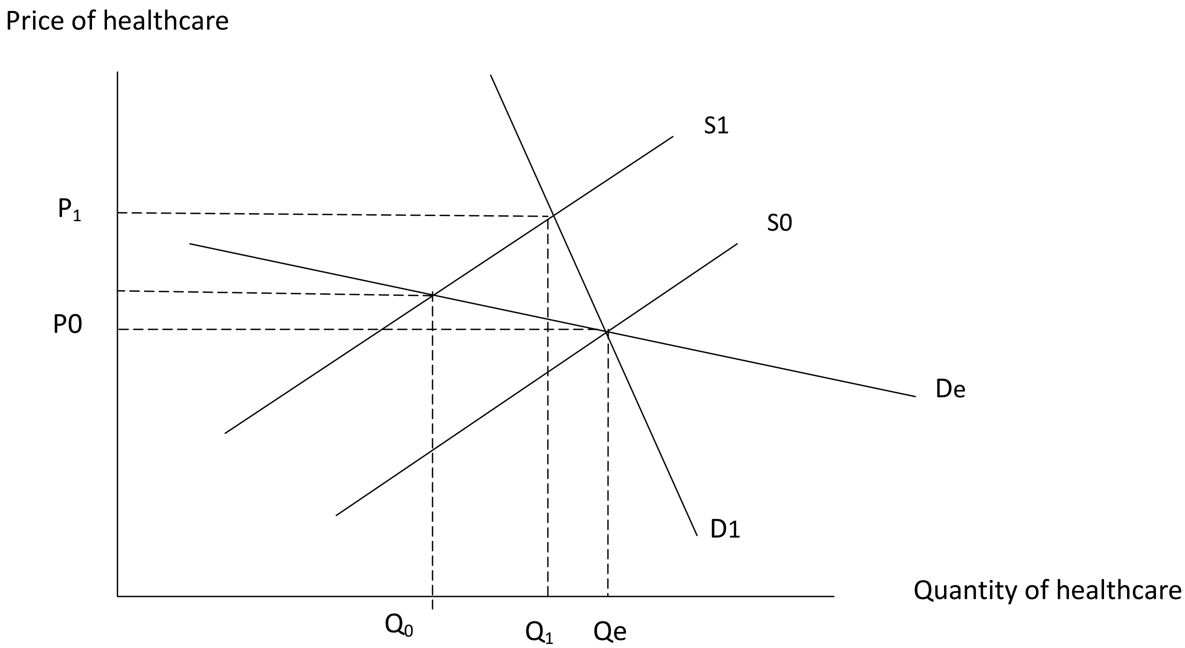
With an increase in demand, there will be a shortage at the original price. Given that supply of healthcare services is limited in the short run (PES<1) as the construction of new healthcare facilities such as hospitals and the training of medical staff (immobility of FOP) is likely to take a long time, there will be a sharp increase in price, from P_0 to P_1 to eliminate the shortage, as the increase in quantity supplied is less than proportionate.



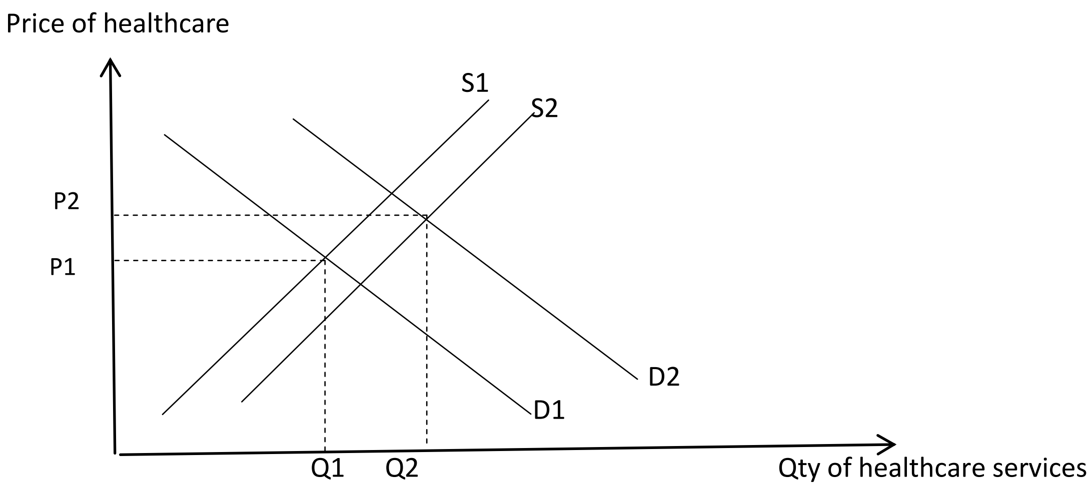
P3: Medical innovations have impact on both demand and supply factors on healthcare services. With new treatment options. It also allows early diagnosis, which will generate greater demand for healthcare services. This is depicted by a rightward shift of the demand curve from D_0 to D_1.

P4: At the same time, advances in medical technology could increase cost of production for healthcare services initially. Some innovation may lead to an increase use of medical personnel, material supplies, or training, particularly if they employ a new technique or procedure. This will increase the cost of production, resulting in a fall in supply and this is depicted by a leftward shift of supply curve from SS_0 toSS_1.

Given that demand for healthcare is price inelastic as it is a necessity. With a fall in supply from S_0 to S_1, there will be a sharp increase in price from P_0 to P_1 to eliminate the as the increase in quantity demanded is less than proportionate.



P5: As shown in the diagram below, the increase in demand for healthcare due to aging population will cause demand curve to shift rightwards from DD_1 to DD_2. At the same time, with the increase in the cost of production for healthcare, there will be a fall in supply which will cause the supply curve to shift leftwards from SS_1 to SS_2. At the original price, there will be a shortage, which will result in an upward pressure on price from P_0 to P_1. The magnitude of the increase in price will also be larger as demand and supply are price inelastic.



Conclusion

Overall, due to the sharp increase in price is that brought by the changes in both demand and supply factors, there is a need for government to intervene to bring down the prices to ensure the affordability of healthcare services to Singaporeans.

	Knowledge, Application/Understanding and Analysis	
L3	An answer that provides a clear and thorough explanation of the both demand and supply factors. Examples are used to support the explanation. A clear elaboration on the application of either PES or PED.	8 – 10
L2	An answer that provides a good explanation of the both demand and supply factors. Examples are used to support the explanation. Some elaboration on the application of either PES or PED. Cap 7m if only simultaneous shift is explained.	5 – 7
L1	An answer that only regurgitates theoretical understanding of characteristics without any application to context. Answer may also demonstrate weak knowledge and application of the characteristics of market, possibly with multiple conceptual errors.	1 – 4

(b) Discuss the policies that might be used by Singapore government to reduce healthcare price inflation.

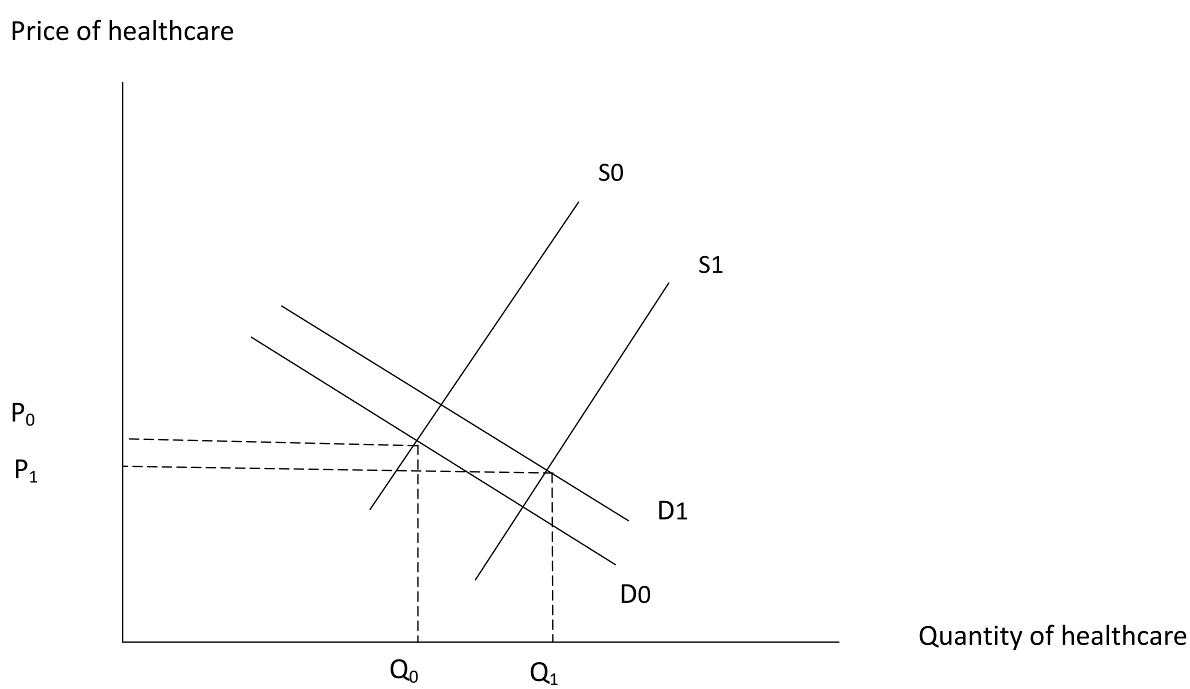
Introduction

Healthcare inflation is defined as the growth in prices of healthcare goods and services. It has been on the rise for the recent years. It is estimated that it will rise up 10.1% in 2019 compared to Singapore's core inflation 1.4%. Given that Singapore is facing an aging population, it is important for the government to intervene via both demand and supply side policies to reduce healthcare price inflation so as to increase accessibility and affordability for the lower income. Whether the policies are effective is dependent on its ability to tackle the **root cause** of the problem, the **sustainability** of the policies.

Body

P1: Direct Regulation

To reduce the healthcare inflation, the government could intervene via direct regulation. With direct regulation, the government is able to regulate the number of public hospital and the number of doctors. In view of the expected surge in demand from an aging population, government is constructing a new hospital every two years to increase the number of hospital beds to address geographical immobility for the patients. This will result in an increase in supply of healthcare services. Assuming that the increase in supply is greater than the increase in demand, there will be a surplus at the original price level, P_0. The surplus will exert a downward pressure on price, driving price from P_0 to P_1. Through direct regulation, the government would be able to reduce the healthcare inflation.



Limitations

To intervene via direct regulation, the government may experience imperfect information. They may overestimate and construct excessive hospitals. Given that demand for doctor is a derived demand, there will be an excessive demand for doctors. This will result in a distortion of labour market as it encourage more qualified students to study medicine than what the country needs, increasing deadweight loss. Moreover, given that government subsidise the training of doctors, there will be over-subsidisation due to imperfect information, resulting in greater deadweight loss. Hence, it take time for the government to calibrate the right balance between the number of hospitals, doctors and nurses.

In addition, healthcare services are supply-driven. By providing more beds, it does not necessarily brings down the price. It may pressurize doctors to admit patients more readily or keep them in hospitals longer than necessary. Given that inpatients cost is one of the driver for healthcare inflation, it might actually bring about greater increase in price of healthcare inflation.

P2: Subsidy

To reduce healthcare price inflation, the government could intervene via subsidy in primary care, hospitalization, day surgery, treatment at specialist outpatient clinic, home care, nursing home. Through these subsidy in production, it will reduce the cost of production. This will increase supply curve from S_0 to S_1, assuming that the increase in supply is greater than increase in demand, this will bring about a fall in the price from P_0 to P_1, reducing healthcare inflation.

Limitations:

However, subsidizing healthcare impose a drain on government's budget. Subsidies had risen from $2.6 billion to $5.6 billion since 2010 to 2016, pushing up government health expenditure, which increased to 2.4 times - from $3.9 billion to $9.3 billion. The increase in healthcare spending may not be sustainable for government especially in view of Singapore's aging population. The government may have to increase taxes to fund the healthcare expenditure. This will have an implication on the standard of living for the future. Furthermore, with more resources allocated to healthcare, there will be an opportunity cost incurred for other sectors too which could have an implication on other macro goals.

P3: Promoting healthy lifestyle campaign

Government can intervene by focusing on preventive healthcare. The purpose is to get people to stay healthy. Government can conduct programs by health promotion board (HPB) or even collaborate with firms to encourage their employees to participate in wellness program. This will reduce the likelihood of the population falling sick, reducing the demand for healthcare services in the long run. This in turn can slow down the rise in healthcare price inflation.

Limitations

However, with better preventive healthcare. It may actually result in increase in demand for healthcare services due to more informed consumers. This will increase the demand for preventive healthcare services. In the short run, there will be an increase in healthcare price inflation.

Moreover, it takes a long time for people to change their behavior especially for the older generation. They are accustomed to a certain lifestyles and habits that might not be healthy. Therefore, this policy has to be complemented with a short-term policy that has quick and effective results. Example. To encourage Singaporeans to eat healthier more, every Singaporean was given $100 Active SG credits to ensure that they exercise more. By giving incentives, it may encourage more Singaporeans to exercise. However, it also comes at a high implementation cost for the government.

Evaluation

[W] With aging population, advancement in technology, the increase in healthcare price will put pressure on the government to intervene. In view of the three policies discussed, with aging population, the amount of tax revenue received by the government will decrease and this will limit the government ability to do direct provision and subsidy in the long run, reducing its effectiveness in sustainability.

Moreover, public education such a preventive healthcare is the most effective policy as it address the root cause of the problem. It takes into account that people are living longer, with life expectancy going up but the numbers of years that people are living in poor health is also going up. Given that Singapore healthcare philosophy is based on the fundamental objectives of nurturing a healthy nation by promoting personal responsibility for one’s health. Therefore, preventive healthcare and having the population to stay healthy, it will help to reduce demand for healthcare, addressing the problem of healthcare inflation.

Knowledge, Application, Understanding and Analysis		
L3	A balanced and well-developed answer on the policies used by the government to address healthcare price inflation, with consistent use of examples related to Singapore context.	8 – 10
L2	An under-developed, balanced answer on polices deal with healthcare price inflation, with inconsistent use of examples and gaps in analyses. Capped 7m: If answers do not have limitations of the policies. Capped 5m: if the student is able to explain 1 policy very well.	5 – 7
L1	May have many and/or serious conceptual errors. May have relevant points that were made incidentally.	1 – 4
Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgement about government decision to implement policies to address healthcare price inflation. Might also question any unstated assumptions to arrive at this well-reasoned judgement.	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on government policies to deal with healthcare price inflation.	2 – 3
E1	For an answer that gives an unexplained, unsupported evaluative statement on government policies to deal with healthcare price inflation.	1

2 Discuss the extent to which government intervention is the main determinant influencing firms' profits in a country. [25]

Profits are defined as total revenue less total cost. In theory, it is assumed that firms such as monopolistic competition, monopoly and oligopoly maximise profits. However in reality, there are many factors such as government intervention, degree of barriers to entry influencing firm's profits in a country.

<u>Thesis:</u>

Government intervention is the main determinant influencing firms' profits for most natural monopolies in a country as these industries are likely to be producing essential goods and services such as electricity, gas and water. These industries are monopolies that have emerged due to significant economies of scale where long run average costs will be lower if the total output is produced by a monopolist rather than two or more large firms. It therefore makes sense for there to be only one firm in the industry. However, these natural monopolies may need to be regulated so that they do not charge excessive prices to the detriment of consumers.

The government might intervene the market with the aim of achieving allocative efficiency. The government can set a price that equals the monopolist's marginal cost of production (*marginal-cost pricing*). If P=MC, consumers will buy the monopolist's output, Q_{MC} at P_{MC} and societal welfare is maximised. Allocative efficiency is achieved.

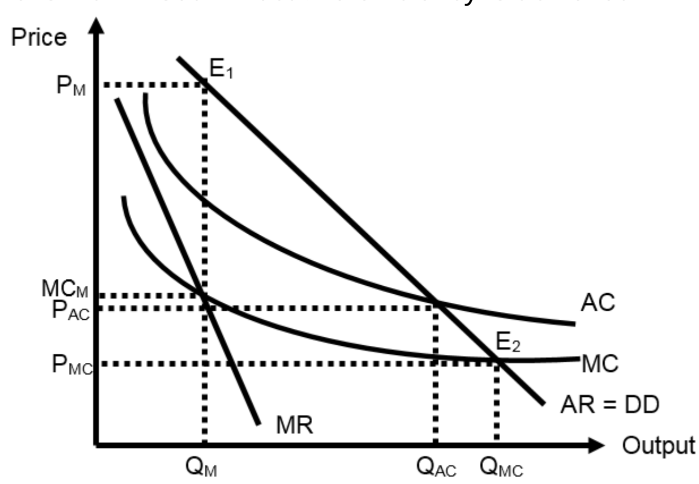


Fig. : MC-Pricing and AC-Pricing

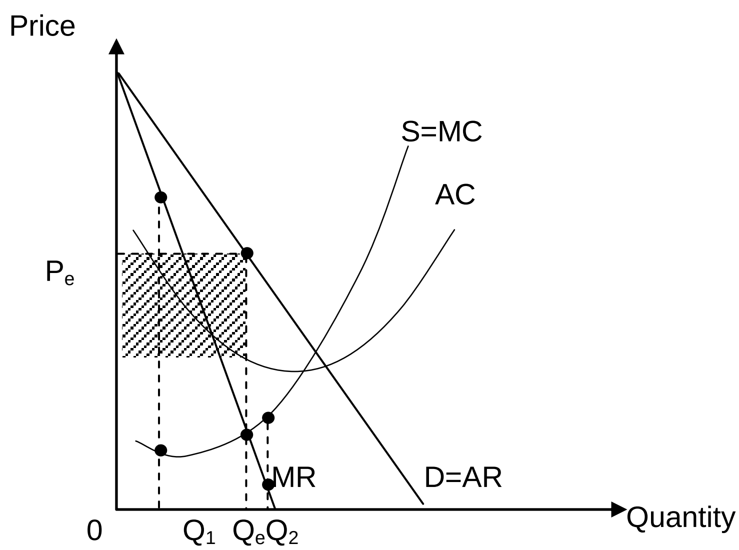
Natural monopolies are characterised by steeply declining long-run average and marginal cost curves such that there is room for only one firm to fully exploit available economies of scale and supply the market. Also, when average cost is declining, marginal cost is less than average cost. MC pricing thus results in the natural monopoly making subnormal profits (AC > AR at Q_{MC}). These firms are likely to leave the market, as such, the government may choose to take over such industries (nationalise) instead and absorb the resulting losses out of tax revenues. As industries have been nationalised and no longer profit motivated, there is less incentive to using the least cost method to produce the good and may suffer from X inefficiency, this means that AC incurred are higher, and subnormal profits are likely to be larger.

Government may also regulate price by imposing average cost pricing, this means that the the firm will price the good at P_{AC} and produce output Q_{AC}. This allows the firm to make normal profits (AC = AR). Although firms may still stay in the market, there is no incentive for them to innovate, this means that they are unlikely to expand their market through R&D to produce better quality products.

Antithesis:

Other factors such as objective of the firms, degree of barriers to entry and business cycles rather than government intervention are determinants of firms' profits.

The objective of the firm is one determinant that influence firm's profits. Based on self-interest, most firms aim to maximise profits and will set output where MR=MC.
Referring to Figure below, at output quantities below Qe, at Q_1, **MR>MC**. This implies that producing an additional unit of output adds more to the monopolist's revenue than to cost. Thus the monopolist should raise output level to Qe to maximise profits. Conversely, at output quantities above Qe, at Q_2, **MC>MR**. This implies that producing an additional unit of output adds more to the monopolist's cost than to revenue. The monopolist should lower output from Q_2 to Q_e to maximise profits.



Thus a profit maximising monopolist should produce Qe where **MR=MC**. From the demand curve (AR) the monopolist determines the price consumers are willing and able to pay at this quantity, and set its price at Pe. In so doing, it earns a maximum profit as shaded in Figure 1.

However some firms in the real world may not be setting prices to maintain profits as they may pursue alternative objectives, e.g. revenue, sales and market share maximization. Revenue maximising firms seek to maximise total revenue (i.e. they set price where marginal revenue = 0), while sales maximising firms seek to maximise output, subject to achieving a minimum profit level or normal profit. Firms which seek to expand their market share might even be willing to engage in predatory pricing or price wars, and make short term losses in order to capture market share from their rivals. Hence, such firms did not maximising profits. Supermarket selling perishables such as sushi are likely to charge a price to maximise revenue rather than maximising profit.

Furthermore, especially in large publicly listed companies in a country, a divorce of ownership and management might imply that owners and managers seek different objectives – owners might seek to maximise profits, while managers maximise sales revenue, which may be more closely related to managers' salaries and hence managerial utility (satisfaction). Therefore, in reality, it is unlikely that managers want to maintain profits. A **principal-agent problem** may arise where the shareholders (principal) who own the company cannot monitor whether the managers (agent) maintain profits or maximise profits and shareholder value. Managers might want to maximise revenue instead of maximising profits.

The degree of barriers to entry is one main factor influencing firms' profits.Barriers to entry prevent or impede the entry of firms into an industry and thereby limit the amount of competition faced by existing firms. These barriers to entry may be natural or created. Natural barriers to entry include the ownership or control of key resources where the firm may have access to natural resources. Created barriers to entry would include legal restrictions such as patents, copyrights and licenses. The barriers to entry influence the degree of competition in an industry, which in turn affects the number of firms or producers in the industry.

Oligopolistic firms have high barriers to entry, is constrained by the downward sloping demand curve, it would set prices at the output level where marginal revenue (MR) equates marginal cost (MC). The oligopolistic firm is able to maintain the price at P and make supernormal profits even in the long-run because of the strong or high barriers to entry. Potential entrants into the industry may find it extremely difficult to enter to compete away the monopolist's supernormal profits made in the short run due to the significant barriers to entry. For instance, potential entrants may not have the legal rights to do so or are denied access to resources needed for the production of the good or service. No new firm is able to enter the industry to compete away the supernormal profits. Hence, the monopolist is able to continue to set price at P where it maximises profits, and retain whatever supernormal profits it makes even in the long run.

On the other hand, monopolistic competitive firms such as hawker stalls and fashion shops faced low barriers to entry, other firms can enter and exit the market more easily.

Suppose a monopolistic competitive firm make supernormal profit in the short run, other firms may enter the market due to low barriers to entry. The MC firm will face a fall in the demand for the goods leading to a fall in the AR and MR and the curves becoming flatter due to an increase in substitutes available. The entrance of firms into the industry will continue until all profits are reaped away from the MC firms. This means that in the long run, it is the degree of the barriers to entry that determines the firms' profits.

In reality, in an open economy such as Singapore, oligopolistic firms tend to be contestable. Firms are likely to engage in research and development to maintain or increase their profits. In order to maintain or increase profits, big firms will have to keep engaging in research and development to create and sustain their artificial barriers to entry to protect their profits. Such behaviour would deter new innovation by new rivals since rivals would have difficulties accessing this patented knowledge to create new products. With high barriers to entry, they are likely to make supernormal profits in the long run.

During a recession, the nature of the product rather than government intervention influence firms' profits. For oligopolistic firms that are producing luxury goods and services such as branded bags and restaurant meals are likely to make lower profits. These firms are likely to be large by nature due to the high barriers to entry. A recession will lead to a fall in consumer incomes, and a more than proportionate fall in demand for these goods and services given that the YED values are likely to be large. This means a significant fall in the AR and MR, influencing the firms' profits negatively. Their profits are likely to fall or even make subnormal profits. On the other hand, for firms producing inferior goods such as poorer quality rice will enjoy an increase in their profits, this is because, a fall in income will lead to an increase in the demand for inferior goods as consumers switch from consuming normal good to inferior goods. This will lead to an increase in AR and MR, assuming costs constant will mean that firms' profits are likely to increase. However, in reality, the values of YED tend to differs from developed countries and developing countries. For example, a good like budget travel is a necessity or even an inferior good in a developed economy but is a luxury good for many people in a developing economy.

Evaluation:
(W)
In most countries, government intervention is not the main determinant of firms' profits when the deadweight loss from the underproduction of the good is minimal and the workings of the price mechanism does not lead to significant distributive failure in the market. Other factors such as the objectives of the firms, degree of barriers to entry and business cycles play a larger role in influencing firms' profits. This is because if the government intervenes in these markets, it might lead to greater deadweight loss from overconsumption instead, leading to a more inefficient allocation of resources. The main determinant influencing firms' profits is the degree of barriers to entry as it will have implications on the type of profit they make in the long run. In this case, the type of barriers to entry will influence the contestability of the markets leading to changes in firms' behaviours which would in turn affect their profits.

Knowledge, Application, Understanding and Analysis		
L3	For a thorough and well-balanced answer that provides good analytical structure to assess whether government intervention influence firms' profits with at least two other factors. Comprehensive illustration of real world examples.	**15 – 20**
L2	For a balanced but limited and undeveloped answer that has some analysis.	**9 – 14**
L1	For an answer that is largely descriptive and lacks a clear structure. Largely unexplained list of factor influencing firms' profits	**1 – 8**
Evaluation		
E3	Judgment is based on economic analysis and adequately substantiated with an evaluative conclusion on whether government intervention is the main determinant influencing firms' profits in a country.	**4 – 5**
E2	For an answer that makes some attempt at evaluation on whether government intervention is the main determinant influencing firms' profits in a country.	**2-3**
E1	For an unexplained assessment, or one that is not supported by economic analysis.	**1**

3. The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.

a) Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy. [10]

b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

a) Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy. [10]

Introduction:

Given that there is scarcity in resources due to limited resources and unlimited wants, there is a need to allocate resources efficiently to ensure no wastage of resources. In a free market economy which uses price mechanism, resources are allocated based on demand supply market forces.
Direction: This essay aims to explain how price mechanism seeks to answer the three questions of what and how much to produce, how to produce and for whom to produce to ensure economic efficiency is achieved.

Body:

P1: What and how much to produce will ensure that price mechanism achieves allocative efficiency.
E1: In terms of ensuring the right type and the right amount of good produced, the price mechanism would ensure more resources are channeled towards producing goods which fetch a higher price. For example, when there is a rise in demand for laptops, there will be a shortage of laptop. The unsuccessful consumers will bid up the price of laptops which exerts upward pressure on the price of laptops. This will incentivize profit maximizing producers to increase their quantity supplied of laptops since higher price and quantity will bring them greater revenue, assuming cost constant, greater profits. This means that more resources will be channelled towards producing laptops. In contrast, when there is a fall in demand for personal computers, there will be a surplus in the market. The producers will lower the price of the good to get rid of excess stocks through getting consumers to increase their quantity demanded. As price falls, producers will cut back quantity supplied as it is less profitable now and thus channel less resources to production of goods with declining demand. In this way, the price mechanism has ensured the right type of the good is produced in the right amount. Hence, allocative efficiency is achieved.

P2: When price mechanism allocates resources based on the question of how to produce, it can achieve productive efficiency.
E2: Based on prices of inputs in the factor market, profit maximizing producers will produce the good which using the least cost combination of inputs to produce the final goods at the lowest

possible average cost of production at every given level of output. A combination of inputs with more labour relative to capital is labour intensive method of production whereas a combination of inputs with more capital relative to labour is capital-intensive method of production. Assuming 2 factors of production- capital and labor, to produce 1000 units of a particular good (curry puffs),

Combination	.Labour (workers- $20 each)	Capital (machine - $100 each)	Output produced (Curry puffs)	Cost of production
1	10	2	1000	$400
2	3	8	1000	$860
3	6	4	1000	$520

there are a few permutations of inputs which the producer can adopt to produce the given level of output. (Refer to Table 1). Profit maximizing producer will choose the first combination of input (labour-intensive method of production) since it is the least cost combination of inputs, thus price
mechanism has helped to ensure that productive efficiency is achieved
Table 1: Combination of capital-labour based on prices of inputs

P3: Through the question of for whom to produce, the price mechanism can ensure no wastage of resources.

E3: Price mechanism will ensure that goods are produced for consumers who truly desire to obtain the good, backed by the ability to do so. In the free market, the consumers who truly want to obtain the good will bid the highest price for the good. In this way, more resources are channeled towards production of this good for this particular group of consumers, and those without the willingness or ability will not be ability to obtain the good. In this way, the good is produced for consumers with effective demand, those who truly want it backed by the ability to do so. Thus ensuring resources are not wasted and economic efficiency is achieved.

Conclusion:

Although price mechanism is able to allocate resources efficiently in a free market through the 3 questions, it is based on the assumptions of perfectly competitive market with perfect knowledge and perfect mobility of factors of production. It is also assumed that there are no externalities and the good is rivalrous and excludable. It is worth noting that it is not possible to solve scarcity since resources would always be limited relative to unlimited human wants and price mechanism is only able to reduce it through allocating resources in the most efficient manner to avoid wastage.

Alternative answer based on explanation of how consumers maximize consumer surplus and producers maximise producer surplus is also acceptable.
Answer would be to explain the meaning of scarcity in the allocation of resources, followed by an explanation of the operation of the price mechanism in a free market economy, by tracing through the effects of a change in demand or supply conditions for an exemplar product, and then linked the two together.

Knowledge, Application, Understanding and Analysis

L3	Developed explanation of how price mechanism leads to allocative efficiency through shortage and surplus, productive efficiency (using Table) and no wastage of resources. Consistent link to allocative efficiency, productive efficiency and no wastage of resources.	8-10
L2	Underdeveloped explanation of how price mechanism leads to allocative efficiency, productive efficiency and/or wastage of resources.Incomplete links to either type of efficiency.	5-7
L1	Smattering of valid points. Did not use relevant economic framework. A superficial answer which describes or lists how efficiency is achieved through price mechanism.	1-4

3. The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.

b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

Introduction:

Direction: This essay aims to explain the two different types of market failure in the respective countries and how each approach achieves efficiency in resource allocation, taking into consideration the relative effectiveness, ability to tackle root cause, desirability as well as sustainability of the 2 approaches.

Tourism in Singapore is considered to be generating positive externalities which means there is underconsumption of tourism services in Singapore. As such, Singapore government gives subsidies to increase consumption to socially optimum output level.

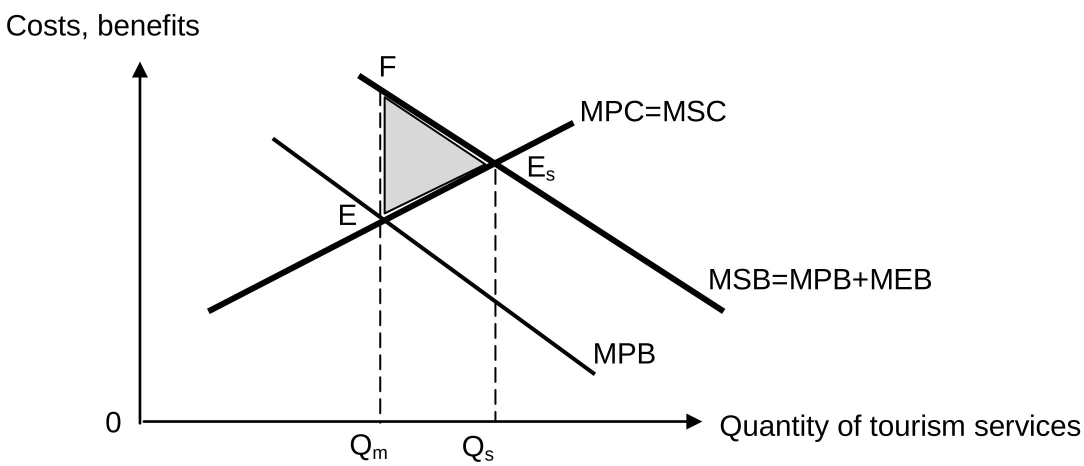
In contrast, tourism in Italy is deemed to be generating negative externalities so this means there is overconsumption of tourism services in this country. As such, the government imposes tourist tax to cut back consumption to socially optimum output level.

Body:

P1: The tourism sector in Singapore generates positive externalities which cause under consumption of tourism services in the country.

E1: Tourism sector in Singapore generates positive externalities when the tourists visit Singapore. The marginal external benefits is the third party benefits gained by those not directly involved in the economic transaction of tourism service and yet did not pay for the benefits. They could be the firms in tourism related industry such as hotel, retailing and food and beverage firms which earn more income due to more tourists consuming their goods or services. As such, the marginal social benefit is greater than the marginal private benefit as seen in Figure 1. The market equilibrium determined by the producers and consumers of tourism is where MPB=MPC at Qm. The social equilibrium is where MSB=MSC at Qs. There in underconsumption of tourism services as the market output level of tourism services (Qm) is less than the socially optimum output level (Qs). There is a wastage of resources elsewhere as society misses out on what they could have benefitted if they had consumed more at Qs. Between the underconsumed region QmQs, the total benefit to society exceeds the total cost resulting in a net benefit which was not gained by society (Area FEsE) due to underconsumption. This wastage of resources is deadweight loss, warranting government intervention to raise consumption level to Qs.

Figure 1: Tourism services generating positive externalities



P2: The economic case for Singapore government providing indirect subsidies is to increase consumption of tourism services to socially optimum output level.

E2: Subsidy provided through Tourism Development Fund by amount MEB shifts MPC curve down from MPC to MPC + subsidy in Figure 2. This lowers cost of producing tourism services, assume revenue constant, there will be higher profits. This will lead to a rise in supply of tourism services which creates a surplus of tourism services exerting downward pressure on price of tourism services. A lower price of tourism services from P_0 to P_1 will lead to a rise in quantity demanded of tourism services from Qm to Qs, achieving socially optimum output level achieved when MEB is estimated accurately.

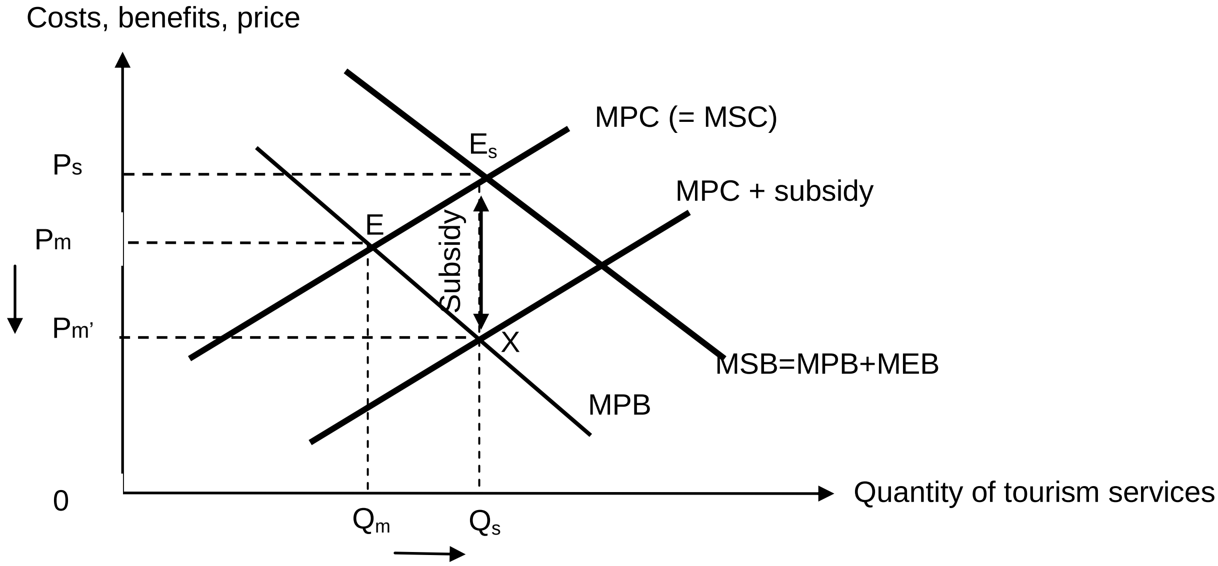


Figure 2: Subsidy to achieve socially optimum level

P3: The economic case against Singapore government providing indirect subsidy to tourism services is that it can greater inefficiency in resource allocation.

E3: The Singapore government has imperfect knowledge and hence, may not estimate MEB accurately as the positive effects of tourism is extensive. Overestimation of subsidy results in price of tourism services reduced too low causing a significant rise in quantity demanded of the services beyond Qs which leads to overconsumption of tourism services. This results in a wastage of resources which is considered an inefficiency in resource allocation. Subsidy then, may not be a very effective policy. Singapore government should not provide subsidy if the deadweight loss created is greater than the initial deadweight loss due to underconsumption.

P4: Another economic case against Singapore government providing indirect subsidy is the trade-off compromising other economic goals such as equity in income distribution.
E4: As the government has limited budget reserves, providing indirect subsidy to tourism services will mean less funds available for other economic development programmes such as healthcare or education. There will be opportunity cost in terms of net benefit from the next best alternative foregone, in this case, cheaper healthcare services available. When prices of healthcare get too high, it becomes unaffordable for many people especially the low income group. Having less access to basic necessities due to lack of purchasing power caused by

rising prices means there is unfair distribution of resources which signals inequity in income distribution. Hence, goal of equity in income distribution is compromised.

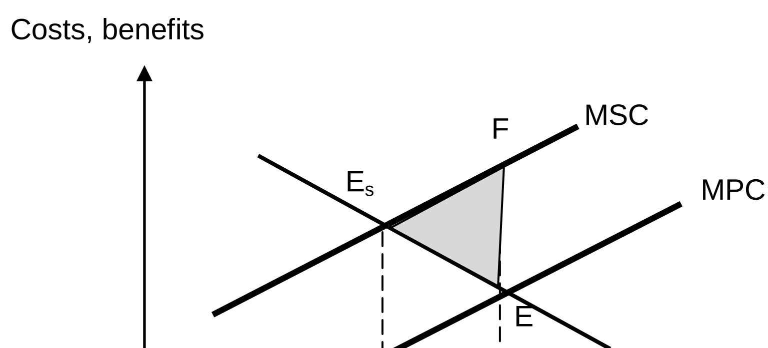
<u>Evaluation:</u>
Whether the Singapore government should provide subsidies to encourage consumption of tourism services depends on the extent of MEB and the reason why there in underconsumption. The government also has to weigh the trade-offs and its repercussions on Singapore economy, especially with the more pressing concern of ageing population and its healthcare needs.
It may be the case of even with tourism services made cheaper, consumers may not be very responsive to price cut due to more attractive and cheaper neighbouring Asian destinations like Malaysia or Indonesia→ As such, quantity demanded of education rises less than proportionately as Singapore is not seen as a close substitute destination to these neighbouring countries. Hence, the current subsidy may not be very effective in increasing consumption. The Singapore government may need to pump in a substantial amount of subsidy to achieve the desired socially optimum output level which means the trade-off may be greater for Singapore. It may even be the case whereby the costs from inequity and lower SOL due to less access to healthcare exceeds the benefits of achieving efficiency in resource allocation which is a case against subsidy given to tourism services.

Alternative consideration can include tourism as a large proportion of country's GDP and could be country's potential Comparative Advantage enabling the country to enjoy greater X revenue, employment and economic growth if more resources are channeled towards tourism.

P5: The tourism sector in Italy generates negative externalities which cause over consumption of tourism services in the country.

E5: Tourism sector in Italy generates negative externalities when the tourists visit Italy. The marginal external costs is the third party costs incurred by those not directly involved in the economic transaction of tourism service and are not compensated for. They could be the residents living near places of interest who could be facing land pollution due to tourists littering or water pollution due to many cruise ships causing oil spillage in the water sources. Those who earn income from the water source such as farmers or fishermen may suffer from loss of income. As such, the marginal social cost is greater than the marginal private cost as seen in Figure 3. There in overconsumption of tourism services as the market output level of tourism services (Qm) is greater than the socially optimum output level (Qs). There is a wastage of resources as there is a net cost to society (Area FEsE), warranting government intervention to reduce consumption level to Qs.

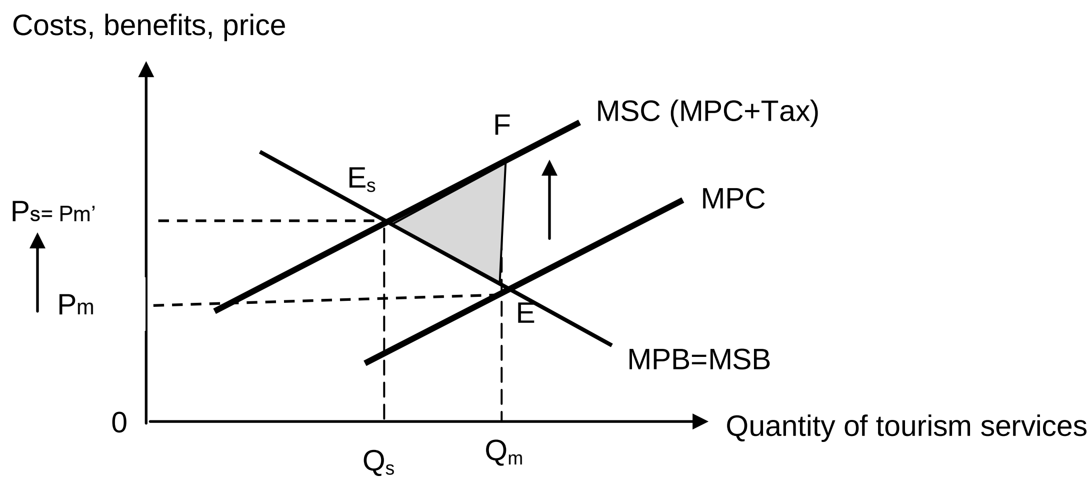
Figure 3: Tourism services generating negative externalities



P6: The economic case for Italy government imposing tourist tax is to decrease consumption of tourism services to socially optimum output level.

E6: Tourist tax by amount MEC shifts MPC curve up from MPC to MPC + tax in Figure 4. This increases cost of producing tourism services which will raise the price of tourism services from P_0 to P_1. A higher price will lead to a fall in quantity demanded of tourism services from Qm to Qs. Fewer tourists into the country means less negative externality generated, achieving socially optimum output level achieved when MEC is estimated accurately.

Figure 4: Tourist tax to achieve socially optimum output level



P7: Another economic case for tourist tax is this approach allows the country to sustain its efficiency in resource allocation.

E7: With greater tax revenue collected through tax, the revenue obtained could be channeled towards building infrastructural facilities such as eco-friendly accomodations or hold campaigns to conserve the environment. The externalities created by tourism can be corrected using tax revenue collected. In this manner, the efficiency in resource allocation outcome can be sustained till the long run.

P8: However, tourist tax is not without its limitation as it can lead to trade-offs of lower employment and economic growth which form the basis for the economic case against tax.

E8: Imposing tax to reduce the number of tourists can result in a fall in export revenue since exporters would be receiving lower price and output. Assuming no change in import expenditure, a fall in net export revenue can lead to a fall in aggregate demand which reduces the country's employment and real national output since production of goods and services is reduced.

Evaluation:

The case for tax would outweigh the case for tax if Italy is facing too large MEC that not only it causes inefficiency in resource allocation, the depletion of resources also impedes sustainable economic growth in future. Having said that, if Italy is highly dependent on its tourism sector for employment opportunities to generate employment and economic growth, imposing tax which curbs the number of tourists may have larger and more severe repercussion when her (X-M) falls and (X-M) is a significant component of GDP if a large proportion of export revenue comes from tourism. The government needs to weigh the pressing concerns in the country in terms of achieving efficiency in resource allocation or greater employment and economic growth in the short run.

All in all, given Italy's current overcrowding issue due to tourism influx as a result of its sinking country and Singapore's current ageing population concerns, it seems that Italy has a stronger case for tax to curb her large MEC compared to Singapore's case for subsidy to correct her MEB problem. Simply because, for Singapore, leisure tourism is not her niche market. Even without subsidy, medical tourism which is a booming industry for Singapore due to her advanced technology and highly skilled medical officers will continue to attract tourists over time. Government budget should in fact be used to subsidise healthcare for the locals to reduce discrepancy in accessibility to advanced medical care between the tourists and locals.

Knowledge, Application, Understanding and Analysis		
L3	Developed explanation of how positive and negative externalities (with diagrams) lead to inefficiency in resource allocation. Detailed explanation of how subsidy and tax leads to efficiency in resource allocation and at least one case against each approach.	8 – 10
L2	Underdeveloped explanation of how positive and/or negative externality lead to inefficiency in resource allocation Explanation of how subsidy and/or tax leads to efficiency in resource allocation and one case against either approach.	5 – 7
L1	Smattering of valid points.	1 – 4

Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgement about whether the case for outweigh or does not outweigh the case against for the 2 different approaches for the respective countries and between the 2 countries	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on whether case for outweigh/does not outweigh the case against for each approach.	2 – 3
E1	For an answer that gives an unexplained, unsupported evaluative statement on whether the case for outweigh or does not outweigh the case against for either approach.	1

4. April 2016 marked 18 consecutive months of negative inflation for Singapore arising from lower global crude oil prices and cheaper housing, utilities as well as transport costs. Faced with a challenging external environment, the Singapore economy will also see a slowdown of growth between 1% and 3% this year.

Source: *Singapore Business Review* 24 May 2016

(a) Explain the internal and external factors that are likely to have contributed to deflation in Singapore. [10]

(b) Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth. [15]

Introduction:

Deflation is a period of sustained and inordinate fall in general price level of finals goods and services in a country.

Direction: This essay aims to explain factors caused by domestic and international changes which lead to a persistent fall in GPL.

Body:

P1: External factors like lower global crude oil prices are likely to have caused a deflation in Singapore.

E1: Singapore has limited resources and thus, is very dependent on imported inputs such as oil to produce fuel and other related goods and services. A fall in global crude oil price means a lower price of imported oil in Singapore which lowers cost of producing final goods and services by large extent, assuming revenue remains unchanged, profits will be higher. Profit maximizing producers increase SRAS of final goods and services significantly. Huge surplus created will exert downward pressure on GPL causing deflation.

P2: Singapore's deflation can also be caused by external factors like challenging external environment.

E2: Challenging external environment can include economic slowdown of trade partners. When trade partners have a fall in real national income, their purchasing power falls. There will be a fall in demand for Singapore's exports causing a fall in export revenue. As Singapore is trade reliant, export is a significant component of GDP. Any fall in export revenue, assuming import expenditure unchanged, there will be a large fall in (X-M). When (X-M) falls, AD will fall causing GPL to fall persistently resulting in deflation.

P3: Internal factors like cheaper housing, transport costs and utilities are also likely to cause deflation in Singapore.

E3: Cheaper housing, transport costs and utilities would mean that expenditure on these goods and fall since PED is less than one due to housing and utilities being necessities. When price falls, quantity demanded rises less than proportionately, ceteris paribus, leading to a fall in total expenditure. As housing, transport costs and utilities in total take up a relatively large proportion of household's income, it is significant enough to cause a fall in consumption expenditure in the country. When C falls, AD falls as C is a component of AD. Surplus created exerts downward pressure on GPL causing persistent fall in GPL which caused deflation in Singapore.

<u>Conclusion:</u>

It is worth noting that these factors are happening simultaneously which means that both fall in AD and rise in SRAS reinforce each other causing a large persistent fall in GPL. Given Singapore's open nature and highly reliant on trade, it is more likely that external factors have a stronger influence in causing deflation in Singapore compared to internal factors.

Knowledge, Application, Understanding and Analysis		
L3	Developed explanation, using AD/AS framework, of how both internal and external factors caused a persistent fall in GPL in Singapore context.	8-10
L2	Underdeveloped explanation of how internal and/or external factor/s caused a persistent fall in GPL. Largely theoretical answer with some use of AD/AS framework.	5-7
L1	Smattering of valid points. Did not use AD/AS framework. A superficial answer which describes or lists how internal or external	1-4

	factor/s caused a persistent fall in GPL.	

b) Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth. [15]

Introduction:

Slow economic growth is a concern as a small rise in real national income may deter investors and households from spending which can in turn cause a fall in employment and economic growth eventually.

While deflation may seem desirable, severe deflation can create a contractionary effect on the economy as the households and investors hold back spending in anticipation of a future price fall and the rise in real debt may also deter borrowing causing further fall in spending leading to a fall in employment and economic growth.

Direction: This essay aims to explain how expansionary fiscal policy can help to raise general price level and real national output, taking into consideration the relative effectiveness, ability to tackle root cause of problems as well as sustainability in comparison with other policies.

Body:

P1: Expansionary fiscal policy can help to raise GPL and real national output when faced with deflation and slow economic growth.

E1: Expansionary fiscal policy involves deliberate increase in government expenditure and/or reduction in tax rate. When government increased spending on infrastructural facilities such as MRT Downtown Line, there will be a rise in AD leading to a rise in real national income. This rise in income will trigger a further rise in induced consumption causing a further rise in AD due to the effects of spending and re-spending causing multiple rise in real national output, boosting economic growth. When more resources are increasingly utilised due to greater production of goods and services, there will be a shortage of final goods and services exerting upward pressure on GPL leading to a rise in GPL, hence, reducing deflation.

Expansionary fiscal policy also involves cut in tax rate such as personal and corporate income tax. Reduction in personal income tax rate can increase the households' disposable income which enables them to increase their consumption expenditure C. The cut in corporate income tax can raise firms' after-tax profits allowing them to spend more on capital goods which increases investment expenditure I. This rise in AD due to rise in C and I will generate similar multiplied effects as explained earlier to boost real national output and GPL.

This policy is especially effective in tackling root cause when dealing with deflation problem brought about by fall in C and I.

P2: Given that Singapore has small multiplier size, expansionary fiscal policy has limited effectiveness on boosting employment and economic growth.

E2: Singapore has small multiplier size due to her high dependency on imports and large savings which leads to large leakage. Being highly dependent on imported inputs to produce most of her final goods and services as she has limited resources, there is a large leakage of imports. Being small, the government has also mandated a compulsory saving scheme, Central Providend Fund, which is a social security system to get the citizens to set aside savings to be self-sufficient so that the country will not be overly reliant on the working population to fund them through tax. As such, for every additional income earned, a large proportion is leaked out, resulting in small amount of income available to be re-spent to generate income and another round of spending. As such, the multiplier effect reaches an equilibrium quickly. This means the multple rise in real national income is limited causing the expansionary fiscal policy to not be very effective in generating growth. In such a case, the government will combine expansionary fiscal policy with exchange rate policy to boost economic growth to a larger extent.

P3: Adopting a zero-appreciation exchange rate policy is another way to manage the economy during slow economic growth and deflation.

E3: In a zero-appreciation exchange rate policy which is equivalent to a depreciation, Singapore's exports will be cheaper in foreign currency and imports will be more expensive in domestic currency. Assuming PEDx and PEDm is greater than 1 due to many close substitutes available, quantity demanded for exports will rise more than proportionately and quantity demanded for imports will fall more than proportionately. As such, there will be a rise in export revenue and a fall in import expenditure causing a rise in net export revenue (X-M). A rise in (X-M) will cause AD to rise and as explained earlier, it can boost both real national output and GPL managing both slow economic growth and deflation problem.

This is especially effective when dealing with deflation and slow growth problem stemming from challenging external environment which caused Singapore's (X-M) to fall as it tackles the root cause of the problem.

<u>Evaluation:</u>

During a slow economic growth, it is quite likely that the Singapore government will face some budget constraint since there will be a decline in the rate of increase in tax revenue collected and a small fall in spending on welfare benefits. Should the government decide to borrow from bank to finance its spending through expansionary fiscal policy, the demand for loanable funds will rise driving up interest rate. When interest rate on loans rise, cost of borrowing will also increase which will then deter investors and households from borrowing and spending on capital goods and big ticket items respectively. The fall in investment I and consumption C expenditure will negate the effect of the rise in G. As a result, the rise in AD is a small extent causing small in real national output and general price level. In this context, due to crowding-out effect, expansionary fiscal policy is relatively less effective than zero-appreciation in managing the economy. This is especially so since Singapore being trade dependent has her (X-M) as a very significant component of GDP which means any rise in (X-M) due to zero-appreciation will lead to a larger rise in real national output and GPL, making it a more effective policy than expansionary fiscal policy.

Having said that, zero-appreciation is relatively less sustainable than expansionary fiscal policy for the same reason of Singapore being highly dependent on trade. As Singapore is highly dependent on imported inputs, a zero-appreciation will lead to a large rise in cost of production as price of her imported inputs such as steel and oil rises in domestic currency. This will cause her SRAS to fall by a large extent which may accelerate the effects of rising GPL brought about by a rise in AD as the effects reinforce each other causing a large shortage. At the moment it is not such a serious concern as there is global fall in crude oil prices which means the fall in cost of production can negate this rise in cost to negate the impact of fall in SRAS. While a rise in GPL during deflation is required, the extent of the rise and the cause of the rise has to be monitored. A large rise in GPL which is a sign of high inflation is also not desirable for Singapore since she needs to keep her exports competitively priced to generate external demand and also keep her cost of production low to attract investors. In addition, a rise in GPL due to fall in SRAS is not desirable because at the same time, real national output falls reducing the purchasing power of the people to a large extent. As such, expansionary fiscal policy is more sustainable than zero-appreciation since rise in I can help to increase the productive capacity of the economy as quantity of resources rises. This leads to a rise in LRAS which will negate the rise in GPL due to rise in AD, keeping inflation under control.

P4: Singapore government also manages the economy through interventionist supply side policy to boost potential economic growth and manage deflation in long run.

E4: Interventionist supply-side policies such as training and re-training is ideal during slow economic growth. The government sets up Workforce Development Agency to roll out programmes such as Skills Redevelopment Programme and Skills Future to upgrade the skills of the people. During slow economic growth, there can be a cut down in production activities in some sectors and some workers may be left idle. During this period, government will encourage firms to send them for training courses to equip them with relevant skills for new job opportunities when the economy picks up. By enhancing their productivity as they become more proficient at their jobs, for example, being able to use technology to speed up production process and hence increase output per unit time, the quality of resources increase. This leads to a higher productive capacity which can lead to a rise in LRAS. When this happens, full employment output level rises increasing the country's potential economic growth. The rise in LRAS also can keep inflation rate under control when AD rises.

Evaluation:

Expansionary fiscal policy is more effective than supply-side policies involving training/re-training as the latter has time lag effect. It takes time for workers to pick up skills before they can apply it them in their jobs. This is especially for Singapore which is currently facing ageing population issue and the large proportion of elderly in the workforce may tend to be relatively slower in their ability to pick up new skills. In contrast, spending on infrastructural facilities or reducing tax rate has a relatively more immediate effect in generating spending and boosting AD. In 2009, when Singapore government embarks on expansionary fiscal policy, the real GDP growth rises by 14.7% in 2010. This means that expansionary fiscal policy can tackle the problems of slow economic growth and deflation more immediately.

Having said that, training is a more sustainable policy than expansionary fiscal policy as Singapore has a limited land space so there is only so much government can do in developing and re-developing its infrastructure and it cannot keep reducing tax rate as it will have an adverse consequence on its budget. Yet with ageing population, should the labour skills not match with the new job opportunities created, it may give rise to another set of economic problems such as inflation and structural unemployment.

In my opinion, expansionary fiscal policy is definitely the most effective way to boost real national output and GPL in the short run moderately but it cannot be used on its own as it has its limitations which can only be mitigated by the strengths of other policies. In Singapore's context, while there is a need to manage deflation and slow growth, it is trickier to deal with deflation problem as Singapore cannot afford to have rising GPL to a large extent given her nature of high dependence on exports and investment. It is also important to consider the root cause of the slow economic growth and deflation problem before deciding on appropriate policies to manage the economy effectively.

Knowledge, Application, Understanding and Analysis		
L3	Developed explanation, using AD/AS framework, of how expansionary fiscal policy and 2 other policies increase both real national output and GPL	8 – 10
L2	Underdeveloped explanation of how expansionary fiscal policy and/or 1 other policy increases real national output and/or GPL Missing gaps in analysis and may not use AD/AS framework consistently	5 – 7
L1	Smattering of valid points. Descriptive ideas of expansionary fiscal policy and may not link to both GPL and real national output	1 – 4
Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgement about whether expansionary fiscal policy is more or less effective than 2 other policies based on Singapore context	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement on whether expansionary fiscal policy is more or less effective than another policy.	2 – 3
E1	For an answer that gives an <u>unexplained, unsupported</u> evaluative statement on whether expansionary fiscal policy is more or less effective than another policy	1

5 **(a)** How do economists compare the economic performance of different countries? [10]

(b) Discuss the extent to which an increase in labour productivity is the key driver to improving living standards. [15]

Introduction

Economic performance of a country is measured by its ability to achieve the various macroeconomic objectives. These are sustained economic growth, low unemployment, low inflation and healthy balance of payments. One of the key macroeconomic objectives that is looked at to ascertain economic performance of a country is economic growth, the main indicator of this being Gross Domestic Product (GDP). To compare economic performance across countries, however, it is not be enough to just look at the absolute value of GDP. Because of different demography, economic conditions and characteristics across countries, there's a need to factor in these differences for a better comparison of economic performance across countries.

Gross Domestic Product is defined as the sum of the money value of all final goods and services produced within the domestic territory of the country during a specific period of time and sold at organized markets. Looking at GDP value alone however, may overstate the economic performance of a country as high GDP value of a country may be a result of high prices of goods and services and not necessarily due to high quantity of actual output produced. A better indicator to measure the value of national output is real GDP. Real GDP is the value of national output adjusted for the effects of inflation. To compare value of national output across countries, however, real GDP doesn't suffice. A large country having a greater GDP compared to a smaller country is expected due to the size of the respective countries' labour force. Therefore for better comparison of economic performance across economies of different sizes, it is better to look at real GDP per capita. Real GDP per capita is computed by taking real GDP and dividing it by the size of the population. Real GDP per capita of a country indicates whether an average citizen is benefitting from the country's increased economic production more than another country's citizen. Therefore, economists view real GDP per capita as a more accurate indicator to compare economic performance across countries.

However, when comparing GDP per capita of different countries, they are measured in the local currency and thus have to be converted into a common currency at the current exchange rate. But the exchange rate may be a poor indicator of the purchasing power of the currency at home. For example, S$10 may exchange for, say, 50RMB but S$10 may not buy the same amount of goods in Singapore as 50RMB in China. To compensate for this, GDP can be converted into a common currency at a purchasing-power parity rate. This is the rate of exchange that would allow a given amount of money in one country to buy the same amount of goods in another country after exchanging it into the currency of the other country. Using such rates gives PPP-adjusted GDP per capita which is a better indicator for comparing economic performance across different countries.

Other than the usual key indicator raised above, another measure that can indicate economic performance of a country is also its unemployment rate. Although PPP-adjusted real GDP per capita is a good indicator to compare economic performance, it may not be holistic. Although a country may be generating high output levels, it may be short of its potential. Another country that may not be producing that high a level of output may be fully utilising its resources. Hence the spread of the economic activity in the country may also be important in determining performance of the economy. Low unemployment rate suggests most of the labour resource in the country have been effectively mobilised/utilised to produce a given level of output.

In addition, when economists compare economic performance across countries, it may also be in their interest to find out whether countries that record high growth are growing at a sustainable rate or whether the growth rates registered are rapid but unsustainable growth rates. For this, economists may turn to look at percentage changes in inflation rate to determine whether a country is overheating and the possible outcome of this on future growth.

The Balance of Payments (BOP) position can also provide an indication of different countries' external economic performance. If a country has a large BOP deficit due to a current account deficit, it may suggest that the country's exports are not competitive and is likely to be drawing down on foreign reserves. Furthermore, with current account deficit, it will cause the exchange rate to depreciate, resulting in unstable exchange rate. This would signal poorer economic performance compared to other countries.

In conclusion, when economists compare economic performance across countries, the indicators mentioned above are a good guide. It also may be necessary for economists to know at which stage of economic development a country is in as it may be an important factor determining growth rates. For instance, developing countries tend to register high growth rates compared to developed countries because the potential for growth may be so much more when a country is at its early stages of industrialisation. Hence, lower growth rates of developed countries compared to developing countries may not necessarily mean that the economic performance of developing countries is always better. Many other considerations have to be taken into account to come to an accurate conclusion regarding the economic performance of different countries.

	Knowledge, Application/Understanding and Analysis	
L3	An answer that provides a clear and thorough explanation using indicators (GDP per capita PPP and 2 other indicators) to compare economic performance of different countries.	8 – 10
L2	An answer that provides a good explanation of the indicators used to compare economic performance of different countries. Capped 7m - If student fails to explain GDP per capita PPP. - If student only explain GDP per capita PPP	5 – 7
L1	Answer may also demonstrate weak knowledge and application of the indicators used to compare economic performance of different countries, possibly with multiple conceptual errors.	1 – 4

b) Discuss the extent to which an increase in labour productivity is the key driver to improving living standards. [15]

When there is an increase in labour productivity, it will increase the output per man hour, thus resulting in a more productive workforce. With a more productive workforce, it will improve both material and non-material standard of living. Whether labour productivity is the key driver to improving standard of living is dependent on the characteristics of the country, the current economic condition and the conflicts that labour productivity might bring about.

Body

P1: Increase in labour productivity is the key driver to improve living standard.

Increase in labour productivity will result in a fall in the unit cost of labour which brings about a reduction in cost of production. With a fall in cost of production, there will be an increase in SRAS, bringing a fall in general price level and an increase in real national income. With an increase in real national income, there will be an increase in purchasing power, increasing quantity of goods and services consumed, hence, increasing material standard of living.

At the same time, with an increase in labour productivity, there will be an increase in labour efficiency. Labour are more productive as they are able to produce the same output with less time. This will increase the quality of life as time are freed up for leisure activities. This will result in an increase in non-material standard of living.

For a country like Singapore that is **currently experiencing aging population,** there will be a decline in labour growth as the rate of older workers leaving the labour market is larger than the rate of young workers entering the workforce. Due to the fall in quantity of labour, this will cause a decreases in the productive capacity of the economy. In order to increase the productive capacity to ensure a sustained increase in future standard of living, the government could increase labour productivity to address the problem of aging population to sustain the increase in material standard of living. Hence, labour productivity is the key as it address the **<u>current economic condition</u>** of the country.

Even if the firms recognise that increasing labour productivity helps to lower cost of production for them, they are not keen to adopt it due to the high cost involved in the training of workers and the time taken for it to work. Moreover, even with training, it might not increase efficiency as the effectiveness of training is dependent on the receptiveness of the worker. This might be more challenging in view of aging population as older workers usually find it more difficult to pick up new skills and they are usually more reluctant to change their mindset.

P2: Increase in labour productivity is not the key driver to improve living standard in Singapore. The government would need to consider other factors such as the **size and openness** (**characteristics**) of Singapore economy. Given that Singapore is a small and open economy that is highly dependent on external demand, any trade barriers erected by other countries result in significant costs for Singapore. With the increasing protectionism policies that Singapore's major trade partners such as US, China are adopting, the overall decrease in national income brought by a decrease in net exports will be greater than the increase in national income that is brought by an increase in labour productivity. Therefore, the increase in labour productivity to achieve an increase in standard of living is limited due to less trade occurring.

For Singapore to improve material standard of living, **it is key** for Singapore to deepen global connection by **signing more FTAs.** A free trade agreement (FTA) is a treaty between two or more countries to facilitate trade and eliminate trade barriers. It aims at eliminating tariffs completely from day one or over a certain number of years.

This will allow Singapore to produce these goods at lower opportunity cost and specialize in it. By greater access to foreign market due to FTAs, it will allow Singapore to trade with other countries leading to an increase in material standard of living as now she is able to consume beyond the PPC.

However, with signing of more FTA, it might result in an increase in structural unemployment. Domestic firms that exist in relatively less competitive industry may find it difficult to compete with foreign firms and have to leave the industry now that the tariffs have been removed between member countries. The retrenched workers may not find jobs in other industries as they lack the necessary skills. With an increase in structural unemployment, there will be worsening of material and non-material standard of living.

P3: The key driver to improve non-material standard of living is the implementation of **progressive income taxes**. Given that Singapore has one of the highest Gini coefficient **[current economic condition],** it is important for the government to reduce the income inequality to increase non-material standard of living.

The government could implement progressive income tax by getting the high income earners to pay a higher marginal tax rates compared to the lower income earners. The tax revenue which is collected from the higher income earner can be redistributed as subsidies to make healthcare, education and housing affordable to lower income family, improve equity. This will help to increase non-material standard of living.

The time taken for progressive tax system to bring about an increase in income equity is shorter than the measure to increase labour productivity. Progressive tax system does not strain the budget compared to measures that increases labour productivity.

With high progressive income tax, it means that the higher income earner will experience a higher decrease in disposable income. This might deter foreign talent from coming to Singapore. Given that Singapore is a small economy, a decrease in foreign talent will reduce the quality of labour in Singapore, resulting in a decrease in productive capacity. With a decrease in productive capacity, it will be difficult to sustain standard of living in the future. Therefore, it is important to tweak the tax system such that the needs of the middle class and that of high net worth individuals needs are balanced

Evaluation

To determine whether an increase labour productivity is the key driver to improve living standard is dependent on the openness of Singapore economy.

[T] Given that Singapore is an open economy, it means that Singapore is open to capital, labour flows and competition. The openness of the economy will result in this changes being fast and dynamic. Even if the government will to Increase labour productivity via training to help lower income workers to train and upskill their abilities so that they are able to take on more productive jobs which brings about an increase in wages, reducing income gap. The effectiveness of increasing labour productivity might be limited as the time taken for the increase in labour productivity is too long to see the positive effect compared to progressive income taxes to increase non-material standard of living.

[W & S] Furthermore, Singapore is very vulnerable to external shock. Even if Singapore has signed FTAs with many others, the moment there is a downturn in the global economy. Singapore will still experience a decrease in economic growth which will ultimately lower standard of living. At the same time, progressive income taxes will only help to dampen the fall in national income and reduces the negative impact on SOL.

However, given that the small size of Singapore economy, there is a limit to the effectiveness of the FTA and progressive income taxes to increase SOL.

In view of the constraints, increase labour productivity is the key to increase standard of living. Singapore should focus on upgrading and training so that Singapore has the productive capacity and potential to pick up again when external conditions improve. In this way, Singapore is positioning herself to ride on the waves and to tap on these opportunities to improve standard of living.

Knowledge, Application, Understanding and Analysis		
L3	A balanced and well-developed answer that focus on addressing whether increasing labour productivity is the key driver to improve living standard. There should be some form of comparison before coming to a conclusion. Can accept the following answers: • Using alternative policies such as exchange rate policy to address imported inflation to bring about increase in living standard. • Compare between countries to decide whether increasing labour productivity is the key driver to improve living standard.	8 – 10
L2	An under-developed, balanced answer on addressing whether increasing labour productivity improve living standard, with inconsistent use of examples and gaps in analyses.	5 – 7
L1	May have many and/or serious conceptual errors. May have relevant points that were made incidentally.	1 – 4
Evaluation		
E3	For an answer that arrives at an analytically well-reasoned judgement about which factor is the key driver in improving living standard. Might also question any unstated assumptions to arrive at this well-reasoned judgement.	4 – 5
E2	For an answer that makes some attempt at evaluation, but does not explain adequately their judgement or base it in analysis, about their judgement which factor is the key driver in improving living standard.	2 – 3
E1	For an answer that gives an unexplained, unsupported evaluative statement whether productivity is the key driver in improving living standard.	1

6. Discuss the benefits and costs of globalization to different economic agents in Singapore. [25]

Globalisation is the increasing integration of the international economy and is characterised by greater global interdependence. It may be defined as an expansion in the volume and variety of cross-border transactions in goods and services and in international capital flows. The different economic agents refers to the consumers, producers and government. Consumers are concern about consumer welfare, employment and standard of living, while producers are profit motivated and like most governments, Singapore government aims to achieve her 4 macroeconomic aims, efficiency and equity with the main economic goal to be inclusive growth.

As more countries engage in free trade in this age of globalisation, consumer welfare will increase. According to the theory of comparative advantage, even if one country has *absolute advantage* over others in the production of all goods, there is still a basis for mutually beneficial trade as long as there is comparative advantage in the production of these goods. Both countries will gain if each specialises in the production of the good in which she has the comparative advantage and trade with each other. With freer trade, there will be an increase in world output, consumers in Singapore will be able to consume outside the PPC. The increase in competition also lower the barriers to entry and markets are more contested. The firms now have more incentive to engage in R&D which will improve the quality of the product. In view of potential rivals, firms might also pass cost savings from EOS to the consumers, resulting in a fall in prices of goods and services and therefore higher consumer surplus. As such, consumer welfare is likely to increase.

Due to the nature of the Singapore economy, Singapore is likely to benefit significantly in terms of her macroeconomic aims. Globalisation brings about an increase in trade volumes. Singapore leverages on the huge domestic markets such as those in China and the US, as they are Singapore's major trading partners. As a small economy, Singapore lacks natural resources, however, she have the factor endowments such as capital goods and skilled workforce compared to other countries. Since she has a lower opportunity cost in producing higher-value added goods such as petrol-chemicals and component parts, and therefore, produce goods with comparative advantage and export them to the rest of the world. With globalisation, she has access to larger foreign markets and as long as she can maintain her CA and trade, it is likely that increase in X more than the increase in M. An increase in (X-M) will lead to an increase in

AD. Assuming that the Singapore economy operating below full employment, via the multiplier, there will a multiple increase in national income, bringing about an increase in actual growth. The increase in (X-M) will significantly increase Singapore's real national income, since (X-M) as a percentage of GDP is large in Singapore. At the same time, based on Singapore's progressive tax system, more tax revenue can be generated and redistributed to the low income group, achieving the aim of inclusive growth. Also, the increase in (X-M) will mean an improvement in Singapore's current account.

Globalisation means freer mobility of capital flows. Being an open economy, Singapore benefited more from globalisation compared to the other less open economies in the region as FDI makes up a larger proportion of GDP. The increase in FDI from large firms such as Google and Dyson, when translated to I, will lead to an increase in AD bringing about actual growth. The increase in investment means an increase in the capital goods, leading to larger productive capacity and an increase in LRAS, bringing out potential growth. As the increase in AD is in tandem with the increase in AS, Singapore will benefit from this increase in economic growth. The increase FDI will also increase long-term capital inflow, hence, improving the capital account. The improvement in the current account and capital account will bring about a more favourable Singapore's balance of payments. However, Freer mobility of capital flows in terms of an increase in FDI is likely to hurt the current account in the future as firms will repatriate their profits back to their home country. However, this is not a cause for worry as the increase in (X-M) is likely to offset this fall leading to an overall surplus in the current account.

The increase in (X-M) and FDI will also benefit consumers and producers in Singapore. As consumers provide the labour that enables firms to produce goods and services, the increase in AD will mean that the firms will employ more factor of production, since labour is a derived demand, there will be an increase in demand for labour leading to a fall in demand- deficient unemployment. Consumers will gain employment and with an increase in actual growth, it is likely that consumers will enjoy higher income, higher purchasing power and therefore will be able to consume more goods and services, leading to an increase in material SOL. As for the producers such as exporters, with access to larger foreign markets, they will be able to enjoy both revenue and cost advantages. There will be an increase in demand for exports and an increase in total revenue. By producing more output to cater to the overseas markets, producers are likely to enjoy internal EOS through specialisation, leading to a fall in average costs. Exporters in Singapore are more likely to increase their profits.

However, there might be some negative impacts on the different economic agents if the Singapore economy is operating near or at full employment level. This is likely the case as Singapore faces a tight labour market. The increase in AD might lead to demand pull inflation. This is because, to meet the increase in AD, firms will employ more factors of production, however, since the resources are fully utilised, firms will have to bid higher prices for the factors of production which will be translated to inflationary pressures on all goods and services. This will conflict with the Singapore government's aim of price stability.

In terms of consumer's perspective, an increase in inflation would also mean a fall in real wages, this means that for the same amount of income, consumers now buy less goods and services leading to a fall in material SOL. Also, high inflation can be translated to higher cost of living for the consumers in Singapore. On a separate note, another negative impact of more economics activities due to the increase in trading activities might be that **workers** have to work longer working hours and less leisure hours for them leading to a fall in non-material SOL.

With an increase in trade volumes and competition, there will be more imports in the Singapore market. This might affect domestic producers producing for the domestic market who now have to compete with foreign firms. If their products are not competitive, they are likely to face a fall in demand for their goods and therefore, a fall in their total revenue. Given the openness of the Singapore economy, competition is likely to be higher. This means that for substitutes, XED value between domestically produced goods and imports are likely to be large.

Globalisation also allows the transfer of technology which leads to changes in factor endowments of different countries. This makes a small and open economy such as Singapore to gain and lose comparative advantage more frequently since CA is a dynamic concept. MNCs being footloose might shift their production line elsewhere in search of cheaper cost of production. When the emerging economies such as China and India open up in the 2000s, Singapore faced a structural shift which resulted in structural unemployment. The fall in FDI in the sunset industries in Singapore led to a fall in demand for workers in the sunset industries. Due to occupational immobility, these workers' skills are now obsolete and cannot take up jobs in other industries. At the existing wage, the quantity demanded is less than the quantity supplied of workers which resulted in a surplus of these workers, causing a downward pressure on their wages, hence increasing the income gap between the workers in the sunset industries and those in the sunrise industries. As such consumers in these industries suffer in terms of wages and employment. The widening of income gap leading to increase in inequity makes in more challenging for the government to achieve inclusive growth. The fall in investment via the reversal multiplier effect will also affect local businesses such as retailing and food and beverages industries and reduce indirect jobs.

In addition, globalisation means that countries are more interconnected which means that Singapore is more vulnerable to external shocks. For example, the sub-prime mortgage crisis in the US was partly responsible for the Global Financial Crisis in 2009. When faced with a worldwide recession, a small and open economy like Singapore will be more vulnerable to external shocks as compared to other economies. Singapore was the first Asia country that suffered from the negative impact of the Global Financial Crisis. The fall in foreigners' incomes will lead to a fall in consumption and fall in demand for Singapore's exports. The loss of business confidence will result in a fall in FDI in Singapore which will adversely impact the Singapore economy. This is because Singapore is largely dependent on (x-m) and FDI for growth and employment.

Evaluation:
[W] Overall, the benefits of globalisation are likely to outweigh the cost for all the different economic agents in Singapore mainly due to her government policies. The Singapore government is able to implement effective demand management and supply side policies to maximise the benefits of globalization and minimise the cost of globalization so as to achieve inclusive growth. The benefits and costs to the different economic agents are interrelated. For example, the gradual modest appreciation serves to maintain price stability in Singapore, not only will this benefit consumers in terms of real wages, it will also benefit firms. Also supply side policies that aims to retrain workers, helps to reduce occupational immobility and to increase productive employment. As long as these policies make the assumptions of the theory of CA

holds better in the real world, all economic agents are likely to benefit more from globalisation given the nature of the Singapore economy.

[T] In the age of globalisation, countries gain and lose CA at a faster pace, this is especially so for a small and open economy like Singapore. As such, the extent to which consumers and producers in Singapore can continue to benefit from globalisation in the future will largely depends on whether they can continue to be adaptable, and Singapore government's ability to identify new potential CA.

Knowledge, Application, Understanding and Analysis		
L3	For a thorough and well-balanced answer that provides good analytical structure to discuss both the benefits and costs of globalisation to all three economic agents - consumers, producers and government, in view of the nature of the Singapore economy and good application to the theory of CA.	**15 – 20**
L2	For a balanced but limited and undeveloped answer that has some benefits and costs of globalisation in terms of at least two different economic agents. Some links to the concept of CA.	**9 – 14**
L1	For an answer that is largely descriptive. Largely unexplained list of benefits and costs of globalisation.	**1 – 8**
Evaluation		
E3	Judgment is based on economic analysis and adequately substantiated with an evaluative conclusion on weighing the cost and benefits of globalisation with respect to the different economic agents.	**4 – 5**
E2	For an answer that makes some attempt at evaluation on weighing the cost and benefits of globalization with respect to the different economic agents.	**2-3**
E1	For an unexplained assessment, or one that is not supported by economic analysis.	**1**