

**Section A****Case Study Q1 Suggested Answers:**

**(ai) Define the term “real Gross Domestic Product (GDP)”.** [2]

Real GDP refers to inflation-adjusted value [1] of all final goods and services produced within the geographical boundary of a country during a specific period of time. [1]

**(aii) Using Figure 2, compare the trend between Japan’s real and nominal GDP from 1995 to 2015.** [2]

Difference 1: From 1995 to 2015, real GDP increased while nominal GDP decreased.

Difference 2: From 1995 to 2005, real GDP was lower than nominal GDP. However, after 2005, real GDP became higher than nominal GDP.

**(b) Given the information contained in Table 1, describe what has happened to the General Price Level in 2012.** [1]

The General Price Level fell in 2012 as shown by the negative inflation rate of -0.03%.

**(c) Using AD/AS analysis, explain how the intended measure undertaken by the Japan’s Prime Minister can spur Japan’s economic recovery.** [5]

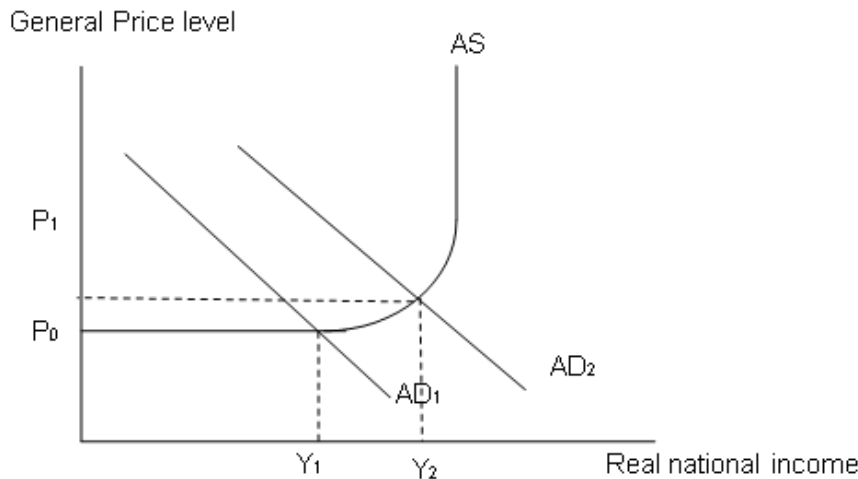
**Identify & explain AD component:****Identify evidence:**

Extract 1 states that the Prime Minister intent to “focus on higher growth” by increasing spending on infrastructure to “steer the country’s struggling economy away from deflation”.

**Explain the impact on AD:**

The increased spending on infrastructure will cause government expenditure (G) to increase and since G is a component of AD where  $AD = C + G + I + (X - M)$ , this will cause AD to increase as well, ceteris paribus.

AD curve shifts to the right from AD1 to AD2 as shown in the diagram below.

**Diagram:****Explain diagram (using the multiplier effect):**

As AD increases, *ceteris paribus*, firms will experience a fall in inventories. This signals to firms to step up on production. Subsequently, firms will hire more workers, leading to increasing output, resulting in falling unemployment and increasing income. As income increases, spending by the households will increase. As one's spending becomes another's income, this rise in spending will lead to an increase in income of another group of people because of the increasing demand for the goods and services they produce. Overall, the multiplier ( $k$ ) effect is triggered off, leading to multiple increases in production, output and national income, leading to expansionary effects on the economy. Thus, the AD increases from  $AD_1$  to  $AD_2$ , and real national income increases from  $Y_1$  to  $Y_2$ .

**Link back to the question:** Hence, the increase in government spending on infrastructure in Japan could spur Japan's economic recovery.

**Question 2                      The market for oil****Suggested Answers & Mark Scheme**

<b>(a)</b>	<b>With reference to Figure 2, summarise the changes in crude oil prices from April 2013 to June 2016.</b>	<b>[2]</b>
	<p><u>Overall trend</u> [1] Overall crude oil prices showed a falling trend</p> <p><u>Refinement</u> [1] A steep fall in oil prices was seen in the second half of the year in 2014</p> <p><u>OR</u> reaching a low of US\$30 per barrel at end of 2015 before rising to US\$50 per barrel in June 2016.</p>	
<b>(b)</b>	<b>Identify and explain the two factors that caused the market price of oil to decrease after mid-2014.</b>	<b>[4]</b>
	<p>The 2 factors are weak economic growth and surging US production of oil.</p> <p>As many countries are experiencing weaker economic growth, these countries will also face falling production activities. Thus demand for oil falls as less are required to generate electricity for production. The fall in demand for oil, ceteris paribus will lead to a fall in the price of oil.</p> <p>The surging US production is due to technological improvement. Technological improvement has enabled countries such as United States to extract gas and oil from shale formation using fracking at a lower unit cost. This increases the supply of oil, leading to a fall in the price of oil, ceteris paribus.</p> <p><i>Each well-explained factor will be awarded 2 marks.</i></p>	
<b>(c)</b>	<b>Based on the prediction by the International Monetary Fund on the revenues of OPEC in Extract 3, explain what this might imply for the price elasticity of demand for oil?</b>	<b>[2]</b>
	<p>A fall in the price of a good with a price inelastic demand, ceteris paribus, will lead to a less than proportionate increase in its quantity demanded leading to a fall in its total revenue.[1 mark]</p> <p>Since it is stated in Extract 3 that IMF predicted the revenue of OPEC to fall by \$300b in 2016 “if oil prices continue its downward trend”, this will imply that the demand for oil is price inelastic. [1 mark]</p>	

(d)	<b>To what extent is OPEC guided by profit-maximisation in its pricing and output decisions?</b>	<b>[4]</b>
	<p>The main aim of a firm is assumed to maximise profits but a firm can have other aim such as to increase market share.</p> <p><b><u>OPEC's actions is not guided by profit-maximisation in the short run</u></b></p> <p>OPEC is a cartel where its member countries explicitly agree to cooperate in setting prices and output levels of oil, behaving as one big monopoly in setting the price and the output to maximise their total profit.</p> <p><b>However</b>, the “surging US production of oil growth” from fracking with reference to Extract 2, has posed as a threat to the monopoly power of OPEC. In face of increasing competition, it is stated in Extract 3 that OPEC's short-run aim is to “force some higher cost producers to shut down”.</p> <p><b><u>The main aim of OPEC is still to maximise profits in the long run</u></b></p> <p>In the longer run, it is stated in Extract 3 that Saudi Arabia, the key member in OPEC hopes to increase in its market share. Once OPEC can regain their market power by getting rid of their rival firms, they can then restrict output to limit the market supply to drive prices above the competitive levels to maximise profits. That is ultimately in the long run, the main of OPEC is still profit-maximisation.</p> <p><i>Full 4 marks to be awarded when a candidate is able to:</i></p> <ul style="list-style-type: none"> <li>• <i>recognise a firm can have other aims besides profit maximisation.</i></li> <li>• <i>use data to explain why OPEC may not aim to maximise profits in the short run but profit maximisation is still its goal in the long run.</i></li> </ul> <p><i>Candidates can also question the ability of OPEC to maximise profits given that imperfect information exists in the real world.</i></p>	

(e)	<b>With reference to the given data, discuss whether a high profit earned by firms is necessarily bad for the consumers.</b>	<b>[8]</b>
	<p><b><u>Introduction:</u></b> The main aim of a firm is assumed to be profit-maximising. High profits earned by a firm can arise from high revenue earned by the firm and keeping costs low.</p> <p><b><u>Development:</u></b></p> <p><b><u>Thesis:</u> A high profit earned by firms is bad for the consumers</b></p> <p><b><u>How are the high profits obtained?</u></b></p> <p>If the high profits are achieved via collusion, this can be undesirable for the consumers. When firms collude, they can achieve greater market power. High revenue can be earned by restricting output to charge high prices. If the demand for the product is price inelastic, an increase in price, ceteris paribus will lead to a less than proportionate fall in its quantity demanded. This increases total revenue. Holding costs constant, profits will increase. Producers gain at the expense of consumer where consumer surpluses are passed to producers.</p> <p>Furthermore when firms earn high profits, this also creates the problem of unfairness or inequity as these high profits go to shareholders who may be mainly upper income earners and therefore worsen the level of income inequity in the economy.</p> <p><u>Reference to Extract 4</u>, an increase in profits from “engaging in anti-competitive behaviour” is considered a violation of the Competition Act in Singapore. In this case, high profits obtained for example when petrol companies colluded to charge high prices and not pass on cost savings to consumers would be undesirable for the consumers.</p> <p><b><u>How are the high profits used?</u></b></p> <p><u>With reference to Extract 3</u>, OPEC is able to drive prices down in an attempt to drive out their rivals because they have “deep pockets with a reserve fund of some US\$700b” likely to earn from high profits accumulated in times. These reserves are used to drive out rivals and if OPEC succeeds in doing so, this will strengthen their monopoly power and they can raise prices in the long run which is undesirable for the consumers.</p> <p><b><u>Anti-thesis:</u> High profits earned by firms is <u>not</u> bad for the consumers</b></p> <p><b><u>Positive signalling function of high profits</u></b></p> <p><u>With reference to Extract 2</u>: “High oil prices before and after the Great Recession in 2009” will mean high revenue, ceteris paribus, high profits earned by existing oil producers. This can attract potential firms to break into</p>	

the market assuming the market is contestable. The potential firms will be incentivised to invest in R & D to seek technological improvement to enter the market. This can result in greater competition and benefit the consumers eventually when markets become more competitive. As evident in Extract 2, the entry of shale oil producers increasing the supply of oil in the market has driven the prices of oil down benefiting the consumers.

**Conclusion:**

In conclusion, a high profit earned by firms can be bad for the consumers if firms gained at the expense of the consumers especially via anti-competitive strategies. This occurs when consumers are charged high prices causing loss in their consumer surplus.

However, if the high profit earned by firms is ploughed back for investment and R & D to improve the quality of the product &/or generate cost savings which are eventually passed on to the consumers, then consumers can be better off in the long run. This is more likely to happen if the market is contestable i.e. where existing firms need to improve to retain their consumers for fear of rival firms entering the market. Thus the degree of competition in the market and its contestability largely influence the decisions of firms on their strategies used to gain high profits and its usage which can either affect the consumers positively or negatively.

Level	Descriptors	Marks
<b>L2</b>	<ul style="list-style-type: none"> <li><b>Well-developed and balanced discussion on the advantages and disadvantages to consumers when firms earn high profits.</b></li> <li><b>Good use of case materials.</b></li> </ul> <p>❖ Max 4m if there is no application to the context, i.e. did not cite evidences from case materials to support arguments</p>	<b>4-6m</b>
<b>L1</b>	<p><b>Some vague points without economic framework/analysis. Arguments contain inaccuracies.</b></p> <p><b>1-sided</b> but provided points with <b>some reference</b> to consumer's interest: capped at 3m</p>	<b>1-3m</b>
<b>E1</b>	Synthesis of opposing viewpoints with some form of justification.	<b>1-2m</b>

**Essay Question 3**

Many food and beverage businesses in Singapore have found it difficult to survive. A study by Spring Singapore has suggested that to increase profitability, owners can rely more on automation and technology to reduce reliance on manpower as well as optimising menus to better influence consumers' decisions. Branding and store design can help but have been found to be less important.

*Source: Adapted from [www.channelnewsasia.com](http://www.channelnewsasia.com), 27 July 2015*

- a) Explain the key differences between an oligopoly and a monopolistically competitive market structure. [10]
  - b) Discuss the effectiveness of the strategies that can be employed by monopolistically competitive firms to increase their profits? [15]
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**Suggested Answers**

- a) Explain the key differences between an oligopoly and a monopolistically competitive market structure. [10]

**Introduction**

The four basic types of market structures are namely, perfect competition, monopolistic competition, oligopoly and monopoly where monopolistic competition and oligopoly are the two common market structures in an economy. The differences between the market structures lie in their characteristics which affect the behaviour of the firms in terms of pricing and output decisions and their performance in the long run.

Hence, the key differences between an oligopoly and an mpc firm is in terms of:

- 1) Number of firms
- 2) Nature of produce
- 3) Ease of entry and exit
- 4) Types of profits earned in the long run

**Development****1. Number of firms**

- An oligopoly market structure is dominated by a few large firms, each with a sizeable share of the market.
- On the other hand, a monopolistic competitive market structure consists of a number of firms competing against one another.

## 2. Nature of Product

- Oligopoly

- May be homogeneous or differentiated. This could depend on the nature and complexity of the product and industry.
- In a pure oligopoly, the few firms produce a homogeneous product (e.g. petroleum). In imperfect or differentiated oligopoly, there is product differentiation through the use of brand names and trademarks (e.g. automobiles like Toyota, Ford, Mercedes, etc.)
- Thus, differentiated oligopoly will exist where the competing firms produce products which are close substitutes but not perfect substitutes.

- Monopolistic Competition

- On the other hand, MPC firms do not produce homogenous products (different from pure oligopolies) and they tend to produce slightly differentiated product (similar but not identical). In an MPC market structure, there are many close substitutes, hence, there is a need to differentiate their products to ensure that they remain competitive and carve a niche for themselves.
- **However**, due to the limited financial resources that MPC firms have, the extent of product differentiation could be smaller compared to Oligopolistic firms.

Examples of MPC firms include bubble tea stores, hawker centres and food stalls at a night market in Singapore ("pasar malam"). For instance, there could be many food stalls selling ice cream at a night market, hence in order to differentiate themselves and attract more customers, ice cream vendors may create interesting flavours of ice cream (salted egg ice cream, thai iced tea ice cream etc.) which are examples of slight product differentiation in an MPC firm.

## 3. Ease of entry and exit

High barriers to entry exist for oligopolistic market while monopolistic competitive market structure has weak barriers to entry.

- Oligopoly

Barriers to entry can take the form of Economies of Scale (EOS), product recognition, product complexity and product proliferation. For example, oligopolistic firms are better able to reap EOS as the production level is of a larger scale. Hence, a firm can lower its unit cost of production such that it can charge



lower prices to its consumers. This helps to keep out potential rival firms from entering the industry as the latter lacks the scale to compete in terms of prices.

The existence of high barriers to entry explains why an oligopolistic market is dominated by a few large firms. The existence of a few large firms competing with each other implies that the firms' decisions are mutually interdependent. Each firm has to consider the reactions of their rival firms in their pricing and output decisions. Due to that, there can be no one, all embracing model to explain the profit-maximising behaviour of these firms. The firms either collude and compete passively or compete aggressively to capture a larger share of the market.

As prices tend to be rigid, non-price competition is also prevalent. The firms differentiate their products through large-scale advertising, branding and innovation.

- **Monopolistic Competition**

However, MPC firms have relatively weaker Barriers to entry due to low set-up costs and little specialised knowledge is required to set up a firm in this market structure. For example, bubble tea stores such as Gong Cha or KOI will only need to rent a storefront, hire labour (need not be extremely skilled at operating highly complex machinery, minimal educational qualifications and basic language requirement) and purchase simple and less costly ingredients (tea bags, toppings, milk etc) and machineries to produce bubble tea. The ease of entry and exit due to weak barriers to entry result in many small firms existing in the market. These MPC firms thus have weaker market power compared to oligopolistic firms with only a few dominant firms in the industry.

They tend to avoid price competition due to lack of finances and resort more to non-price competition, though on a smaller scale compared to oligopoly.

Compared to an oligopoly where there are mutual interdependence between firms, these MPC firms make independent decision making as each firm has a market share too insignificant to affect each other.

#### **4. Types of profits earned in the long run**

Oligopolies earn supernormal profits in the long run while MPC firms can only earn normal profits in the long run. This is due to the differences in barriers to entry in both market structures.

The existence of high barriers to entry makes it possible for oligopolistic firms to earn supernormal profits even in the long run as the high barriers to entry deter new firms from entering the market to compete away the profits. On the other hand, due to ease of entry and exit, the MPC firms can only make normal profits in the long run. Any supernormal profits made in the short run, will attract the entry of new firms which will take some customers away from established firms. In the long run, there is no incentive for new firms to enter when only normal profits remain.

Hence, the key differences between the oligopoly and monopolistic competition lie in their characteristics which affect their behaviour and performances.

<b>Level of Response</b>	<b>Description</b>	<b>Marks Allocated</b>
<b>L3</b>	Clear explanation on the key differences of oligopolistic competition and MPC.	8-10
<b>L2</b>	Underdeveloped explanation on the key differences of oligopolistic competition and MPC.	5-7
<b>L1</b>	Listing of characteristics with little explanation on the key differences of oligopolistic competition and MPC.	1-4

**b) Discuss the effectiveness of the strategies that can be employed by monopolistically competitive firms to increase their profits? [15]**

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**Introduction**

- Profits = Total Revenue – Total Costs
- In order to maximize profits, strategies employed could target  $\uparrow$ TR and  $\downarrow$ TC
- $\uparrow$ TR could be achieved through pricing and non-pricing strategies
- $\downarrow$ TC could be achieved through reaping EOS and leveraging on technologies such as social media.

**Body**

**Ways to increase TR: Pricing strategy**

- A reduction in price through the use of coupons and discounts on restaurant meals in the short run to boost consumption of food.
- Assuming demand for goods and services from the firms to be price elastic due to the high availability of substitutes in an MPC market structure (for instance, there are many food stalls selling different variety of food at a food court), the fall in prices would lead to a more than proportionate increase in quantity demanded.
- This leads to an increase in total revenue earned by the MPC firms.
- Under the assumption of ceteris paribus, the increase in total revenue would increase the profits earned.

**Limitations of Pricing Strategy**

- However, it is important to note that offering goods and services at a lower price may result in the firms experiencing subnormal profits in the short run, especially so, if  $AVC > AR$ .
- Yet, firms may be willing to do so to clear their inventories of old stock so that they could stock new merchandises. For example, restaurants deal with food ingredients like meat that may deteriorate if not used for too long.
- Furthermore, it is important to note that lowering of prices would be feasible only in the short run, as a temporary measure, for instance, to increase the awareness and visibility of the stall. This is a marketing strategy to raise the portfolio of the stall.
- The use of pricing strategy may potentially spark off a price competition amongst the firms in the MPC market structure. If a café in a particular geographical area reduces its prices, others may do the same in order to compete. This will not be beneficial to the firms in the long run as they are earning normal profits and it will erode their profits, possibly leading to subnormal profits.

## **Ways to increase TR: Non-price strategy**

### **Advertising and improvement to store designs**

- Small scale advertising through social media to influence  $E_p$  of demand for goods and services to be lower. These forms of advertising are usually low costs compared to the advertising campaigns conducted by oligopolies. For example, Fish & Co. uses the social media such as Facebook to advertise their company. This will also provide some form of branding and recognition for the firm. In some other cases, cafes may invite famous bloggers like danielfooddiary or ladyironchef to do a review on their food and services which will create more buzz for their brand.
- F&B firms could embark on a renovation journey to improve their store design. In the case of F&B industry, stores could design their stores to fit the theme of the food / beverages they are selling. For instance, there is a growing number of “hipster cafes” that sprouted out in the last 5 years to ride on the trend of café-hopping amongst Singaporeans. These cafes share a common factor like the creation of a themed interior décor (Scandinavian, industrial, vintage, minimalist etc.) to attract coffee drinkers and instagrammers who enjoy taking flat lay photos of their food and coffee art. Hence, the cafes adopt these product differentiation strategies to be set apart from rival firms and attract consumers in their own unique ways.
- The imaginary (or real in some cases where food or coffee quality could be much better) differences induced would lead to a fall in degree of substitutability, thereby leading to a fall in  $E_p$  values for demand for the goods and services. As demand becomes more price inelastic, the cafes could charge a higher price and yet only experience a less than proportionate fall in qty demanded which could result in an increase in total revenue.
- Furthermore, these strategies may lead to a favourable change in taste and preferences for their products, hence drawing a greater pool of consumers to their cafes.
- Collectively, this would lead to an increase in demand for the products and that demand curve becomes more price inelastic.
- Under the assumption of ceteris paribus, this would lead to an increase in both price and quantity of goods and services (as demand increases) therefore an increase in total revenue.
- This leads to an increase in profits, assuming total costs remain constant.

### **Limitations of advertising and improvement to store designs**

- Advertising, renovation works with interior design and branding tend to increase the costs of production for the firms in the short run. This may erode the profits earned by the firms.

- Furthermore, these strategies may mainly work towards creating an imaginary difference and thus there could be no real improvement in the quality of the product. Some consumers may not be easily swayed by these imaginary differences. In addition, relying on social media platforms for advertising and branding may backfire if the bloggers post a bad review about the café/restaurant they have visited. Hence, the outcome of advertising and branding is not certain and it could depend on the current trend in consumers' tastes and preference.
- If the firms are willing to spend more on acquiring sponsored ads to boost their visibility on the social media, this may result in increasing the TC of firms. In the complexity of the real world, it also depends on how effective the advertising is in leading towards an increase in demand by garnering more consumers to the firms. Hence, the outcome on profits is debatable.
- In addition, in today's technological era where most people own smartphones and have perennial access to information, consumers become more well-informed (from the wide array of reviews, blogs, articles etc.) and could easily differentiate between products that are really differentiated and those that merely have superficial differences.
- Hence, strategies may bring short term costs but long term benefits if the marketing strategies have successfully convinced consumers that the products are worth consuming.

### **Improving product quality**

- Firms in MPC market structures could also engage in simple innovative strategies to differentiate their products and cater to individual's taste and preference. This could lead to some real differences in their products and increase in DD.
- Firms in the F&B industry could work on improving to include more unique flavours for their products. For example, in the bubble tea market, firms such as Gong Cha improvises and provides various add ons to their bubble tea – Pearls, Nata De Coco, Grass jelly, etc.
- Through the tailoring of their products to meet the diverse consumers, the demand for their products may increase.
- Assuming ceteris paribus, there will be an increase in total revenue earned since the price and quantity sold would both increase.
- Assuming total costs to remain constant, there will be an increase in profits.

### **Limitations of improving product quality**

- It is imperative to be aware that the differentiation of products through innovation tends to incur higher costs of production.

- Due to the intense competition prevalent in the MPC market structures, each firm will only capture a small market share. This will result in limited EOS that the firms can reap. Hence, the extent of product differentiation and innovation could be limited as the small scale in production does not help firms to reduce the unit cost of these strategies significantly.
- Thus, the rising costs of production could lead to fall in profitability.

### **Ways to lower TC**

#### **Reaping Economies of Scale (EOS)**

##### **Internal EOS: Marketing EOS, bulk purchase of merchandise from wholesale**

- Firms may seek to lower costs of production by reaping internal economies of scale.
- This is achieved as firms increase their production and output.
- For instance, the MPC firms can enjoy marketing economies of scale if they were to advertise collectively in groups. The advancements in the 21<sup>st</sup> century has improved the access to information and created platforms for networking and collaboration between firms. Firms that produces complementary products/services like hostel accommodation and tour packages could collaborate and advertise for each other by offering discounted coupons or a link of the partner's brand on their website.
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- The costs of advertising would be spread over a larger output, thereby lowering the unit costs of production. Thus, allowing the firms to lower the average costs of production. This would lead to an increase in profits assuming total revenue remains unchanged.
- Contract arrangements for purchase of factor inputs (e.g. ingredients in the case of F&B) → long term arrangement with wholesale agents → able to secure goods and merchandise at lower prices

##### **Limitations of reaping EOS in MPC market structures**

- Given the scale of production of MPC firms tends to be small, it is unlikely that these firms would enjoy significant cost savings.
- Failure to keep costs low would erode the profits earned.

##### **Reduce labour costs through the use of automation and technology**

MPC firms could consider the use of automation and technology to reduce labour costs and eliminate the problem of labour shortages. In Singapore, the F & B industry is often starved of workers and many locals may prefer not to take up jobs in F & B industry due to its long hours and exhausting job scope. Hence, by harnessing technology and automation, these firms could increase efficiency

levels and reduce unit costs of production. For instance, the use of electronic tablets as a method to optimise the use of menus could help to reduce the need for waiters/waitresses to take orders and hence, this could be a more efficient way in handling more orders at one time and thus there could be more cost savings, leading to increased profits in the long run.

### **Optimising the use of menus**

The practice of optimising menus is called Menu Engineering. The main objective is to increase profits through the strategic placement of products. Naming an item with an exotic title can make a rudimentary dish enticing. With a more strategic placement of products in the menu and the creation of a better interface for electronic menus using tablets, consumers may have a more pleasant experience navigating through the menu. This could draw more consumers in the long run hence increasing demand for the firms' products and services.

### **Limitations**

However, electronic menus are not customisable to different consumers' tastes and preference. Hence, this may turn certain consumers who are not as tech savvy away.

In addition, high costs are incurred in creating an electronic menu and to purchase tablets for usage.

### **Conclusion**

Given the various strategies that the MPC firms can employ to maximize their profits through pricing, non-pricing and cost minimizing strategies, the improvement in the quality of products will be the most sustainable for the firms in maximizing their profits in the long run. In the F&B industry, improvements in the taste of their food and convenient store locations will prove to be crucial for the firms in differentiating amongst one another especially in a country like Singapore where the city is deemed to be a food paradise. Also, as mentioned in the preamble, branding and the improvement in the store design tend to be less effective as it only creates an imaginary difference to the products the firms are selling.

With the push for entrepreneurship in Singapore, the MPC firms can expect subsidies from the government like the Capability Development Grant given in the short run to bring their costs level down. This will contribute towards raising the profits of the firms in the short term. However, the firms will eventually have to think of innovative strategies coupled with effective methods of production to ensure their survival in the industry.

**Suggested Marking Scheme:**

<b>Level of Response</b>	<b>Description</b>	<b>Marks Allocated</b>
<b>L3</b>	<ul style="list-style-type: none"> <li>▪ Well-developed and balanced approach via both TR and TC.</li> <li>▪ Detailed explanation of how TR can be increased and how TC can be lowered.</li> <li>▪ Clear explanation with relevant suggestion on how the approaches may work.</li> </ul>	<b>8-10</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>▪ Well-developed explanation of how total revenue can be increased OR total costs can be lowered</li> <li>▪ Some application to context.</li> </ul>	<b>5-7</b>
<b>L1</b>	<ul style="list-style-type: none"> <li>▪ Underdeveloped explanation of how TR can be increased and TC can be lowered.</li> <li>▪ No/Little application to context.</li> <li>▪ Poorly developed response with a lack of structure.</li> </ul>	<b>1-4</b>
<b>Evaluation</b>		
<b>E3</b>	<ul style="list-style-type: none"> <li>▪ Evaluating and ranking of the strategies.</li> </ul>	<b>4-5</b>
<b>E2</b>	<ul style="list-style-type: none"> <li>• Evaluating the limitations of the proposed strategies</li> </ul>	<b>2-3</b>
<b>E1</b>	<ul style="list-style-type: none"> <li>• Making a reasoned judgement</li> </ul>	<b>1</b>



#### **Question 4**

Singapore's total healthcare expenditure is expected to triple to \$44 billion by 2030 on back of the city-state's rapidly ageing population.

Singapore Business Review, 5<sup>th</sup> of July, 2016

- (a) Explain why a government should intervene in the markets for public goods and merit goods. [10]
- (b) Comment on the possible measures that the Singapore government can implement to address market failure in the healthcare sector. [15]

#### **Suggested Answers**

##### **Introduction**

#### **Suggested approach (a)**

##### **Define public goods and merit goods**

- Public goods are goods that non-rivalrous and non-excludable in consumption.
- Merit goods are goods where the consumption of which is deemed to be **intrinsically desirable by the government**. In addition, merit goods usually generate positive externalities in consumption and hence have substantial external benefits towards other members of society.

##### **State that** both public goods and merit goods are sources of market failure

- The circumstances in which distortions prevent the price mechanism from allocating resources efficiently, resulting in welfare loss. The market fails to allocate resources efficiently and equitably.

<b>Development</b>
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**(i) Explain the term “public good”****What is it?**

Illustrate with appropriate examples of public goods such as street lighting and national defence

**(i) Public goods are non-rivalrous in consumption**

- consumption by one person does not deprive others from enjoying the benefits of street lighting and national defense
- It does not matter if 1 individual, 10, 100 or 1000 individual utilizes the streetlight
- marginal cost of providing the good to 100 people is the same as the cost of providing the good to 1,000 people
- quantity of street lighting remains unchanged regardless of the number of users

**(ii) Public goods are non-excludable in consumption.**

- it is technically impossible to exclude a non-payer consuming the good once the good is provided.
- Individuals can free-ride and utilize the streetlight/national defense once it is installed without need of payment.
- Gives rise to the free rider problem. The desire to be a free rider weakens the incentive for consumers to offer to pay for public goods.

**(ii) Explain the term “merit good”**

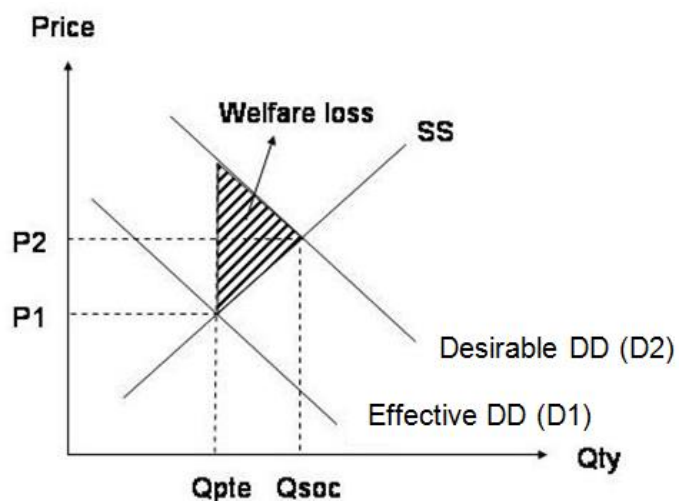
[students are not required to write on both sources of market failure found in merit goods]

**What is it?**

Illustrate with appropriate examples of merit goods such as healthcare and education

**i. Imperfect information – Underestimation of true private benefits (Main)**

Individual consumers tend to be myopic and may not be fully informed about the long-term benefits of consuming a merit good. In general, they tend to under-estimate the true private benefits of merit goods. For example, in the case of education, education increases the productivity of individuals and raises their salaries in future. It also increases their promotion prospects. However, these private benefits occur in the future and are difficult to estimate accurately. Hence consumers tend to under-consume merit goods like education/



**(i) Explain the term “public good”****What is it? (contd)****(iii) If left to the free market,**

∴ If left to the free market, there would be **nil provision of public goods**.

**Non-rivalry**

- cost of supplying the good to an additional consumer is zero ie.  $MC=0$
- to achieve AE,  $P = MC = 0$
- not possible for private sector to supply the good if  $P = 0$  since private firms are assumed to be profit-motivated
- government provision required

**Non-excludability**

- free-rider problem → no expression of demand
- not possible to charge a market price for the good.
- unprofitable for private firms to supply the good
- government provision required

Due to the characteristics of non-rivalrous and non-excludability, resources are not allocated to the production of public goods when left to the private sector. Hence there is a missing market for public goods. The market has failed because no resources will be allocated to the production of public goods like street lights and national defense.

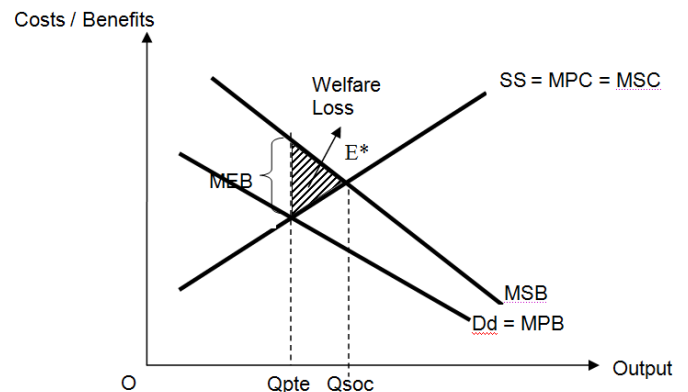
**(ii) Explain the term “merit good”**

Consumers do not fully realise the true beneficial effects of the consumption of education, demand is registered at D1. Private consumers will consume at  $Q_{pte}$ . However, the government feels that because of the desirable qualities of education, more should be consumed. The desired level (‘correct’ level) of demand, as perceived by society, should be at D2.  $Q_{soc}$  is the socially efficient level of output. There is an under-consumption of education, and a welfare loss to society reflected by the shaded area results. By increasing consumption to output  $Q_{soc}$ , society can avoid the welfare loss. The market fails because efficiency has not been achieved at  $Q_{pte}$ .

**ii. Positive externalities in consumption**

A merit good also generate positive externalities in consumption. For example in the case of education, an increased pool of educated and skilled labour would improve labour productivity. This will increase the international competitiveness of the economy, hence attracting foreign direct investment, contributing to economic growth.

→ leading to divergence between MPB & MSB.



In a free enterprise economy, the price mechanism will only consider private costs and benefit, ignoring externalities. To the individual consumer, he will consume up to the point where MPB equals MPC (private efficiency). MPB includes the individual's personal satisfaction from schooling. His MPC of education includes the cost of school fees and textbooks. He does not take into account external benefits generated. As such,  $Q_{pte}$  is being consumed. However, the socially optimal level of output is at  $Q_{soc}$ , where MSC equals MSB.

At  $Q_{pte}$ ,  $MSB > MSC$ . One extra unit of output adds more to society's costs than to society's benefits. The price mechanism under-allocates resources to the consumption of education. There is under-consumption of education that generates positive externalities, and hence a welfare loss to society occurs. The shaded area shows the total welfare loss to the society as a result of this over-allocation of resources. The market fails because economic efficiency has not been achieved at  $Q_{pte}$ . Thus, by increasing consumption to output  $Q_{soc}$ , society can avoid the welfare loss.

\* Note: under-consumption of merit goods can be due inequity issues.

**Conclusion****Provide a linkage to part (b)**

One of the government's microeconomics goals is to maximise society's welfare. However, since the free market has failed to allocate resources efficiently, the government will need to intervene to ensure a more efficient allocation of resources for public goods and merit goods such that any welfare loss can be eliminated.

**Marking scheme for part (a)**

<b>Level</b>	<b>Descriptor</b>	<b>Marks</b>
<b>L3</b>	<ul style="list-style-type: none"> <li>Well-developed explanation of public goods <u>and</u> merit goods with good use of relevant examples to illustrate the characteristics of public goods and merit goods and how it leads to market failure.</li> <li>Diagram (if drawn) are well-elaborated and makes use of economic rigour.</li> </ul>	<b>8 – 10</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>Underdeveloped answer with some application to the context, i.e. education. Either explanation of public goods <u>or</u> merit good (1 sided).</li> <li>Well-developed answer on imperfect information (underestimation of true private benefit) with reference to context → max. 6</li> <li>Theoretical answer with no illustration of examples → max. 5</li> </ul>	<b>5 – 7</b>
<b>L1</b>	<ul style="list-style-type: none"> <li>Mere listing of economic theory relating to public goods and merit goods.</li> <li>Some conceptual error.</li> </ul>	<b>1 – 4</b>

**(b) Comment on the possible measures that the Singapore government can implement to address market failure in the healthcare sector. [15]**

### Suggested Answers

#### Introduction:

State Government's microeconomic goals & objective → achieve welfare maximization, which is judged according to efficiency and equity criteria. In this context, the government's objective is to increase education consumption to the socially optimal level.

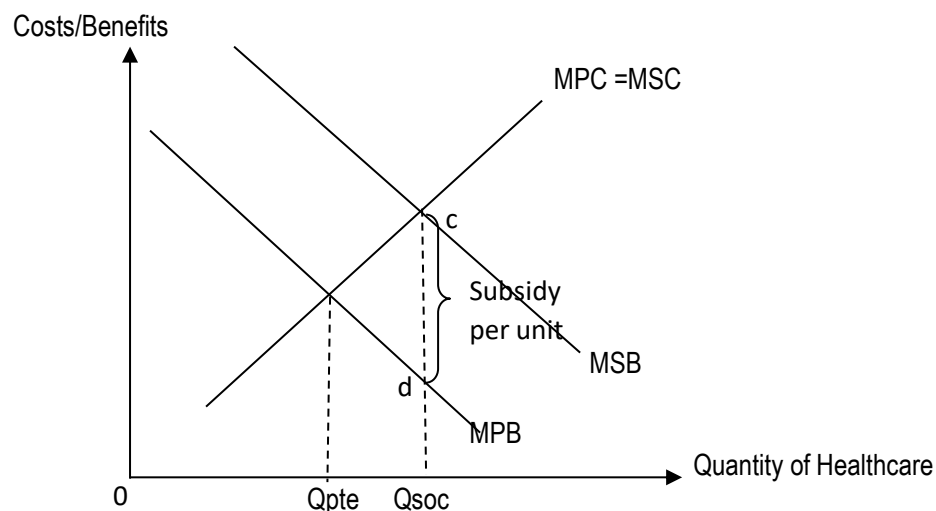
List the policies that the government can adopt in this case: subsidies, legislation, education & campaigns, direct government provision.

Main Development:

#### Policy 1: Subsidies

##### Step (1): Explanation of how Subsidies works

- The Singapore govt can grant subsidies to encourage healthcare consumption.
- Relate to pre-amble: In Singapore, the government spends a large amount of government revenue in the area of healthcare, and especially in the area of subsidies.
- The Singapore government grant subsidies = 'cd' per unit of healthcare to internalise the external benefit. The size of the given subsidy (cd) should be ideally equivalent to the extent of marginal external benefit (MEB) at the socially optimal output so as to completely eliminate the welfare loss.
- With reference to the figure, the subsidy will encourage consumers to take into account (internalise) the external benefits, raising the MPB to be at the same level as the MSB. Faced with the new demand curve, consumers will increase consumption of healthcare to  $Q_{soc}$ , which is the socially efficient level. The welfare loss to society would then be eliminated.
- Diagram:



Step (2): Evaluation of Subsidies

## Advantages of Subsidies:

- Subsidies can also make healthcare cheaper and hence more affordable to lower-income households, thus addressing inequity.

## Disadvantages of Subsidies:

- There is difficulty in measuring the exact value of the MEB in monetary terms, as externalities are 'unpriced' effects. If the external benefits of healthcare are not accurately estimated, the government could either provide too much subsidy or too little subsidy. Too much subsidy given (over-correction) will cause consumption of healthcare to be higher than socially optimal level, resulting in welfare losses from over-consumption.
- Subsidies require a high level of government expenditure.
- Preamble: Singapore's total healthcare expenditure is expected to triple to \$44 billion by 2030.
- In order to finance the subsidies, the government may have to impose higher tax rates on citizens. This may in turn have disincentive effects on work, investment and hence adverse effects on the economic growth of the country.

**Policy 2: Legislation:**Step (1): Explanation of how the policy works (How it corrects the market failure)

- In addition, the govt can implement legislation.
- Example: It is an offence not to vaccinate children against certain diseases. For example, it is compulsory for children to be vaccinated against diseases such as diphtheria within 12 months of their birth. Under the Infectious Diseases Act and the Infectious Diseases (Diphtheria and Measles Vaccination) Regulations, it is compulsory for parents and guardians to have their child vaccinated against diphtheria and measles. The penalty for non-compliance is a fine of up to \$500 for the first offence and up to \$1,000 for the second or subsequent offence.
- The fear of punitive measures/penalties will ensure that people abide by the legislation and get their children immunized.
- Overall, the Singapore government hopes to increase the consumption of healthcare (such as vaccinations) nearer to the socially optimal amount of vaccinations at  $Q_{soc}$ .

Step (2): Evaluation of Policy (Effectiveness)

**Advantages of Policy:**

- Legislation is effective as it causes parents who are not motivated by the subsidies to get their children vaccinated as well.

**Disadvantages of Policy:**

- There are high administrative costs involved in legislation, and difficulty in enforcement and ensuring compliance. In this context, the Ministry of Health has to keep track and send officers to check on negligent parents who do not get their children immunized. They also need to find ways to work closely with medical practitioners to implement the legislation more effectively. It is also difficult because of the large number of households in Singapore.
- It takes time for laws to be passed and implemented. The government will need to seek out the relevant expertise in order to enact appropriate laws.

**Policy 3: Education and Campaigns****Step (1): Explanation of how the policy works**

- The government can also provide information via education campaigns, fairs, talks, media, etc in order to address the underestimation of true private benefits of healthcare.
- Example: the Health Promotion Board can hold talks and create advertisements and publicity to inform the public about the benefits of preventive healthcare such as vaccines.
- With greater awareness of the true benefits of healthcare, demand will increase towards the desirable demand D2 in Fig 1 in part (a). This may help to increase consumption of healthcare towards Q<sub>soc</sub>.

**Step (2): Evaluation of Policy****Disadvantages of policy:**

- Education & campaigns are not enforceable by law, they mainly serve to encourage people to increase consumption of healthcare. However, people may not heed the advice due to reasons such as lack of interest.
- Provision of information in the form of campaigns incurs cost in terms of alternative uses of scarce resources.

**Conclusion (Make an evaluative stand / reasoned conclusion):**

- Stand: Due to the limitations of each policy, there is no one single best policy. The Singapore government needs to adopt a combination of policies so as to allow the policies to complement each other and overcome each other's limitations. The Singapore govt needs to assess the costs and benefits of each policy before deciding which policies to adopt and implement.

- The combination of policies used by the Singapore govt in the area of healthcare such as subsidies, legislation & govt provision have proven to be relatively effective so far.

Evaluative Comments:

- *Government failure:* On the other hand, while government intervention is necessary to correct market failure, it is also important to note that government failure can occur. For example, time lags could occur. It takes time for laws to be passed and implemented, and hence it does not offer immediate solutions to more pressing, urgent problems. Bureaucracy and red tape may also be the reason for the time lag as time may be needed for policies to pass through the parliament process to be approved.

OR

- Suggest changes: In addition, the Singapore govt may consider the use of means testing to award subsidies for healthcare, whereby the amount of subsidies received is dependent on household income (i.e. lower income households receive more subsidies than the higher-income households). This ensures that government subsidies go towards those who need them most and hence can lead to more efficient use of govt revenue as well as improve equity.

**Suggested Marking Scheme:**

Level of Response	Description	Marks Allocated
Level 3	<b>Knowledge, application + analysis</b> <ul style="list-style-type: none"> <li>• Thorough knowledge</li> <li>• Application to relevant current situations</li> <li>• Clear Analytical explanation</li> </ul>	8 – 10
Level 2	<b>Application but undeveloped explanation</b> <ul style="list-style-type: none"> <li>• Undeveloped explanation of facts and theory</li> <li>• Clarification and application</li> </ul>	5 – 7
Level 1	<b>Undeveloped explanation</b> <ul style="list-style-type: none"> <li>• <b>Identify</b> – the key theory without explanation</li> <li>• <b>Outline</b> – give a list of relevant factors</li> <li>• A few valid points</li> <li>• Answer mostly irrelevant or inaccurate</li> </ul>	1 – 4



E3	<b>Well-reasoned judgements / decisions</b> <ul style="list-style-type: none"> <li>• Critically evaluates alternative theories, contemporary issues, perspectives and policy choices</li> <li>• Evaluates relevance of unstated assumptions</li> <li>• Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as in a good summative conclusion</li> </ul>	4 – 5
E2	<b>Largely unexplained judgements</b> <ul style="list-style-type: none"> <li>• Some attempt at evaluation or a summative conclusion</li> <li>• Relevant to the question but does not explain the judgement or base it on relevant analysis</li> </ul>	2 – 3
E1	<b>An unsupported evaluative statement</b> <ul style="list-style-type: none"> <li>• Unsupported evaluative statement(s) or judgements</li> <li>• One that lacks explanation</li> </ul>	1