JURONG JUNIOR COLLEGE

2018 JC2 ECONOMICS 9757 (H2)

PRELIMINARY EXAMINATION

ANSWER BOOKLET

Prelim Answers for Paper 1 CSQ1

(a) Using Table 1, identify the year that Russia has the lowest growth in nominal GDP and state the growth rate. [2]

Russia has the lowest growth in nominal GDP in 2017 (1m) with the growth rate of 5.2% (1m).

(b) Explain why the ticket pricing strategy for the 2018 World Cup Final as shown in Table 2 can be considered an example of third-degree price discrimination. [4]

The ticket prices for category 1 seats of the 2018 World Cup Final are higher than that of category 2 and 3 seats (Table 2). This can be considered an example of third-degree price discrimination as the following conditions are satisfied. Firstly, FIFA has market power as there is no alternative supplier selling the World Cup tickets (Extract 1). Secondly, markets are effectively separated/segregated to prevent resale, that is, resale is not possible between seat categories. Category 3 lower-priced ticket holders cannot resell their tickets to those holding higher-priced tickets as ticket holders need to have a FAN ID with their photographs in order to gain entry into hosting stadiums (Extract 1). Thirdly, there is different price elasticity of demand (PED) in the separate markets. On one hand, category 1 seats are closest to the centre of the field and the demand for these seats would be relatively more price inelastic (PED<1) as supporters can have better view and they do not deem other category of seats as close substitutes (Extract 1). On the other hand, demand for category 2 and 3 seats are relatively more price elastic (PED>1) as there is availability of other category seats as substitutes. [3m]

Hence this ticket pricing strategy is an example of third-degree price discrimination as it is the practice of charging different groups of people different prices for the same product (same final match between 2 teams) for reasons not associated with differences in costs of production (no different in costs to produce the seats in the different categories). [1m]

(c) Explain how Russia's hosting of the 2018 World Cup would create 'indirect jobs'. [2]

Russia's hosting of the 2018 World Cup would create direct jobs in the building of important infrastructure projects (Extract 4), which will lead to higher employment. These workers would then be able to able to purchase consumer goods, ranging from food and beverages such as Domino's (Extract 2) and sportswear such as Nike (Extract 3). Producers of these consumer goods will expand production and hence hire more workers resulting in the creation of indirect jobs (Extract 4). These workers will in turn lead to further increase in consumption and production of other consumer goods leading to a multiple increase in indirect jobs. [2m as a whole]

(d) Explain how Domino's can make use of cross elasticity of demand and income elasticity of demand concepts to increase its revenue during the World Cup season. [4]

<u>CED (2m)</u>
Domino's can make use of cross elasticity of demand (CED) concept to increase its revenue. There are other pizza companies such as Pizza Hut and Papa John's that are close substitutes to Domino's. As such, Domino's will have a highly positive CED with them. To make its products less substitutable and decrease the CED value, Domino's can make use of non-pricing strategies, that include product development such as coming up with the new "The Meatfielder" pizza to create real differences and product promotion such as advertising prominent retired English footballer Jimmy Bullard to create imaginary differences (Extract 2). These non-pricing strategies will increase demand for Domino's pizza, hence increasing its quantity and revenue during the World Cup season.

OR
Pizza and beverage are complements that have negative CED value. Since Coca-cola is a strong complement to Domino's, Domino's will have a highly negative CED with Coca-cola. Hence Domino's is able collaborate with Coca-cola to offer bundled packages at discounted price during the World Cup season (Extract 2). Such collaboration will increase demand for Domino's pizza, hence increasing its quantity and revenue during the World Cup season.

<u>YED (2m)</u>
Domino's can make use of income elasticity of demand (YED) concept to increase its revenue. Domino's pizza is considered a normal good with positive YED. Since Russia has recovered from negative growth to positive growth (Table 1 and Extract 2), there is an increase in income and purchasing power of consumers. Hence this increases the demand for Domino's pizza. Domino's can cater to the needs of the more affluent people by developing more premium pizzas and offer more personalised services such as personal cashier. Domino's can also increase the number of workers employed (Extract 2), extend the operating hours and delivery services of its stores. Demand for Domino's pizza will increase, hence increasing its quantity and revenue during the World Cup season.

(e) Assess how far price and output decisions of Nike are dependent on the actions of its competitors. [8]

The sportswear industry is a competitive oligopoly, with few large dominant firms, Nike, Adidas, Puma and Reebok, taking up ~70% of market share (Extract 3). Although the firms are all price setters that can influence either price or output, there is mutual interdependence between the firms. The action of one firm will have a significant effect on its competitors so much so that these competitors will have strong reactions to any changes in decision made by the firm (Extract 3). Nike's price and output decisions can clearly be seen to depend on the actions of its competitors. The assumption here is that Nike is a profit-maximising firm that produces at an output where marginal cost (MC) = marginal revenue (MR), and it maximise profits through maximising total revenue and minimising total cost.

<u>Price and output decisions of Nike are dependent on the actions of its competitors</u>
Due to mutual interdependence among the sportswear companies, Nike faces a kinked demand curve, which is explained as follows. In this model, rival firms will match each other's price reduction but not price increase. On one hand, if Nike raises its price above equilibrium price, it will experience a fall in its revenue as quantity demanded falls more than proportionately. This results in a more price elastic demand curve above the equilibrium price. On the other hand, if Nike lowers its price below the equilibrium price, it will experience a fall in its revenue as quantity demanded rises less than proportionately. This results in a more price inelastic demand below the equilibrium price. In this case, Nike maximises profits when MC=MR, giving rise to price rigidity as any increase or decrease in price results in fall in total revenue. Nike's price and output decisions remain unchanged over a wide range of costs. A small change in the marginal cost of production does not cause equilibrium price to change so long MC still cuts MR at the region of indeterminacy.

<u>Price and output decisions of Nike are dependent on other factors</u>
<u>Change in cost of production</u>
The change in cost of production also influences the price and output decision of Nike. With the substantial rise in cost of raw materials such as cotton and nylon (Extract 3), cost of production increases. This increases the MC of production of sportswear for Nike significantly. At original profit-maximising output, MC is greater than MR implying that the last unit of good sold adds more to Nike's cost than it does to revenue. It is not worth producing the last unit of output as it depletes the firm's profits (incurs losses) and this induces the profit-maximising Nike to cut output to increase profits. Nike will reduce output up to the point where MC=MR and its profits cannot be increased further by decreasing production. Hence price increases,

and Nike successfully passed on the cost increase to consumers in terms of higher price and lower output.

Other objectives of firm

The above factors are based on the assumption that Nike aims to maximise profits by producing at an output where MC=MR, and hence makes its price and output decisions accordingly. However, Nike's price and output decisions are also dependent on its objectives. Nike allowed retailers to give 25% discounts all year, implying a decrease in its price, in a bid to compete with Adidas who has other successful product launches, and hence increase its market share (Extract 3). Such a decrease in price will increase quantity demanded, and Nike will produce at an output level where total cost is able to cover total revenue such that at least normal profits are made. Hence price is lower and output is higher as compared to profit-maximising output and price.

Evaluation

In conclusion, price and output decisions of Nike are dependent on the actions of its competitors to a large extent in the competitive oligopolistic sportswear industry due to the strong mutual interdependence among the few dominant firms. Its decisions are more sensitive to the reactions by rival firms. Price is rigid unless there is a substantial change in cost or demand conditions. Hence, aggressive non-price competition such as product promotion (Extract 3) tends to prevail to increase total revenue and maximise profits.

Nevertheless, there are other factors that affect the price and output decisions of Nike. Nike is a large firm that is able to expand output to reap extensive internal economies of scale, such as marketing economies when it is able to promote sales through bulk advertisement. This lowers its long run average cost when advertising cost per unit is lowered. Such cost-savings can be passed on to consumers in terms of lower price and thus higher output.

Level	Knowledge, Application, Understanding, And Analysis	Marks
L2	Well-developed answer that analyses how far price and output decisions of Nike are dependent on the actions of its competitors	4-6
L1	Descriptive answer of how far price and output decisions of Nike are dependent on the actions of its competitors	1-3
E	Reasoned conclusion and judgment on the price and output decisions of Nike	1-2

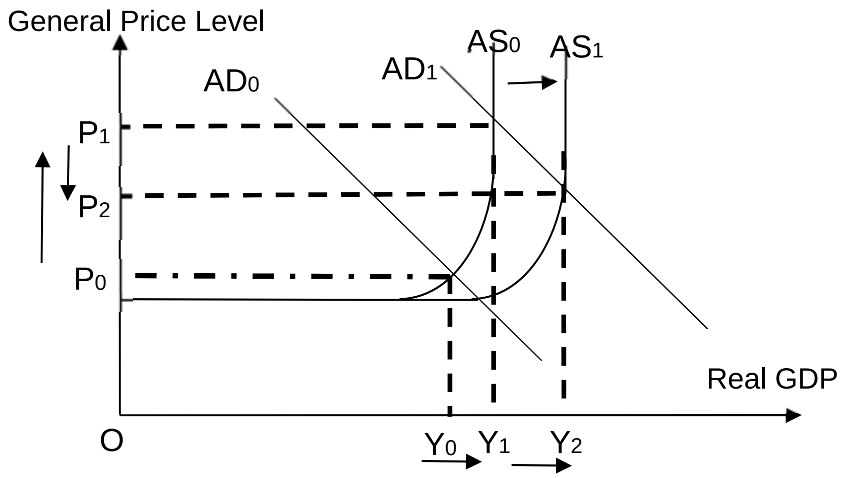
(f) With reference to the data where appropriate, assess whether the gains from hosting the 2018 World Cup outweigh the losses. [10]

The Russian government makes decisions with the aim of maximising society's welfare. In hosting the 2018 World Cup, the Russian government has to take into account various gains and losses, and consider different impact on the different stakeholders of the economy.

Gains

Economic growth, internal price stability and full employment

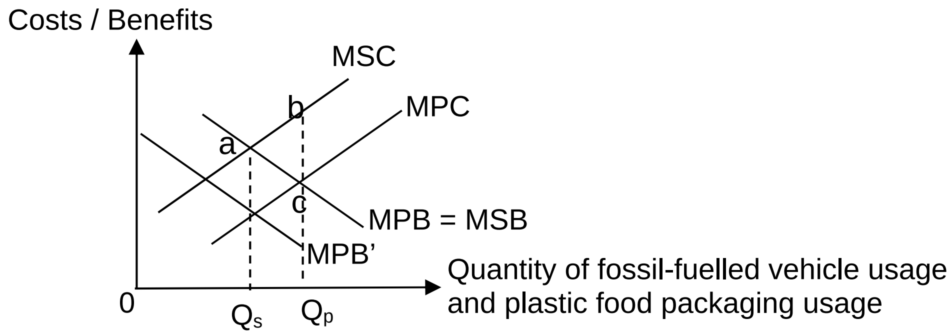
With the hosting of the 2018 World Cup, the Russian government can achieve various macroeconomic objectives. The building and expansion of infrastructure such as the stadiums (Extract 4), and in related industries such as aviation and hotel will increase government spending and investment in the economy. Firms in other industries – sportswear and F&B industries – such as Nike and Domino's (Extracts 2 and 3) will expect a rise in demand and total revenue of their products from the hosting the 2018 World Cup. In addition, the influx of tourists to watch the World Cup (Extract 4) will increase the Russia's export of tourism services. As such, the increase in investment (I), government spending (G) and net exports (X-M) will result in an increase in aggregate demand (AD), and consequently a multiple increase in national income via the multiplier process, achieving positive actual growth and increasing the current quantitative standard of living (SOL) of households as the amount of goods and services available for consumption increases. The increase in production by firms will then increase the derived demand for labour, hence creating both direct jobs and indirect jobs in the economy (Extract 4). Moreover, such increase in I and G will result in capital accumulation, increasing the productive capacity and aggregate supply (AS) in the long run. As such, maximum output of the economy increases, achieving positive potential growth, which will increase future SOL of households.



These gains from hosting the 2018 World Cup are likely to be significant. As seen from Table 1, real GDP has recovered from negative growths in 2015 and 2016 to positive growth in 2017. Hosting of the 2018 World Cup is likely to increase the economic growth and reduce the unemployment rate further (Table 1). However, with the increase in AD, assuming Russia's economy is operating near or at full employment level, there may be a rise in general price level (GPL), hence could lead to an increase in consumer prices in Russia (Extract 4). Such demand-pull inflation might be unlikely as the increase in AS in the long run (rightward shift from AS0 to AS1) will mitigate the rise in GPL from P1 to P2, further lowering the inflation rate as shown in in Table 1. Hence, non-inflationary sustained economic growth can be achieved in Russia.

<u>Favourable BOP</u>
With the hosting of the 2018 World Cup, there will be an increase in exports of tourism services, which increases net exports of Russia and improves its current account. The increase in foreign direct investment (FDI) due to the expectation of future rise in profits of firms (Extract 4) will improve its capital and financial account. Overall, balance of payments (BOP) of Russia will improve. As seen from Table 1, current account surplus has been improving, and can be expected to improve even further with the influx of foreign visitors and football fans from all over the world.

<u>Losses</u>
<u>Allocative inefficiency and unsustainable growth</u>
With the hosting of the 2018 World Cup, there will be a rise in usage of fossil-fueled vehicles on roads by foreign visitors and football fans, as well as a rise in waste accumulation such as plastic food packaging by them (Extract 5). As such, negative externalities will be generated. These include air and water pollution that cause respiratory health problems and degradation of marine biodiversity respectively, hence decreasing the current qualitative SOL of households, especially those living in the near vicinity.



Existence of such third-party costs for every additional unit of output consumed, which are marginal external cost (MEC), results in a divergence between the marginal private cost (MPC) and marginal social cost (MSC) where MSC = MPC + MEC. Assuming no positive externalities, marginal social benefit (MSB) = marginal private benefit (MPB). Utility-maximsing consumers only consider their private benefits (comfort and convenience) and private costs (vehicle and food expenses), ignoring third-party costs, hence consumed at Qp where MPB=MPC. However, the socially optimal level of consumption is at Qs where MSB=MSC. Since Qp is greater than Qs, there will be an over-usage of fossil-fuelled vehicles and plastic food packaging, resulting in an inefficient allocation of resources. For every additional unit of output consumed between Qs and Qp, social cost is greater than social benefit, resulting in welfare loss of area abc. Due to such negative externalities generated, sustainable growth is also hindered as there will environmental degradation that affects the health of people, as well as depletion of natural resources that adversely affects economic growth in the future as resources become increasingly scarce. These also decrease the current and future SOL of households.

These losses are likely to be less significant. As seen from Table 1, carbon emission in Russia has steadily decreased over the years, implying that air quality is indeed improving. Moreover, the Russian government can reduce the over-usage of fossil-fuelled vehicles and plastic food packaging. For the former, people are encouraged to switch to more environmentally friendly electric vehicles and bicycles (Extract 5). For the latter, the Russian Local Organising Committee and FIFA developed a waste management concept, along with the communication tools to inform spectators to dispose of their waste accordingly (Extract 5). Both of these will decrease the MPB of consumers, hence shifting MPB leftwards to MPB’, reducing the over-usage of fossil-fuelled vehicles and plastic food packaging respectively to the socially optimal level of consumption, Qs. Such measures also ensures that sustainable growth can be achieved with the protection of environment and prudent use of natural resources.

<u>Income inequity and lack of inclusive growth</u>

With the hosting of the 2018 World Cup, the Russian government will spend its limited funds and use its scarce land for the building of related infrastructure (Extract 4). Such a choice incurs an opportunity cost in terms of the next best alternative forgone. For example, the funds spent to build the stadiums incurs an opportunity cost in terms of forgone spending on other critical areas of the economy such as improving the living conditions of the low-income residents. The scarce land used to build these infrastructure also incurs an opportunity cost in terms of forgone usage of land to shelter impoverished communities (Extract 4). All these will result in a trade-off with inclusive growth in Russia. These losses are quite significant as the gains from economic growth do not create opportunity for all segments of the Russian population as it is not broad-based across economic sectors, thus impeding inclusive growth and contributing to higher income inequity. This will result in a decrease in the average quantitative SOL of households.

<u>Evaluation</u>
To a large extent, the gains from hosting the 2018 World Cup are likely to outweigh the losses. This is due to the level of government intervention in place to minimise the losses, such as public education in the vehicle and plastic food packaging markets to reduce their over-usage, hence reducing inefficient allocation of resources, facilitating sustainable growth and improving SOL. Nevertheless, the effectiveness of such measures depends on the receptiveness of consumes to switch to more environmentally-friendly transport modes and may be difficult to change the mindset of consumers to dispose of their waste properly. Thus the Russian government will have to complement them with other policies, such as taxes and legislations, to improve the allocation of resource closer towards the socially optimal level of consumption, Qs. The government can also intervene appropriately to alleviate the problems of lack of inclusive growth and rising inequity, such as through redistributive policies and skills retraining programme. The government must also not compromise the SOL of its people such as through the eviction of low-income residents who live in settlements near the tournament sites done by the South Africa host in 2010 World Cup.

With the hosting of the 2018 World Cup, the short run positive impact of the rise in I and G of infrastructure development will already been felt. Given the short duration of the 2018 World Cup and the very large size of Russian economy, the government needs to ensure that the gains of economic growth and jobs creation from hosting the World Cup is sustained into the long run. The government needs to find ways to minimise the phenomenal of white elephants, whereby the stadiums are left barely used in host cities once tournaments have ended and ensure that the gains of hosting the World Cup are trickled down to the poor in the long term.

Ultimately, hosting the 2018 World Cup not only brings about tangible economic gains to the Russian economy, it also brings about positive externalities such as heightened patriotism, greater sense of belonging and concerted efforts to nation-building. All these intangible aspects are also what count towards the gains of hosting the 2018 World Cup outweighing the losses.

Level	Knowledge, Application, Understanding, And Analysis	Marks
L2	Well-developed answer on the gains and losses of hosting the 2018 World Cup that covers impact on at least 2 economic agents	5-7
L1	Descriptive answer on the gains and losses of hosting the 2018 World Cup	1-4
E	Reasoned conclusion and judgment on whether the gains from hosting the 2018 World Cup outweigh the losses	1-3

Prelim Answers for Paper 1 CSQ2

(a) With reference to Table 3, compare the US trade balance with China in 2013 and 2017. [2]

The US had a trade deficit with China in both 2013 and 2017 [1]. The US's trade deficit with China in 2013 was lower than that in 2017 [1].

(b) Identify two categories in the current account apart from the balance of trade in goods and services. [2]

Net investment income flows [1] and net unilateral transfers [1].

(c) With reference to the data, explain how you would decide whether a government was justified in imposing anti-dumping duties on the cheap Chinese steel. [4]

If the Chinese government subsidised the production of steel and the cheap Chinese steel was sold at a price below its marginal cost of production in other countries, dumping occurred and a government was justified to impose anti-dumping duties [2]. On the other hand, if the cheap Chinese steel was due to overproduction as the growth in China's domestic demand for steel reduced (Extract 6), and the low price was not below the marginal cost of production, it was not dumping, and a government was not justified in imposing anti-dumping duties [2].

(d) Explain the possible relationships between a country's trade deficit and its economic growth. [4]

A country with trade deficit, meaning the value of exports is lower than the value of imports, is a result of a fall in the net exports. As net exports is a component of aggregate demand, a fall in the net exports will lead to a multiplied decrease in the national income via the multiplier process, thus reducing actual economic growth. Thus, a country's trade deficit does not in itself result in negative growth. Both the trade deficit and negative growth are due to a fall in net exports [2].

On the other hand, as a country enjoys economic growth, real national income increases and purchasing power of the people rises. Consumption of the country increases which will also bring about an increase in the demand for imports. A rise in import spending, assuming export earning remains unchanged, will reduce net exports and worsen the trade balance. If the value of exports is lower than the value of imports, this will result in a trade deficit. Therefore, economic growth attained by a country may lead to a trade deficit [2].

(e) Assess whether 'the charge by US that Japan, China and European Union are using the devaluation of their currencies to gain trade surpluses' is valid. [8]

US alleges that Japan, China and European Union (EU) are manipulating their currencies to be weaker against the US dollar and thus gain trade surpluses with the US, and it is considered a form of protectionist measure.

Countries are using devaluation of their currencies to gain trade surpluses

If the charge by US is valid, a devaluation of the currencies of Japan, China and EU will result in a reduction in prices of these countries' exports to US in US dollar. This will lead to a more than proportionate increase in quantity demanded for exports given that the demand for exports tends to be price elastic due to the availability of many close substitutes. Value of exports will then increase. On the other hand, a devaluation of these countries' currencies will increase the prices of imports from US in the respective yen, yuan and euro. This will reduce the quantity demanded for imports more than proportionately assuming that the demand for imports is price elastic. Value of imports will decrease. An increase in the value of exports and a decrease in the value of imports will increase net exports, thus improving the trade balance and may lead to Japan, China and EU gaining trade surpluses with US.

Countries are not devaluing their currencies while gaining trade surpluses

However, these countries may not be devaluing their currencies while gaining trade surpluses. Japan is keeping a low interest rate with the aim of raising inflation rate (Extract 7). A relatively lower domestic interest rate will increase the outflow of short-term capital and reduce the inflow of short-term capital. These will increase the supply of and reduce the demand for the Japanese yen in the foreign exchange market, resulting in a depreciation of the yen. Therefore, a weaker yen is not because of any intervention in the foreign exchange market by the Japanese government to gain trade surplus with US.

As for the yuan and euro, the relative weakness against the US dollar could be due to the interest rate differentials between US and that of China and EU. As the US economy is operating near to full employment, inflationary pressures are built up as a result of the expansionary fiscal policy. US interest rates are then raised by the Federal Reserve to keep inflation at bay. On the other hand, the EU is recovering at a slower rate than that of US so the European Central Bank has kept interest rates low. Thus, the relatively higher interest rates in US attracts net inflow of short-term capital and strengthens the US dollar against the yuan and euro.

Conclusion and Evaluation

In conclusion, the charge by US is unlikely to be valid as there is a lack of evidence that Japan, China and EU are engaged in currency manipulation to gain trade surpluses. Domestic factors in US rather than the actions by other countries are more likely to be the causes of the stronger US dollar and trade deficit with other countries. The interest rate hike results in an appreciation of the US dollar against other countries' currencies instead of other countries devaluing their currencies.

While the US economy continues to enjoy economic growth and the rising national income of US increases the import spending (Extract 7), the trade surpluses of Japan, China and EU with US could also be attributed to factors such as price and non-price competitiveness of their exports, due to a relatively lower unit cost of production and better quality of products. Although an appreciation of the US dollar against the yen, yuan and euro may not improve the trade balance of US, it does not mean that the other countries have devalued their currencies to gain trade surpluses.

L2	Well-developed explanation with relevant analysis of whether the charge that countries are devaluing their currencies to gain trade surpluses is valid, supported with appropriate case study evidence.	4-6
L1	Under-developed explanation with limited economic concepts of whether the charge that countries are devaluing their currencies to gain trade surpluses is valid, with limited use of case study evidence.	1-3
E	For an evaluative judgement that reaches a conclusion based upon consideration of the analysis.	1-2

(f) Discuss whether the imposition of tariffs is appropriate for a government when confronted with a balance of trade deficit and high unemployment. [10]

To reduce balance of trade deficit and to address high unemployment, a government may perceive that the imposition of tariffs can help to reduce the adverse impact of the problems and achieve its national objectives.

Tariff is appropriate to address balance of trade deficit and high unemployment

Local industries may be edged out by foreign producers resulting in a rise in import spending and a fall in employment and hence standard of living. For instance, the US government claims that the balance of trade deficit with China over the years is due to unfair competition (Table 3 and Extract 8). The imposition of tariffs increases the domestic price and domestic production as shown in figure 1 below. The domestic price of the good increases from OP_0 to OP_1 and this raises domestic production from OS_0 to OS_1 at the expense of imported goods, which are reduced from S_0D_0 to S_1D_1. The increase in domestic production will bring about a rise in the demand for labour and help to reduce the high unemployment. The decrease in the quantity of imports will reduce the value of imports and also the balance of trade deficit, assuming the value of exports remains unchanged.

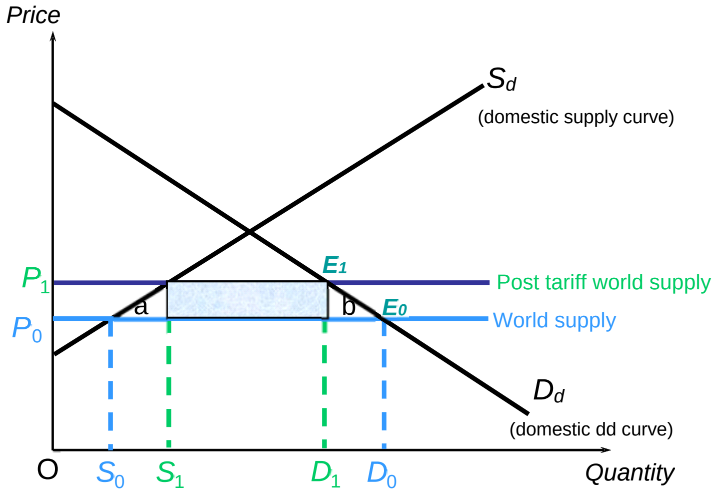


Figure 1

In addition, comparative advantage of a country tends to change over time and a country would have lost its comparative advantage in certain industries because of changes in the relative opportunity costs of production across countries. This means that there are always some declining industries. If there is perfect occupational mobility of labour, workers retrenched from the declining industries could find jobs easily in the expanding industries that have comparative advantage. However, in reality, there is imperfect occupational mobility of labour and there could be massive unemployment if an industry closes down suddenly. Hence, tariffs would allow the domestic sunset industry to decline gradually and provide time for workers to be retrained and find jobs in other industries.

Tariff is not appropriate to address balance of trade deficit and high unemployment

The imposition of tariffs does not take into consideration the loss of consumer welfare. Consumers are worse off as domestic consumption of the good falls from OD_0 to OD_1 and they have to pay a higher price of OP_1. The loss in consumer surplus is more than the gains to both producer and the government, leading to a welfare loss to the society shown by area (a+b).

The imposition of tariffs by US on imported steel and aluminium increases the cost of production in industries such as energy, construction, automobiles and aircraft that use steel and aluminium as a factor of production (Extract 8), thus reducing their profit margin and causing them to cut back on production. Although the imposition of tariffs aims to increase employment in the steel and aluminium industries, it will lead to rising unemployment in other downstream industries. As the industries that use steel and aluminium as factor inputs employ more workers across the US than that of steel and aluminium industries, overall unemployment rate in the US may not be reduced by the imposition of tariffs. In addition, some US firms may decide to relocate their operations to other countries where they can source for cheaper steel and aluminium, thus resulting in retrenchment of workers.

Conclusion and Evaluation
In conclusion, the imposition of tariffs is not appropriate for a government when confronted with a balance of trade deficit and high unemployment as the arguments are weak. The imposition of tariffs is at best short-term measures used to mitigate the problems of balance of trade deficit and high unemployment while other positive and long-term measures are adopted to address the problems.

The use of tariffs by a government to address domestic problems is a beggar-thy-neighbour policy that will reduce the economic growth and purchasing power of its trading partners. The country imposing tariffs tends to experience a fall in its own export earnings eventually. Moreover, tariffs on imports invite retaliation from trading partners (Extract 8) and this will lead to further fall in the value of global trade and disrupt the trade of other countries, especially small and open economy like Singapore that is highly dependent on global trade (Extract 9).

A country's trade deficit and thus unemployment problem cannot be resolved by trade restrictions like tariffs. In order to tackle the root causes of the balance of trade deficit and high unemployment, a government should adopt supply-side policies to develop new areas of comparative advantage. Training and education to raise productivity of workers and greater research and development effort to improve method of production and quality of products will enhance price and non-price competitiveness of exports. The economy has to bear some costs while it undergoes restructuring process, but it will stand to benefit in the long run. All countries have benefited from the rules-based multilateral trading system and should embrace free trade based on the theory of comparative advantage.

L2	Well-developed explanation with relevant analysis of whether imposition of tariffs is appropriate, supported with appropriate case study evidence.	5 – 7
L1	Under-developed explanation with limited economic concepts of whether imposition of tariffs is appropriate, with limited use of case study evidence.	1 – 4
E	For an evaluative judgement that reaches a conclusion based upon consideration of the analysis.	1 – 3

Prelim Answers for Paper 2

1 Increasing affluence and hectic lifestyles have led to an increase in demand for on-the-go beverages as well as organic and regular baked products like bread rolls and croissants. Organic baked products differ from regular baked products in that they use organic wheat, which contains lower protein content and is healthier. Meanwhile, bakeries producing organic baked products are concerned with rising prices of organic baking ingredients.

Discuss how the above events may affect the revenue earned from the sales of organic baked products, as well as the prices and quantities of products that are related to organic baked products. [25]

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation of both factors in influencing the extent of change in total revenue, price and quantity respectively in at least 3 markets with accurate diagrams and application of elasticity concepts Top L3 marks (18 -20) – make reference to PED, CED, YED,PES and link to total revenue for organic baked products and price and quantity for related goods	15 – 20
L2	Descriptive answer that shows some knowledge of both factors in influencing the extent of change total revenue for organic baked products and price and quantity for related goods.	9 – 14
L1	For an answer that shows some knowledge of both factors in influencing the extent of change total revenue for organic baked products and price and quantity for related goods	1 – 8
	Evaluation	
E3	For an evaluative conclusion which synthesises economic arguments to arrive at well-reasoned judgments about the extent of change in total revenue, price and quantity	4 - 5
E2	For an answer that makes some attempt at an evaluative appraisal about extent of change in total revenue, price and quantity	2 – 3
E1	For an unsupported judgment about the extent of change in total revenue, price and quantity	1

Introduction

The increasing affluence and hectic lifestyles will lead to a rise in demand of goods in the various markets like organic baked products, regular baked products and other related goods like complements i.e. on the go beverages while the rise in price of organic baking ingredients will affect the supply of factor inputs i.e. organic baking ingredients. Both the rise in demand and supply respectively will affect total revenue, price and quantity. Total revenue refers to value of goods, Price x Quantity.

<u>Organic baked products market</u>

<u>Change in supply</u>

The rise in price of organic baking ingredients results in an increase in cost of production for firms, this leads to a fall in profit margins, firms have lesser incentive to produce and they cut back on production leading to a fall in supply of organic baking products. Supply curve shifts leftwards, leading to a rise in price and a fall in quantity. The extent of change in total revenue depends on the PED value of organic baked products.

PED

For some consumers, PED organic baked products is more than 1, as there are other substitutes to it like regular baked products and other types of snacks. In such a case, a fall in supply will lead to a less significant increase in price, P0 to Pe and more significant fall in quantity, Q0 to Qe. This leads to a fall in total revenue as reflected in Figure 1, 0P0AQ0 to 0PeCQe.

However, some consumers only prefer organic baked products since it is healthier. There are lesser healthy substitutes that are available in the market. A fall in supply will lead to a more significant rise in price, P0 to Pi and a less significant fall in in quantity, Q0 to Qi and total revenue will increase, 0P0AQ0to 0PiBQi.

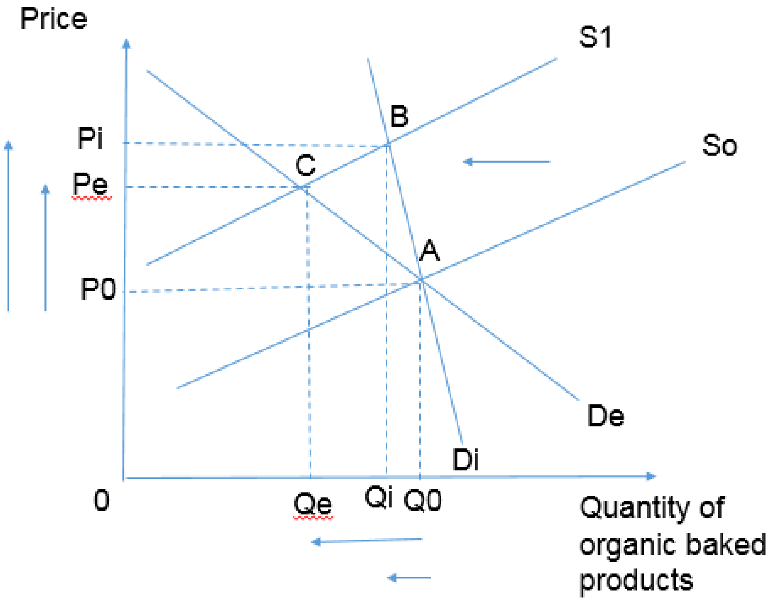


Figure 1

Change in demand

Rising affluence and hectic lifestyles lead to rising income and purchasing power, consumers prefer to consume food that are convenient to eat and requires no preparation this leads to an increase in demand for both types of baked products since there are normal goods. This leads to a rightward shift of demand curve that results in a rise price and quantity of organic baked products and total revenue to firms.

PES

The PES for organic baked products is less than 1 while the PES for regular baked products is more than 1. This is because it is takes a longer time for bakeries to source for organic baking ingredients like organic wheat since it is more difficult for farmers to produce organic wheat as it requires certification and additional steps in terms storage, handling, transport and processing, to ensure wheat remains uncontaminated and separated from regular wheat.

In the case of organic baked products, the rise in demand with an inelastic supply, leads to more a significant rise in price, P0 to Pi and a less significant rise in quantity, Q0 to Qi resulting in a rise in total revenue, 0P0AQ0 to 0PiBQi as reflected in Figure 2.

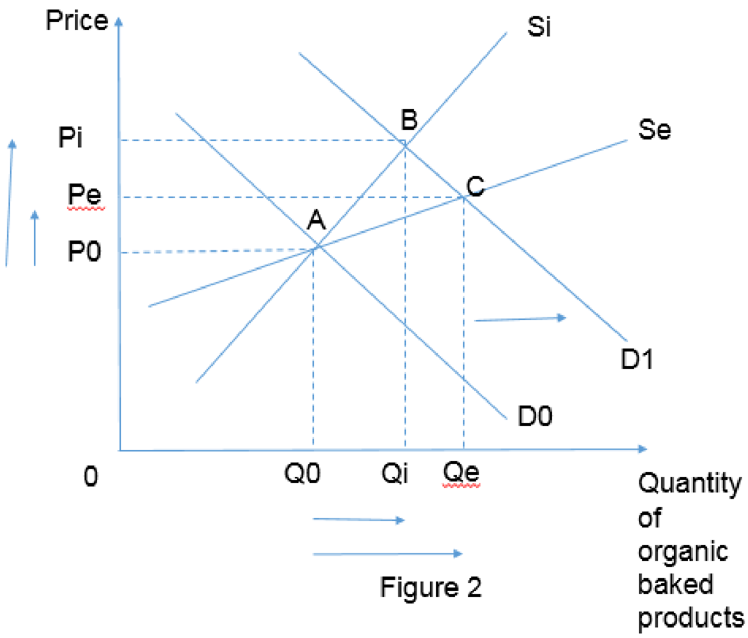


Figure 2

YED

The extent of rise in demand of organic baked products is dependent on whether the good is a luxury or a basic necessity. Some households may deem organic baked products as a luxury good, therefore, income elastic. In this case, demand will increase significantly therefore price, quantity and total revenue will rise more significantly, 0P0AQ0 to 0P2CQ2. However, for some households, organic baked products are a basic necessity. In this case, demand will rise less significantly, therefore, price, quantity and total revenue will increase albeit less significantly, 0P0AQ0 to 0P1BQ1, as reflected in Figure 3.

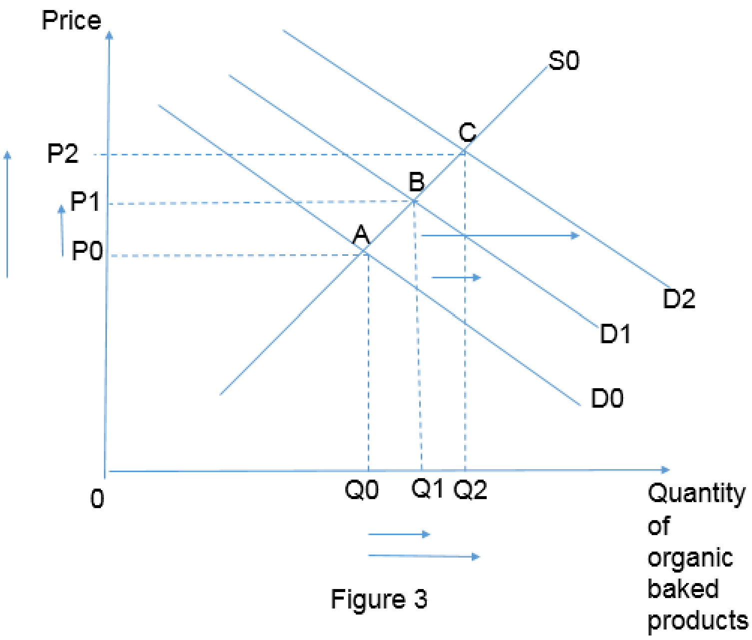


Figure 3

Simultaneous change in demand and supply

The rise in demand is likely to offset the fall in supply since the rising affluence and hectic lifestyles indicates that demand is increasing significantly given the pace of lifestyle, consumers will gravitate towards convenient food. Although the rise in prices of organic baking ingredients is a concern to bakeries, it might only take up a small proportion of total cost of production since there are other factors of production that are needed in the production of baked products like labour and machinery, therefore, the change in supply may not be significant. Overall, increase in total revenue, 0P0AQ0 to 0P1BQ1 as reflected in Figure 4

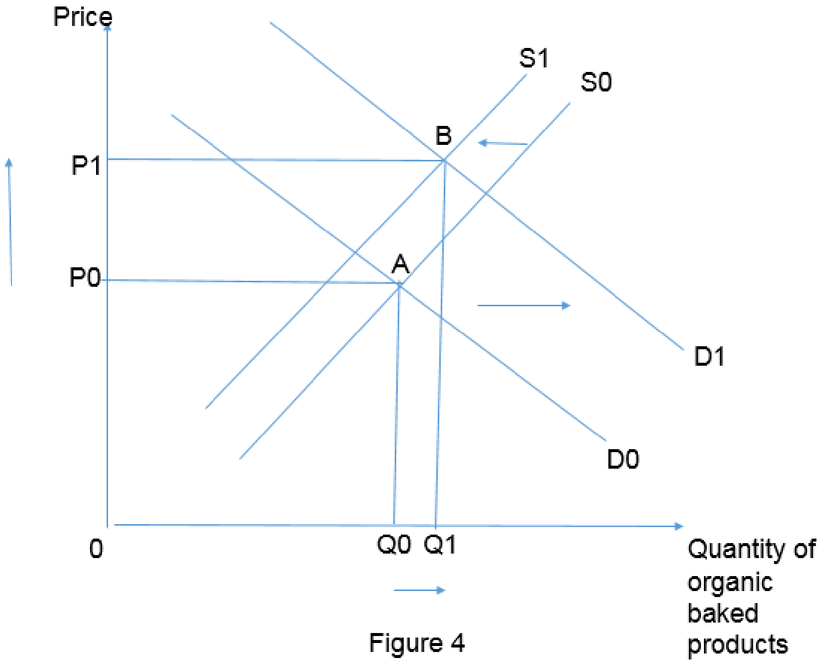


Figure 4

Market for substitutes: Regular baked products

Change in demand

Rising affluence and hectic lifestyles lead to rising income and purchasing power, consumers prefer to consume food that are convenient to eat and requires no preparation this leads to an increase in demand for both types of baked products since there are normal goods. This leads to a rightward shift of demand curve that results in a rise price and quantity of regular baked products. The extent of increase in price and quantity depends on whether regular baked products are PES>1 or PES<1.

As mentioned previously, the PES for regular baked products is more than 1 since baking ingredients is easily obtained. Firms will be able to increase quantity supplied as factors of production. In this case, the rise in demand will lead to a less significant rise in price, P0 to Pe and a more significant rise in quantity, Q0 to Qe as reflected in Figure 5 below.

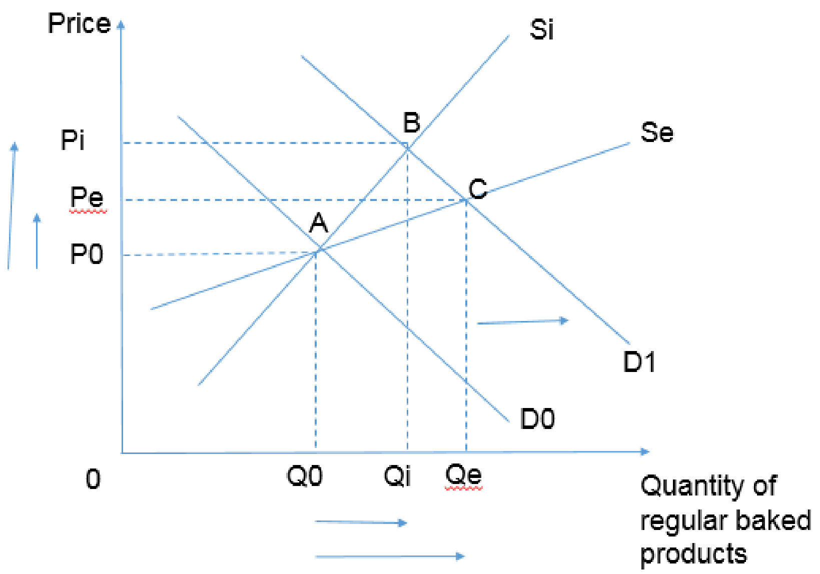


Figure 5

CED

The rise in cost of production for organic baked products leads to a fall in supply of organic baked products, this leads to an upward pressure on prices resulting in a fall in quantity demanded of organic baked products. This will then lead to a rise in demand for regular baked products since they are substitutes to organic baked products. The extent of rise in demand is however dependent on the cross elasticity of demand (CED) value. CED measures the responsiveness of the quantity demanded for a good to a change in the price of another good, ceteris paribus.

The CED value is high positive, this means both goods are close substitutes since both goods serve the same purpose albeit nutrients slightly differ. This leads to an even larger increase in demand for regular baked products leading to a significant rise in price and quantity. However, in some cases, regular baked products may not be a strong substitute especially for consumers simply prefer organic baked products over regular baked products, therefore the rise in demand of regular baked products may be to a smaller extent and increase in price and quantity may be small.

Market for complements- On the go beverages

A rise in price of organic baked products will lead to a fall in quantity demanded of organic baked products, since on the go beverages and organic products are strong complements, the CED value will be high negative. This will lead to a significant fall in demand for on the go beverages resulting a fall in price and quantity of on the go beverages.

However, the extent of decrease in demand for on the go beverages may be mitigated by increase in demand for regular baked products which are also close complements of on the go beverages. Therefore, there may not be a significant change in price and quantity of on the go beverages as whole.

YED

Furthermore, the rising affluence will also lead to a rise in demand for on the go beverages since it is a normal good. The extent of rise in demand depends on whether on the go beverages are perceived as basic necessity or luxury. The increase in demand will be more significant if it is perceived as a luxury leading to a significant rise in price and quantity compared to if it was a basic necessity.

Overall, the is a net increase in demand for on the go beverages due to the rising in income further supported with the rise in demand of regular baked products. This leads to a rise in price and quantity of on the go beverages.

Related markets – Factor inputs for organic baked products

The rise in demand for organic baked products will lead to a rise in derived demand of factor inputs like organic baking ingredients organic baking flour. This will lead to a further increase in price of these ingredients and increase in equilibrium quantity.

The increase in price and quantity is dependent on the PES value of these ingredients. In the short run, PES may be less than 1 since it is takes time to produce these factor inputs, therefore, price increase may be significant in the short run compared to the long run while rise in quantity may be less significant in the short run compared to the long run.

Evaluative Conclusion

The extent of change in total revenue, price and quantity in the respective markets depends on assumptions made that includes only a change in income and cost of production and perceived elasticity values of demand and supply. In the market for organic baked products, it is likely that total revenue increases since an increase in demand will definitely lead to a rise in total revenue regardless of the PES value. In the markets of related goods like regular baked products, on the go beverages and factor input, it is likely that a rise in price and quantity will be observed given the increase in income and the rise in price of organic baked products.

Ceteris paribus assumption

However, the change in income and cost production would not be the only factor affecting the total revenue for that particular good. The above analysis made use of the ceteris paribus assumption, i.e. that no other factors affected the demand or supply of those goods.
In reality, there could have been other reasons that may lead to a change in tastes and preferences in favour of organic baked products over regular baked products due to the nutritional benefits. Thus, the increase in demand for organic baked products will increase more significantly compared to regular baked products when rising income is coupled with rising preference.

Usefulness of elasticity concepts

In addition, the above analysis on the impact on total revenue, price and quantity was contingent on having accurate PED and CED values. However, in reality, such values are difficult to estimate due to difficulties with measurement, which would lead to different changes in total revenue.

2 Grab has taken over Uber's operations in Southeast Asia. Upon investigation, the Competition and Consumer Commission of Singapore has decided that the Grab-Uber merger would make the private hire car market less competitive and hurt consumers. As a result, it has proposed financial penalties on Grab and Uber.

(a) Explain the benefits and costs of the merger to Grab. [10]

(b) Discuss the economic justifications for the intervention by the Competition and Consumer Commission of Singapore (CCCS) to protect consumers when firms decide to merge. [15]

Part a

Level	Descriptors	Marks
L3	Developed explanation of the benefits and costs of the merger for Grab. Examples are needed for top marks answers.	8 - 10
L2	Under-developed explanation of the benefits and costs of the merger for Grab.	5 - 7
L1	Descriptive knowledge of the benefits and costs of the merger for Grab.	1 - 4

Part b

Level	Descriptors	Marks
L3	A balanced and well-developed discussion of the economic justifications for the Competition and Consumer Commission of Singapore to intervene in mergers.	8 – 10
L2	An under-developed explanation of the economic justifications for the Competition and Consumer Commission of Singapore to intervene in mergers. Max 6m for a one sided answers.	5 – 7
L1	For an answer that shows a descriptive knowledge.	1 – 4
	Evaluation	
E3	For a well-reasoned judgement based on economic analysis.	4 – 5
E2	For an attempt at judgement.	2 – 3
E1	For an unexplained judgement.	1

Part a.

Introduction

A *merger* is an agreement that unites two existing companies into one. There are several reasons why firms would want to *merge*. This is usually done for a firm to acquire more market share and eliminate competition. This will benefit the firms in terms of revenue and cost and thus fulfil their aim to maximise profits. The merger would also enable Grab to be better able to deal with any threat of new entrants or competition in the market.

Body

The merger will allow Grab to gain more market share and this has various benefits.

Firstly, Grab will now have access to customers who were previously with Uber. This will translate to higher demand for Grab's private hire car services and cause her revenue to rise. On top of that, the demand for Grab will become more price inelastic now as they will gain more market power that come with the higher market share. Grab will now be able to have more control over the price of their services and can increase the price to increase total revenue. As the rise in price bring about a less than proportionate fall in quantity demanded due to lack of substitutes, the revenue gained from the price increase will be more than the revenue lost from the fall in quantity demanded, causing revenue to now increase. Assuming that the rise in revenue can offset the cost of the merger, Grab will experience a rise in their total profit.

Being a larger firm now, Grab will also be able to produce at a larger scale and reap the benefits of economies of scale. Internal Economies of Scale (EOS) refers to cost savings arising from the benefits of increasing the output by expanding the firm's scale of production (size of firm). Internal EOS enables the firm to spread its cost over a larger output, hence lowering its long run average cost. Grab could better enjoy technical economies as she is now able to spread the high cost of the latest technology and sophisticated systems over a larger output and reduce the LRAC. For example, Grab is partnering NUS to launch an artificial intelligence (AI) laboratory here aimed at finding ways to alleviate traffic congestion and other urban transportation issues. This is now possible as the high cost of using the AI can be spread over a larger output.

Grab can enjoy marketing economies as she can now buy in a larger quantity now. For example, she can now buy the vehicles in a larger quantities and ask for more discount. This will help Grab to lower her average cost of production and earn more profits.

In addition to that, Grab is also able to gain risk-bearing economies as she can now practice diversification to spread their risk over a larger variety of services. Grab is also able to introduce new services such as Grabfood (food delivery service), Grabfresh (grocery delivery service) or even providing shuttle services from MRT stations to various army camps around the island.

The cost of borrowing is also generally lower for large firm than for smaller firm. Larger firms are often able to get bank loans at lower rates of interest and with better conditions due to their credit-worthiness. Furthermore, large firms can also list their companies in the stock exchange to get funding and expand their issue of shares when more funds are needed. This is known as financial economies.

Large firms also tend to be more established and have the resources and capability to compete in the international arena. This mean that consumers will now feel more confident in the branding of Grab and will use it more often. Grab will also be able to use Singapore as its base of operation and spread out to other markets oversea and earn more revenue. On top of that, it would be easier for Grab to attract international talents to work for them. They are also likely to have more funds for research and development and come up with better products and helps to increase the demand for their products will increase their total revenue.

While Grab could benefit from takeover, there is a possibility that the takeover could lead to higher average cost. Grab could grow too big beyond the minimum efficient scale(MES). It is the point where the LRAC curve is at its minimum or the output where the LRAC first starts to flatten off. Beyond the MES, there are no more economies of scale. Efficiency declines and diseconomies of scale occur. This means the average cost of production will now increase with the higher output levels. This is mainly due to Managerial Diseconomies of scale. For example, as the size of the firm increases, it becomes increasingly difficult to carry out the management functions of coordination, control, communication and the maintenance of morale in the labour force. Delegation to subordinates and decentralisation may give rise to problems of coordination and control. For example, Grab may find it more difficult to communicate with their many private hire care drivers on the road and certain vital information may not get passed on. There may also be a breakdown in communication and industrial relations as firms expand. Low morale and a feeling of alienation may lower productivity on the shop floor, thereby raising average cost of production.

Large organisations are subdivided into many specialised departments and may become bureaucratic. This complexity means a large firm may not be able to adjust quickly to the changing market conditions due to the slow decision making process. This is especially true in the current world where the global economic environment is become increasingly more volatile. People’s taste or preference also changes more rapidly with the changes in technology due to the more frequent occurrence of disruptive technology. Being a large firm will mean that Grab would be unable to make changes to their business to adapt to the situation quickly. Failure to adopt new and more efficient methods of production will incur higher cost for Grab while the failure to make changes to their business to adapt to changing consumers’ taste or preferences will affect their revenue as demand for their services fall. Too much diversification may not be beneficial for Grab as they might be venturing unfamiliar product market and this unfamiliarity may affect their ability to operate their business and be uncompetitive in the market. Hence, their total revenue will be affected.

There is also a risk that the firm might face additional regulations in the future. Also, as the firm expands, the firm might find itself needing to comply with new rules that did not apply to it before when it was smaller. For eg, a new data protection rule requires you to beef up your website’s security. They may also be fined if they are found to cause unfair competition in the market.

Conclusion

Being bigger will definitely bring about many benefits but they are usually subject to government approval. Hence, even if it is overall beneficial to firms, a merger may not happen if the government deem it to be overall detrimental to the society. Grab also has to be aware of the possible costs of being too big and ensure that they do not become too big too fast.

Part b.

Introduction

Competition and Consumer Commission of Singapore (CCCS) is Singapore's competition authority. It is a statutory board under the Ministry of Trade and Industry and is tasked to administer and enforce the Competition Act. CCCS intervene is such cases to prevent any firms from becoming too big and become a monopoly so as to protect the interest of the consumers.

Body

Why Intervention by CCCS is needed in cases of a merger

Less contestability due to merger

Mainly, CCCS have to intervene to ensure that the contestability of the market is not compromised by the merger. Without the threat of potential entrant, the merged firm may not have any incentive to operate at the competitive price and output level (earning only normal profits) and produce as efficiently as possible. For example, after the Grab/Uber merger, they will own a large number of full-time drivers who have previously signed on to them and these drivers will not be able to work for other similar private car hire service firms. This was not the case before the merger as these drivers were allowed to take on jobs from other private car hire service firms. In additional, Grab and Uber were the 2 firms that most consumers are most familiar with. With their merger, it will be extremely difficult for potential entrant such as Go-Jek to enter the market.

Higher price and lower output + allocative inefficiency

As firms merge and gain monopoly status, it is often fear that they will produce at a lower output and charge a higher price and hurt consumer welfare. The merged firms are able to do so due to its high monopoly power which gives rise to a demand curve which is downwards sloping and relatively price inelastic, and allowing the firm to have the ability to set either price or quantity. With reference to figure 1, since its demand curve, which is also the average revenue curve, is downwards sloping, its marginal revenue (MR) is less than its average revenue and hence it has a separate MR curve below its AR curve. Assuming that the aim of the monopolist is to profit maximise, it will choose to produces at the profit maximising output where MC = MR and where MC cuts MR from below, and the price is charged based on the AR curve. Since the MR curve is below the AR curve, the upward sloping portion of the MC curve will cut the MR curve first before cutting the AR curve. This leads to a higher price of P_0 and a lower output of Q_m. Hence, intervention by CCCS is needed to protect the welfare of the consumers. For example, after the merger of Grab/Uber, consumers receive lesser discount promo codes and have to pay a higher price for private hire car services. In addition, the lesser number of firms in the market will mean a fall in choices for consumers.

Furthermore, allocative efficiency cannot be achieved. Allocative efficiency (AE) is achieved when society produces the right type and right amount of goods required by consumers. This occurs when the firm produces where Price (P) = Marginal Cost (MC), implying that society's valuation of the last unit of the good is equal to the opportunity cost of producing that last unit. When it occurs, society's welfare is at the maximum and cannot be increased further. As seen in figure 1, Pm always exceed its MC and the market will fail to achieve allocative efficiency. While it is true that allocative efficiency cannot be achieved realistically, the more price inelastic demand curve of the merged firm will result in a greater extent of allocative inefficiency compared to before.

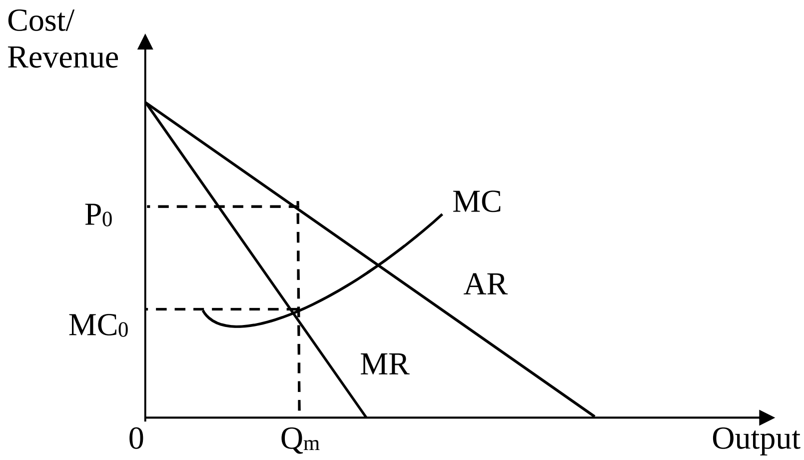


Figure 1: A Monopoly firm in long-run equilibrium

After the merger, at equilibrium in the long run, the monopoly can make normal or supernormal profits. Its price, Pm always exceed its MC, as seen in Figure 1. Consumers are prepared to buy additional units for a price that is higher than the cost of producing these units. Hence the monopolist is seen to be under-producing thus resulting in a loss of social welfare. Society will be better off by shifting extra resources into production of this good.

X-inefficiency
There is also a worry that after the merger, firms may become complacent as they can still earn supernormal profit in the long run and the newly merged firm may not achieve productive efficiency. Subsequently, if they pass on the increased cost to the consumers in the form of higher prices and hence affect the interest of the consumers. This is made worse if the good is a necessity like the private hire car service which is a form of transportation for people without cars. Hence, there is need for CCCS to intervene when firms want to merge.

Lack of innovation
If the merger brings about a lack of competition in the market, the merged firm may lack the incentive to conduct R&D and innovate. In addition, as a monopolist is able to make supernormal profits both in the short run and in the long run, it may see no need to innovate its processes in order to reduce costs. Hence, consumers will not be able to enjoy new products over time and may have to pay a high price for them. Thus, CCCS have to intervene in case of a merger.

<u>Why Intervention by CCCS is not needed in cases of a merger</u>

Market may still remain contestable
With the rise of disruptive technology, traditional barriers of entry are constantly being "bypassed" and this threat will force dominant firms in the market, even a monopoly to stay competitive in terms of both the pricing and quality. For example, the taxi industry in Singapore used to be dominated by a few large firms which are protected by high barriers to entry such as the large number of vehicles needed and also government licensing. However, through resource sharing app made possible by the rise of the smart phone technology, private hire cars companies like Grab and Uber are able to enter the market and threaten the market share and revenue of the traditional taxi companies. Similarly, the Grab/Uber merger may not have affect the contestability in the market as new entrants such as Jugnoo will still be able to enter the market and compete. Other firms that provide similar product (substitutes) such as BlueSg (Electric car rental service) will also provide more competition to the merged firm and threaten their existence.

Lower price and higher output
In addition, there are instances where a monopoly charges a lower price and produces at a higher output. This is because there are extensive internal economies of scale to be enjoyed by a monopoly firm that dominates the market and expands its own scale of production. In this case, the unit cost of production may fall when the industry is a monopoly. This means that its MC, could now become lower. If the cost falls substantially, the equilibrium output can be higher and price is lower compared to before the merger where the firms are smaller and is unable to reap as much internal economies of scale. Hence, there may not be a need for CCCS to intervene and stop any merger by firms.

Natural monopoly
In some other cases where the market size is small relative to the minimum efficient of scale, the market may not be able to support more than 1 firm and can be considered as a natural monopoly. A natural monopoly occurs in an industry when only one firm can exist profitably in the entire market as its average cost (AC) declines over the entire demand curve and it enjoys substantial internal economies of scales (EOS). In this industry, there is substantial amount of capital i.e. high fixed cost is required to produce a product or service and its long run average cost curve falls continuously as output expands. The huge capital requirement also means that total fixed costs make up a very large part of the total cost.
Hence, in such cases, when the firms merge, it may be for their survival and they have no other way out. In the case of the Grab/Uber merger, it can happen because the 2 firms may have realised that the small Singapore market is not able to sustain both of them and that is why they have decided to merge instead of continuing to compete. If they have not merged, it's possible that both firms could earn subnormal profits in the long run and exit the industry. CCCS would have no need to intervene in such cases as the product will not be provided otherwise and consumer will lose access to it.

Productive efficiency
The argument that large firm may become complacent and not achieve productive efficiency may not be entirely true. As most firms have the aim to maximise profits. Hence, this will motivate them produce at the lowest possible average cost of production in the long run regardless of whether they are big or small firms and be productive efficient.

Less wasteful competition
A more competitive market may also bring about higher cost of production as firms engage in non-pricing competitions such as advertising campaigns. Such advertising campaigns are usually persuasive in nature and does not add value to consumers' welfare. This will also in turn results in resources being wasted, instead of being channelled to other more productive areas such as improving product quality. For example, in the food delivery service market, one can see Foodpanda frequently do advertisements on television on how good their service is. But in reality, there is no difference in the quality of its service from its competitors. Hence, there may not be a need for CCCS to intervene and stop any merger by firms.

Dynamic efficiency can still be achieved
This argument that dynamic efficiency will be compromised as firm get larger may not be totally true according to Schumpeter's Theory of Creative Destruction, the fact that a monopolist makes supernormal profits in the long run creates an incentive for the firm to risk their money to finance innovations and to invest in R&D. For potential entrants, the supernormal profits earned by the monopolist will entice them to break into the market so as to enjoy attractive profits themselves. In order to break into the monopoly, potential entrants have to innovate and produce new and differentiated products, improve on quality or lower costs of production. Schumpeter calls the replacement of one monopoly by another, through the invention of new products or new production techniques, the process of creative destruction. An example would be Nokia which did not innovate after gaining near monopoly status in the mobile phone

market and got obsolete after the invention of the smartphone by Apple. We begin to then see many innovations constantly carried out by the different mobile phone makers in order to stay competitive and capture more market share. Even a strong firm like Apple got replaced by Huawei recently as the world no 2 largest smartphone seller.

For the firm itself, in order to maintain its monopoly position by maintaining the high barriers to entry, the monopoly would also continually strive to improve and innovate. In addition, since the firm is able to continue making supernormal profits in the long run, there is also an incentive to come up with new products in order to make more profits. An example will be the patents that are awarded for a drug development that encourages the firm to carry out further R&D because the revenue from the sale of the drugs is more secure. Lastly, since a monopolist makes supernormal profits in the short run and long run, it also has the necessary funds to do R&D. Thus, there may not be a need for CCCS to intervene in such cases.

Conclusion

In most cases, CCCS would be right to intervene and prevent firms from being too big in the market so as to protect the interest of the consumers. This is because there is no guarantee that the firms will pass on the benefits to the consumers. The most important factor to consider is whether there is still a high level of contestability in the market after the merger in both the short term and long term. If there still is, consumers need not worried about their welfare being compromised and at the same time, enjoy the benefits brought about by the large firm. Regulations have to be in place to prevent exploitation of the consumers by firms.

Possible evaluation 1

Due to the nature of the product, there are cases where it is actually beneficial to the consumers if the firms are big. One such market is the smartphone market where innovation is a key factor to be considered and hence the firms still will conduct R&D even though it is oligopolistic in nature. In some cases, government may want the firm to become bigger in order to protect domestic firms who are usually smaller against foreign entrants or may want the domestic firms to venture out internationally. In such cases, they may not want to intervene in the merger or may even sanction it to take place.

Possible evaluation 2

It may not be so easy for CCCS to make a decision on whether to clear the firm for merger or not due to lack of information sometimes in the real world. There may also be a lack of similar cases that took place for reference by CCCS. This is especially so for the world today where disruptive technology is happening on a more frequent basis. Hence, CCCS would have to consult relevant experts in order for them to be able to make a more informed decision in such a situation.

3 There is considerable debate over the need for government to continue to provide cash grants to consumers and intervene in markets which fail.

(a) Using examples, explain why inequity and the existence of positive externalities will lead to market failure. [10]

(b) Discuss whether government providing cash grants to consumers is the best way to correct for both these types of market failure in Singapore. [15]

Part a

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed explanations of how market failure arises due to income inequity and the existence of positive externalities. Good use of relevant examples of different goods to illustrate explanations.	8 – 10
L2	Descriptive explanation of how market failure arises due to income inequity and the existence of positive externalities. Answer uses relevant examples. Max 7m if there is no explanation with reference to examples.	5 – 7
L1	For an answer that shows descriptive knowledge of how market failure arises due to income inequity and the existence of positive externalities.	1 – 4

Part b

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	For a well-developed explanation on how government providing cash grants to consumers is the best way to correct these types of market failure. Well-developed explanation on alternative policies that government can use to correct these types of market failure.	**8 – 10**
L2	For a descriptive explanation on how government providing cash grants to consumers is the best way to correct these types of market failure. Answer merely states the alternative policies that government can use to correct these types of market failure. Max 5m if student only explain cash grants.	**5 – 7**
L1	For an answer that shows a descriptive knowledge on how government providing cash grants to consumers is the best way to correct these types of market failure.	**1 – 4**
Level	**Evaluation**	**Marks**
E3	For an evaluative conclusion which synthesises economic arguments to arrive at well-reasoned judgment about whether cash grants to consumers is the best way to correct these types of market failure.	**4 – 5**
E2	For an answer that makes some attempt at an evaluative appraisal about cash grants to consumers is the best way to correct these types of market failure	**2 – 3**
E1	For an unsupported judgment about cash grants to consumers is the best way to correct these types of market failure	**1**

Part a

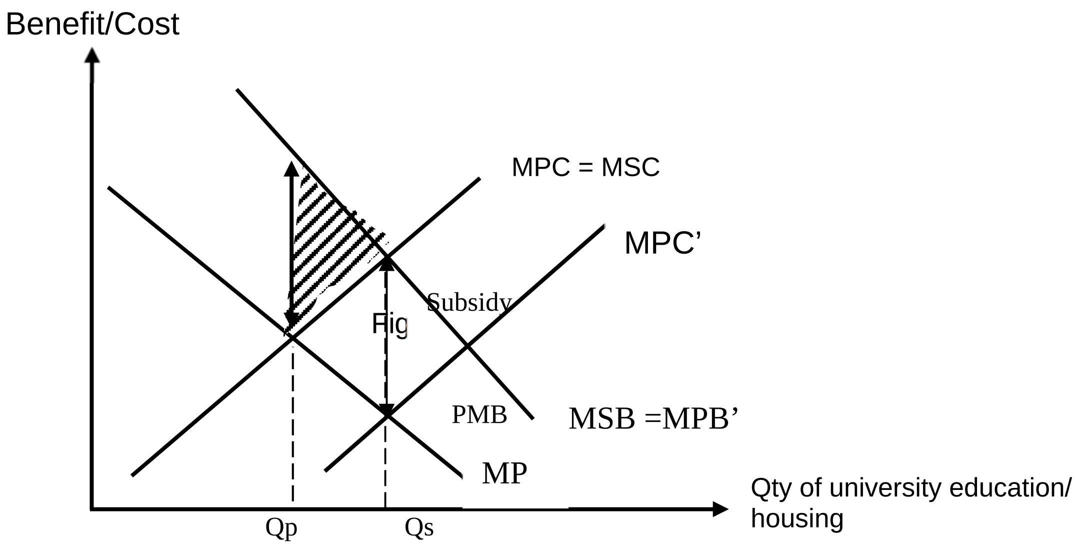
Introduction

Market failure occurs when the free operation of the price mechanism fails to allocate resources efficiently. An efficient allocation of resources occurs when no one can be better off without someone being worse off. It is achieved when marginal social benefit (MSB) is equal to marginal social cost (MSC) or when price is equal to marginal cost. Hence both inequity and existence of positive externality may lead to an undesirable allocation of resources.

Under-consumption of university education due to the presence of positive externalities

One example of a good with positive externality will be the consumption of university education.

The marginal **private benefits** of university education to consumers include making themselves more productive and adaptable to changes allowing to earn higher wage when consuming an additional unit of university education. The **marginal private cost (MPC)** would be the university course fee incurred when consuming an extra unit of university education. University education also gives rise to **external benefits** which includes enhancing the productivity level of the workforce thereby contributing to higher growth for the economy. This can lead to an overall increase in standard of living for all individuals.



As shown in Figure 1, the presence of external benefits leads to the divergence between social benefits and private benefits, so marginal social benefit (MSB) is higher than marginal private benefit (MPB) for each unit of output. Assuming that there are no negative externalities, the marginal private cost (MPC) is equal to marginal social cost (MSC).

Utility-maximising consumers only consider their private costs and private benefits, ignoring the external benefits spilled over to the third-parties. Left to the free market, individuals will consume at OQ_p level where MPB=MPC. However, the socially optimal level of consumption should be at OQ_s where MSB=MSC. Since Qp is less than Qs, there is under-consumption of university education. This is because the marginal social benefit of an additional unit of university education consumed is higher than its marginal social cost, it will result in a welfare loss as shown by the shaded area (seen in Figure 1). It is thus in the society's interest to continue consuming an additional unit of university education till Qs. Hence governments intervene in the market for university education to achieve an efficient allocation of resources.

<u>Under-consumption of housing due to the presence of inequity</u>

Undesirable allocation of resources also occurs due to inequity as it may lead to an unfair allocation of resources. One example of such market would be the housing market.

Under the free market, the price mechanism performs two roles – allocate resources according to consumer sovereignty as well as allocate goods according to the ability and willingness to pay for them. Consumers are able to command the resources via their dollar vote. By signaling to the producers what they want or do not want through their effective demand, the resources will be diverted away from or towards the production of the goods. The free market hence lacks the ability to differentiate between needs and wants – it finds no incentive to cater to the needs of those who are not able to pay for the good even if they need them the most which may lead to an unfair allocation of resources.

In the housing market, consumers from the low income households will have less dollar votes as compared to consumers from high income households. As a result, private producers will only build houses cater to the consumers from higher income households with higher dollar votes and do not build houses for consumers from the lower income households. This will result in resources to be diverted away from the low income households to the high income households in the housing market. Thus resulting in the housing needs of the low income households not to be met.

Hence, even if resources can be allocated efficiently to the production of goods and services based on the "dollar" votes but they do not flow to those who need them the most, resulting in market failure as the poor do not have access to the good which is a necessity.

Part b)

<u>Introduction</u>

In view of the causes of market failure due to positive externalities and income inequity, various policies are used by the government to encourage the production and consumption of the good so that the socially optimal level of output is achieved. Similarly to the case of university education, housing market also tends to fail due to positive externalities such that there is an external benefit of promotion social cohesion within the country. Hence, in part b, policies that can be used by the government will be explained in the housing market context.

<u>Policy 1: Cash grants to consumers to solve positive externality</u>

In the case of Singapore housing market, the government provides CPF housing grants for consumers whom are purchasing public housing for the first time. The policy acts as a form of cash grants to the individuals whereby the amount should be equal to the MEB at Qs level of output. The amount of cash grants given should be equal to MEB at Qs level of output. Such cash grants will shift MPB to the right to coincide with MSB, increasing the output level of public housing consumption from Qp to Qs level of output.

<u>Further cash grants to consumers to solve income inequity</u>

The government also further provides means-tested cash grants to Citizens and Permanent Residents household in the form of additional CPF housing grants. Households that are earning less than $5000 and below will be eligible to receive a higher amount of cash grants. This means that the government also provides significant support to the lower –and – middle income households who are not able to afford the payment. This thus helps to improve equity in the public housing market where it enables the low income households to be able to afford public housing.

<u>Limitations:</u>

It is difficult for government to estimate the amount of cash grant to give as it is difficult to measure MEB accurately in monetary terms due to tangible and intangible benefits, such as the increase in social cohesion. If the government underestimates or overestimates the external benefits, resource allocation is still inefficient. Cash grants also incur an opportunity cost as government funds used here will result in projects elsewhere in the economy, such as defence, being forgone.

Even if further cash grants were provided by the government, the amount may be still too low for certain groups of consumers. This is especially so in the case of public housing or university education which requires a large amount of money and also a loan from the banks. Hence it may not be sufficient to solve the inequity problem and government may need to also readjust the amount of cash grants given.

Government will also have difficulties in setting the eligibility criteria for the means-testing cash grants and have to ensure that it is inclusive. If the criteria remains too stringent and strict, the policy will still miss out groups of households which have difficulties affording the good without the help from the government.

<u>Policy 2: Subsidies to Producers</u>

Government can also choose to subsidise the producers. For example, in the case of university education for Singapore, the government can provide subsidies to the universities themselves as well. The amount of subsidies given should be equal to the MEB at Qs level of output. The subsidies lower the cost of providing university education and in turn universities pass on the cost savings which lower the price to consumers. This will result in the fall of MPC from MPC to MPC', increasing consumption of the good from Qp to Qs level of output as seen in Figure 1. This results in the government achieving an efficient allocation in the market. This will also ensure greater equity as it helps the poor to have access to such goods as it becomes cheaper and more affordable.

<u>Limitation:</u>

However if government were to subsidise producers, producers may become complacent. Direct provision may also be costly in the long run and may create a strain on the governments' budget. Government may also not be able to accurately estimate the demand of the good required and may thus lead to an over-supply.

In addition, providing subsidise to producers across the board may not be able to differentiate those who really need the help from the government and will not be a good way to target income inequity. This is because producers will tend to lower the price for all the consumers regardless of their income level unlike the cash grants which target on specific households. Hence a more targeted approach that focuses on helping the lower income households may be a more useful way when government is facing a budget deficit.

<u>Policy 3: Public education</u>

Another policy to solve the market failure is public education where the government can run campaigns and programmes to enhance the awareness of consumers about the external benefits of consuming certain goods. For example, the promotion of wellness programme to encourage Community Health Screenings in Singapore. Such campaigns not only make consumers more aware of the benefits of consuming such healthcare but also the benefits gained by family members and society when they detect illness early. MPB will increase thus shifting the MPB curve to the MSB curve. The problem of under consumption will be eliminated as this will help to increase the consumption level from Qp to the socially optimal level at Qs.

<u>Limitation:</u>
However, this is a long term policy as results might only be seen after a considerable period of time. The effectiveness depends on the recipients' response to these messages. It is difficult to change the mind-sets and habits of consumers. More importantly, it does not lower the price of the good and hence does not target on income inequity.

<u>Conclusion</u>
In the short run, cash grants to consumers is one of the better policies to correct the market failure as it is relatively easier to implement and there is flexibility to vary the subsidise amount depending on the situation. More importantly, it can help to target on both positive externalities and income inequity.

However, there a need to relook at the amount of cash grants provided. For example, cash grants that is available for the general public and is not subjected to income eligibility criteria can be reduced slightly and complement with public education to educate the public about the external benefits. On the other hand, cash grants catered to the lower-income households should continue in order to prevent income inequity from worsening.

The government should also be aware of the escalating cost of providing the goods in the future in the face of increasing price of raw materials and labour required. Hence the government can also tap on advanced technology to increase productivity to mitigate rising prices. This will aid in making the product affordable.

Even though, government may choose to intervene using various methods as each has its own merits and limitations. However, as much as government intervention can help to achieve efficient allocation of resources, its' effectiveness is hampered if there is government failure. Red-tape, bureaucracy and high cost of intervention may limit the effectiveness of the policies. Nonetheless, although government intervention will not be able to achieve an efficient allocation of resources, it will definitely help improve the current allocation of resources.

4 Japan's debt-to-GDP ratio, at 240.3%, is the highest among developed countries, the result of growing year-on-year fiscal deficits since the early 1990s. However, fixing the budget has taken a backseat as Japan continues to struggle with deflation and a rapidly ageing population.

(a) Using production possibility curves and AD/AS analysis, explain how Japan's ageing population would affect its economy. [10]

(b) Discuss whether the Japanese government should be more concerned with deflation or its growing fiscal deficit in light of its ageing population. [15]

Marking Scheme Part (a)

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation of how Japan's ageing population would impact its economy differently using both PPC and AD/AS analysis.	8 – 10
L2	Descriptive explanation of how Japan's ageing population would affect its economy using PPC and/or AD/AS analysis.	5 – 7
L1	For an answer that shows descriptive knowledge of how Japan's ageing population would impact its economy.	1 – 4

Marking Scheme Part (b)

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Well-developed explanation of the reasons why the Japanese government should be concerned with both deflation as well as its growing fiscal deficit, taking into account Japan's context of its ageing population.	8 – 10
L2	Descriptive explanation of the reasons why the Japanese government should be concerned with both deflation as well as its growing fiscal deficit. Some attempt is made to consider Japan's context of its ageing population.	5 – 7
L1	For an answer that shows descriptive knowledge of the reasons why the Japanese government should be concerned with deflation and/or its growing fiscal deficit.	1 – 4
Level	**Evaluation**	**Marks**
E3	For an evaluative conclusion that weighs and comes to a judgment about whether the Japanese government should be more concerned with deflation or its growing fiscal deficit.	4 – 5
E2	For an answer that makes some attempt to weigh whether the Japanese government should be more concerned with deflation or its growing fiscal deficit.	2 – 3
E1	For an unsupported judgment about whether the Japanese government should be more concerned with deflation or its growing fiscal deficit.	1

Part (a)

<u>Declining workforce</u>

- With an ageing population, the number of workers leaving the workforce increases faster than the number of new workers entering the workforce. This results in a shrinking workforce, leading to a fall in quantity of labour.
- In addition, the proportion of older workers in the workforce would increase. As older workers are less receptive to adapting to technological changes in the workplace, their skills may become outdated over time if they do not pursue further education and skills upgrading. Thus, the overall productivity of the workforce, which is widely measured by output or GDP per hour worked (OECD), would fall. This means that the quality of labour on the whole would have fallen.
- Given the fall in in quantity and quality of labour, which is an important factor input in production, there would be a fall in Japan's productive capacity.
- Furthermore, as productivity of the workforce falls and as the economy slows down due to the ageing population, Japan becomes a less attractive destination for foreign direct investment (FDI), causing I to fall and resulting in a worsening of the capital and financial account.
- This could be reflected as an inwards shift of the PPC from PPC_0 to PPC_1, as shown in Figure 1(a) below. It could also be depicted by a fall in the AS curve in the long run, as shown in Figure 1(b).
- As a result, national income would fall, i.e. there would be negative potential growth.

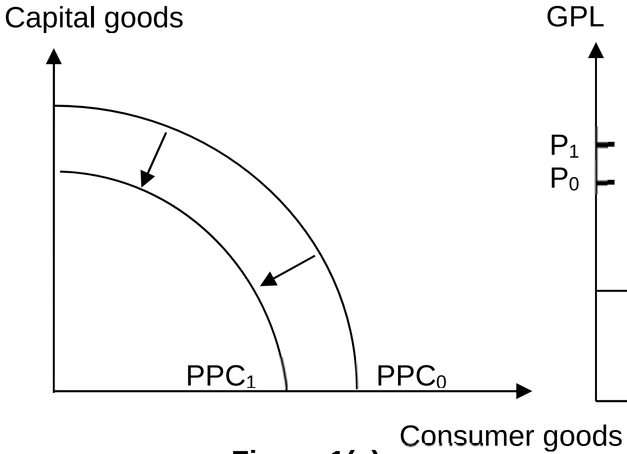


Figure 1(a)

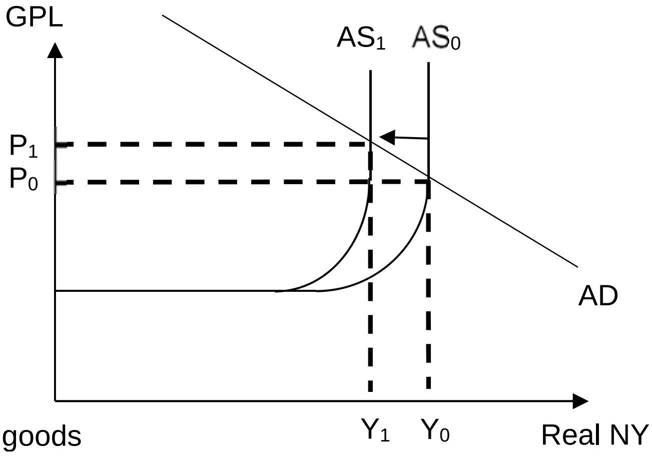


Figure 1(b)

<u>Plummeting household savings and falling consumption</u>

- As more workers leave the workforce, there would be a fall in household savings (S) as those who have retired no longer earn an income and will have to rely on their savings to fund their spending. The fall in income would also mean that purchasing power falls, leading to a fall in consumption (C).
- As people age and move into retirement, they will draw down on their saving. This would mean that there are less domestic loanable funds available for firms. Due to higher demand for loanable funds, higher interest rates would be charged on loans, causing private investment expenditure (I) to fall
- Firstly, the fall in C and I would lead to a fall in AD leading to a fall in real NY via the multiplier effect, resulting in negative actual growth. As AD falls, firms would decrease production, thereby lowering their demand for labour, giving rise to rising cyclical unemployment. The fall in AD would result in a fall in GPL, leading to deflation.

- This could be illustrated by a movement from a point closer to the PPC to a point further inwards, i.e. the production point moves inwards, as shown in Figure 2(a) below.
- It could also be illustrated by a leftward shift of the AD curve from AD_0 to AD_1, as shown in Figure 2(b) below.
- Given that the elderly save a smaller proportion of their income as compared to the younger, there would be a lower marginal propensity to save (mps), leading to higher multiplier k size. Thus, the fall in C and I would lead to a larger fall in Japan's NY
- Furthermore, as I falls, there would be a fall in capital stock assuming the rate of depreciation remains constant, leading to a fall in productive capacity. There would be an inward shift of the PPC and a fall in AS in the long run as illustrated by Figures 1(a) and 1(b) respectively, leading to a fall in potential growth.

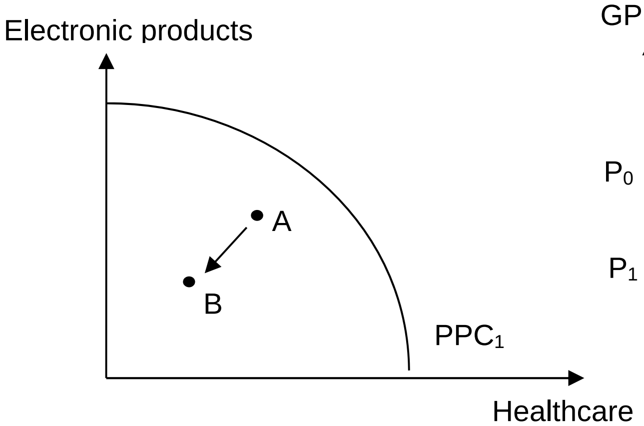


Figure 2(a)

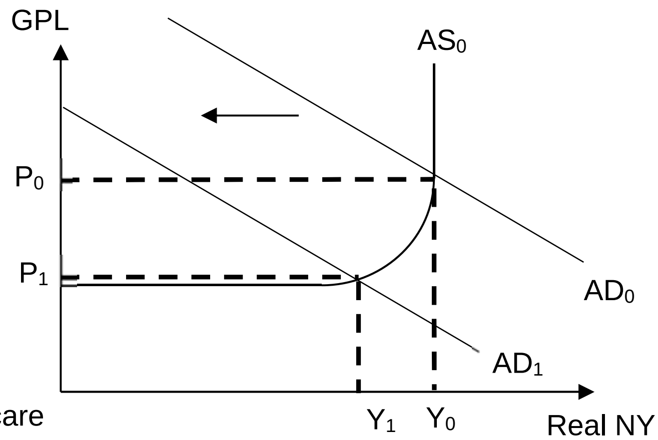


Figure 2(b)

<u>Combined effects</u>

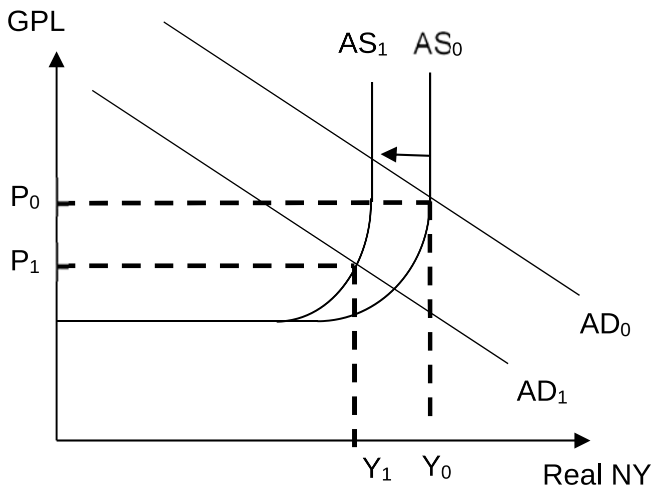


Figure 3

- Overall, there is a fall in AD from AD_0 to AD_1 and a fall in AS in the long run from AS_0 to AS_1 as shown in Figure 3. As such, real NY would unambiguously fall from Y_0 to Y_1. However, since the preamble mentions that Japan has been experiencing deflation, we can conclude that the extent of the fall in AD is greater than the extent of the fall in AS in the long run, such that the GPL falls from P_0 to P_1. This could be because the fall in quality of labour as the population ages may not be as significant. Although older workers may be less adaptable to technological change, they nevertheless possess more experience than their younger counterparts and this could mitigate the fall in productivity of the workforce. Furthermore, given the Asian culture of thrift, household savings would nevertheless continue to remain high, and thus the fall in I leading to the fall in AS in the long run would not be very significant.

Rising healthcare costs

- With an ageing population, certain industries would benefit while others would be negatively affected. The insurance industry will experience growth in health insurance sales as people tend to increase their insurance coverage as they age. There would also be an increase in demand for healthcare and elderly-care services. However, there would be less spending on other consumer goods such as electronic goods.
- On a PPC, this can be represented as a movement from point A within the curve (fewer healthcare goods and services, more electronic goods) to point B within the curve (more healthcare goods and services, fewer electronic goods), as shown in Figure 3

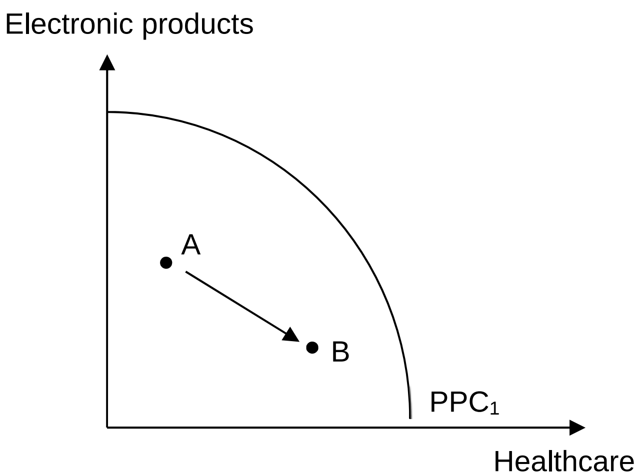


Figure 3

Part (b)

Introduction

- Define deflation and fiscal deficit:
  - Deflation is defined as negative inflation rate or when there is a sustained fall in general price level in an economy.
  - Fiscal deficit is otherwise known as a budget deficit and refers to a government's total expenditure exceeding the total revenue it generates in a fiscal year. Growing fiscal deficit suggests that Japan has a year-on-year widening fiscal deficit, which would increase its debt.
- Whether the Japanese government should be more concerned with a deflation than growing fiscal budget will depend not only on their consequences but also on its unique context of having the world's largest ageing population.

Body

Thesis: The Japanese government should be more concerned with deflation due to the harmful consequences of deflation and because deflation is difficult to tackle

1. <u>Deflation discourages consumer spending (paradox of thrift)</u>:

- During times of deflation, falling prices encourage consumers to delay purchases in anticipation of cheaper prices in future. In particular, consumers are discouraged from purchasing luxury goods and non-essential items, e.g. flatscreen TVs because they could save money by waiting for it to be cheaper.

- As a result, consumer expenditure (C) falls, resulting in a fall in AD. This in turn causes GPL to fall further, creating more deflationary pressure in the economy.

2. Increase in real value of debt:

- Deflation increases the real value of debt. As a result, it is more difficult for debtors to pay off their debts. Consumers and firms have to spend a bigger percentage of their disposable income on meeting debt repayments. This is exacerbated by the fact that during a time of deflation, firms will also be earning lower revenue while consumers are likely to be earning lower wages. This leaves less money for consumer spending and investment.
- For the Japanese government, which has a big burden of public debt, deflation will make it more difficult to reduce debt-to-GDP ratios.

OR

Increase in real interest rates

- With deflation, real interest rates increase even if nominal interest rates remain constant. (Fisher equation: real interest rates = nominal interest rates – inflation rate)
- With a rise in real interest rates, the cost of borrowing is higher. This increases the opportunity cost of consumption, thus reducing consumption. In addition, consumers are less likely to take out loans for bulky purchases when the cost of borrowing is higher, thereby reducing consumption. Meanwhile, investment expenditure by firms falls since projects at the margin that were previously profitable at lower real interest rates may no longer remain profitable.
- With the fall in C and I, AD would fall.

Extent:

- In light of Japan's ageing population, its consumption expenditure would already be falling due to individuals having less income after leaving the workforce. Investment would also already be falling due to the unproductive workforce, as mentioned in part (a). Therefore, the government ought to be very concerned with deflation since it would further cause AD to fall, resulting in further deflation and possibly causing the economy to fall into a recession.

3. Difficulty in tackling deflation through existing policies

- The Japanese government should also be more concerned with deflation given the difficulty in tackling deflation through its existing policies.

a. Ineffectiveness of expansionary monetary policy

- Ineffectiveness of cutting interest rates due to zero lower bound of nominal interest rates resulting in a liquidity trap: Although the Bank of Japan lowered nominal interest rates to zero, deflation continued to persist for many years in the 1990s and 2000s. This is because with deflationary pressures, when nominal interest rates are zero and cannot be cut further, real interest rates continue to increase, leading to further fall in C and I and causing deflation to worsen.

b. Trade-offs of expansionary fiscal policy

- o Expansionary fiscal policy that involves higher government spending and lower taxation would only increase Japan's budget deficit and would worsen Japan's debt problem further.

Anti-Thesis: The Japanese government should be more concerned with its growing fiscal deficit

1. <u>Large costs of financing large and persistent fiscal deficit</u>

- Each year that the government runs a fiscal deficit worsens its debt. The cost of financing the fiscal deficit will depend on the source of borrowing:

    - o **Internal borrowing**: Leads to crowding out effect, where private investment may fall as the government competes with private investors for limited funds in financial institutions. The rise in demand by the government for the limited funds would lead to an increase in the interest rate. This further raises the cost of borrowing, reducing investment and consumption

    - o **External borrowing**: Strings may be attached to loans obtained from other countries (e.g. political obligations to donors), thereby causing a country to lose some degree of its sovereignty.

- In addition, the government may need to offer higher interest rates in order to obtain loans from lenders who would be less willing to lend due to fear of default stemming from large fiscal deficit and debt. The larger the debt, the higher the risk of default, therefore requiring higher interest rates to compensate for higher risk. This would further increase the costs of servicing the debt.

    Extent:

    - In light of Japan's ageing population, the Japanese government's ability to secure funds to finance its spending is hindered given the fall in household savings. At present, the Japanese economy's growth has remained sluggish for decades, and this is likely to continue as its population ages. This would further increase the debt-to-GDP ratio, which would reduce the confidence that foreign entities have in the Japanese government's ability to repay its debts.

<u>Burden on future generations</u>

- Running persistent and large fiscal deficits would increase the size of government debt, which would place a burden on society when it comes to repaying the debt. The government would have to either reduce spending or increase spending in future in order to repay the debt. As a result, future generations will not enjoy as high a standard of living as they should. There is a trade-off with future spending on needed development expenditure such as physical infrastructure, healthcare and education.

    Extent:

    - In light of Japan's ageing population, the current generation of working adults would already have to face the burden of caring for not only their children but also their elderly parents. Reducing spending or increasing taxes in future would serve to increase the burden faced by these working adults, increasing their financial burdens and reducing their standard of living further.

Sovereign debt crisis

- If Japan's debt-to-GDP ratio grows too large, it may affect consumers' and investors' confidence in the ability of the government to repay its debt and perpetuates the risk of sovereign debt default. The fall in C and I would result in falling AD, leading to falling economic growth and rising unemployment. A sovereign debt crisis would also lead to hot money outflows from the economy as foreign investors seek safer investments in other countries. This would worsen the capital and financial account.

Conclusion

Stand:

- Both deflation and unsustainable fiscal deficit have dire consequences.
- But if a choice needs to be made as to which problem is more important, it depends on the severity of the respective problem and the priority of the Japanese government.
- In 2018, the Japanese government announced that it would postpone its plans to have a balanced budget to 2025, citing the need for greater spending in order to tackle the problems associated with ageing population.

Criterion 1: Trade-offs between tackling deflation and tackling fiscal deficit problem

- The Japanese government faces trade-offs when it comes to tackling deflation and its fiscal deficit problem.
- If it attempts to tackle deflation by implementing expansionary fiscal policy, it would worsen its fiscal deficit.
- However, if it attempts to reduce its fiscal deficit by implementing austerity measures, the resulting fall in AD would worsen deflation.

Criterion 2: Deflation could aggravate the problems of rising fiscal deficit

- Even so, it could be argued that deflation should be more of a concern for the Japanese government.
- Since deflation leads to a fall in consumption, it would lead to a fall in AD and a fall in national income as well as unemployment. This would reduce the amount of tax revenue that the government could collect and also result in higher unemployment and welfare benefits being paid out, thereby worsening the fiscal deficit further. Hence, the Japanese government may need to be more concerned with deflation.

Criterion 3: May be necessary to run fiscal deficit in order to tackle the problems caused by Japan's ageing population

- Furthermore, it could be argued that a fiscal deficit is necessary in order to tackle the problems caused by Japan's ageing population.
- For example, there is a need for Japanese government to spend more on the healthcare sector to meet the increasing healthcare needs of its ageing population
- The Japanese government will also need to spend more on social insurance schemes as well as pension and welfare payouts.
- Finally, it will need to spend on education and retraining in order to boost flagging productivity caused by ageing population (as mentioned in part (a))
- Therefore, Japan's growing fiscal deficit may be inevitable in light of its rapidly ageing population.

Criterion 4: Caution

- That said, the Japanese government would need to be careful not to allow the debt to balloon given that future generations already face the greater burden of having to provide more for their elderly dependents.
- With its rapidly ageing population, growth would slow further, thereby worsening Japan's fiscal deficit and debt problem.

Criterion 5: Use of quantitative easing and other policies to overcome constraints posed by ballooning budget deficit in order to tackle deflation

- The Japanese government's scope for expansionary fiscal policy is limited due to its huge budget deficit and ballooning debt. Meanwhile, traditional interest rate policy has been ineffective due to the liquidity trap. As a result, the Japanese government resorted to radical quantitative easing, in which the Bank of Japan bought huge amounts of bonds and other financial assets in order to increase liquidity and stimulate the economy. By purchasing financial assets from commercial banks and other financial institutes, it was able to increase money supply and lower the interest rates of longer maturity assets.

- Furthermore, the Japanese government has introduced plans to raise the retirement and pension age beyond 70 in order to encourage workers to remain in the workforce for longer. This would help to tackle its budget deficit problem since it would not have to increase its welfare payouts as much, while generating higher tax revenue for the government as its citizens continue to earn an income. Simultaneously, the rise in income would encourage consumption, thus helping Japan to overcome its problem of deflation.

5 **(a)** Explain the internal and external factors that may result in a country's failure to achieve internal price stability. [10]

(b) Discuss whether the supply-side policies of promoting research and development (R&D) and infrastructure development can achieve various macroeconomic objectives. [15]

Marking Scheme Part (a)

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	Well-developed analytical explanation of internal and external factors of demand-pull and cost-push inflation.	8 – 10
L2	Descriptive explanation of the causes of inflation.	5 – 7
L1	For an answer that shows descriptive knowledge of causes of inflation.	1 – 4

Marking Scheme Part (b)

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	For a well-developed explanation on whether SSP of promoting R&D and infrastructure development can achieve various macroeconomic objectives.	8 – 10
L2	For a descriptive explanation on whether SSP of promoting R&D and infrastructure development can achieve various macroeconomic objectives.	5 – 7
L1	For an answer that shows descriptive knowledge.	1 – 4
Level	**Evaluation**	**Marks**
E3	For a well-reasoned judgement based on economic analysis.	4 – 5
E2	For an attempt at judgement.	2 – 3
E1	For an unexplained judgement.	1

(a)

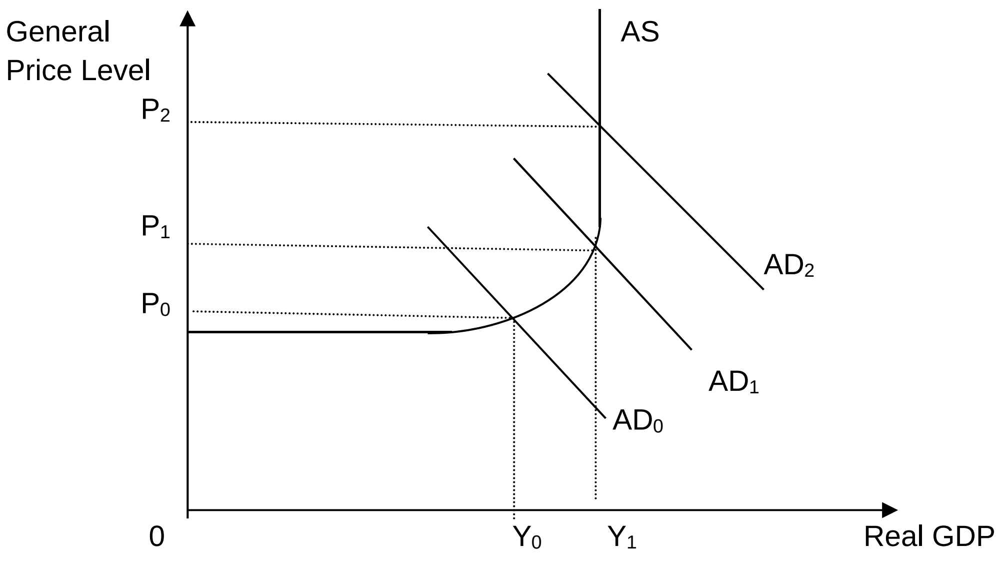
Internal price stability refers to a low and stable inflation rate. Inflation is a persistent increase in the general price level (GPL) of goods and services in an economy. A country's failure to achieve internal price stability can be due to both internal and external demand-pull and cost-push factors.

<u>Demand-pull inflation</u>
A country may suffer from demand-pull inflation, which occurs when increases in aggregate demand (AD) persistently exceeds that of aggregate supply (AS), causing excess demand when the economy is near or at full employment.

For example, in Singapore, one internal factor is the higher confidence in the economy due to positive economic growth over the years. Consumer confidence increases when they expect future income to increase over time, hence are more willing to take on more debts now, increasing their consumption (C). Also, businessmen are optimistic about future market conditions, hence business confidence increases and investment (I) increases as they expect future demand and profits to rise. Government expenditure (G) in Singapore has also been rising as the government spends more in areas such as infrastructure development and education and training. There has also been an increase in spending in the healthcare sector as the country faces the problem of aging population.

One external factor would be a rise in income of Singapore's trading partners, which leads to an increase in the purchasing power of consumers. This in turn, causes greater an increase in demand for Singapore's exports, increasing export revenue (X). Holding import expenditure (M) constant, net exports (X-M) rises. This was evident when countries like USA recovered after the 2008 global financial crisis. Since the value of Singapore's exports is more than twice the size of her domestic economy and USA is one of Singapore's largest export market, there is a significant increase in (X-M).

Hence the increase in C, I, G, (X-M) result in an increase AD near full employment level, shown by the rightward shift of AD curve from AD0 to AD1. This results in a rise in GPL from P0 to P1, representing demand-pull inflation. When the economy is at full employment, any further increase in AD from AD1 to AD2 leads to further rise in GPL from P1 to P2 with no increase in real GDP.

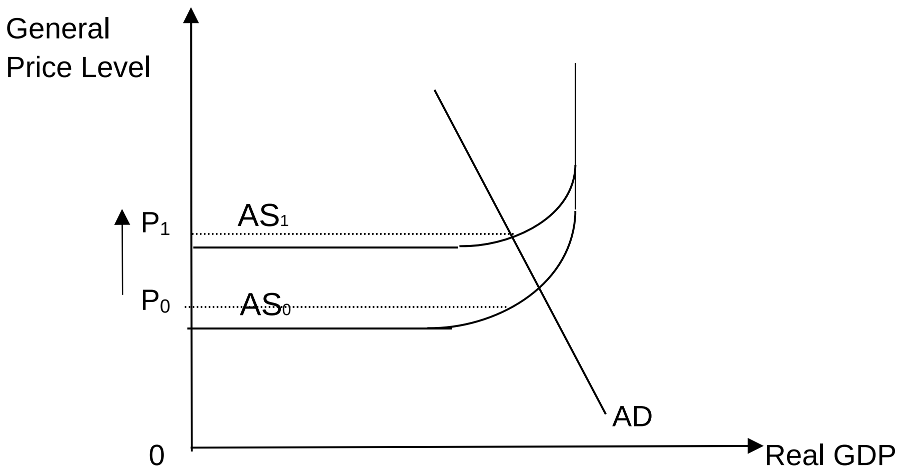


Cost-push inflation
A country may suffer from cost-push inflation, which occurs when prices are forced upwards by rising cost of production in the economy that is not due to excess demand.

For example, in Singapore, one internal factor is the wage-push factor. Tightening of foreign labour policies (e.g. reducing the ease of qualifying for employment passes, foreign worker levy) has led to the overall labour force rising slower than the demand for labour, thus resulting in labour shortage and a rise in wages. When wage increases exceed labour productivity growth, it increases the unit labour cost, and hence cost of production (COP).

Small economies like Singapore, that lack natural resources, are heavily dependent on the import of raw materials. One external factor is the rising global oil prices due to the civil war in the Middle East such as in Libya that reduced the supply of oil. This increase in price of imported oil (imported inflation) used as an important factor input in the production of goods and services in Singapore, causes increase in COP substantially.

The rise in COP subsequently leads to a fall in the profit and incentive of profit-maximising firms to produce. This causes a fall in AS in the short run, shown by the upward shift of AS curve from AS0 to AS1. This increases GPL from P0 to P1, representing cost-push inflation.



Conclusion
In conclusion, a country’s failure to achieve internal price stability can be due to both demand-pull and cost-push inflation. In reality, inflation is multi-causal, and there are different internal and external factors of demand-pull or cost-push inflation which contribute to the increase in GPL in varying degrees.

(b)

A government has various macroeconomic objectives that includes sustainable economic growth, inclusive economic growth, low inflation, low unemployment rate and favourable balance of payments (BOP).

<u>SSP of promoting R&D and infrastructure development can achieve sustainable growth</u>
Sustainable growth indicates a rate of growth that can be maintained without creating other significant economic problems (such as depleted resources and environmental problems), particularly for future generations.

Promoting research and development (R&D) such as in green technology will promote growth while not hurting the environment. For example, Singapore's Research, Innovation and Enterprise 2020 (RIE2020) Plan has a domain on urban solutions and sustainability through promoting renewable energy. Economic Development Board (EDB) also launched SolarNova in 2014, to accelerate solar energy use by promoting demand across government agencies. SolarNova utilises the solar leasing business model where a private firm will install, own and operate the solar systems and sell electricity to government agencies. Such spending on R&D to promote renewable energy helps to reduce environmental problems and ensure prudent use of natural resources for future generations.

Promoting infrastructure development such as in public transportation (e.g. Singapore's transport developments include expansion of the Mass Rapid Transit (MRT) via the Downtown Line by 2017, Thomson–East Coast Line by 2023 and Jurong Region Line from 2026) will reduce private vehicle usage on roads. Such infrastructure development will reduce carbon emission, hence preventing environmental degradation. The better air quality will not affect the health and productivity of workers negatively.

Promoting R&D and infrastructure development in the SSP can also achieve positive potential growth through capital accumulation that increases productive capacity and hence aggregate supply (AS) in the long run.

However, SSP of promoting R&D and infrastructure development may not be able to achieve sustainable growth. For R&D, small economies like Singapore face physical constraints in terms of the type of alternative energy sources that can be used. This results in the lack of ability to use nuclear, hydroelectricity or geothermal power to reduce carbon emission and prevent depletion of natural resources. For spending on infrastructure development, small economies like Singapore also face land constraint that may limit the amount of public transport network it can expand. In addition, these two policies are long term policies, hence are not able to achieve actual growth in the short run.

<u>SSP of promoting R&D and infrastructure development can achieve low inflation</u>
SSP of promoting R&D and infrastructure development can reduce demand-pull inflation and achieve low inflation. With the increase in AS in the long run due to increase in productive capacity, general price level (GPL) in the economy will be reduced.

However, SSP of promoting R&D and infrastructure development may not be able to achieve low inflation should the problem be due to rising prices of imports such as oil and agricultural crops (imported inflation), which is especially applicable to small economies like Singapore that lack natural resources and thus are highly import-reliant. In addition, SSP of promoting R&D and infrastructure development may not be able to achieve low inflation should there be cost-push inflation due to rise in COP when wage growth exceeds productivity growth. This is because the root causes of inflation are not tackled. The exchange rate-centred monetary policy such as the modest and gradual appreciation of SGD by the Monetary Authority of

Singapore (MAS) can better curb imported inflation, and a skills retraining to improve productivity can better curb wage-push inflation.

SSP of promoting R&D and infrastructure development can achieve favourable balance of payments

SSP of promoting R&D can help to improve the non-price competitiveness of exports such as through better quality products. This increases the demand for exports in the world market. SSP of infrastructure development such as in transportation helps to increase the productivity and efficiency of workers, with less time spend on congested roads and less breathing of polluted air. This allows prices of exports to be priced more competitively in the world market when the reduction in COP is translated to consumers in terms of lower prices. Assuming that the demand for exports is price elastic due to availability of substitutes in the world market, the decrease in price leads to a more than proportionate increase in quantity demanded. This increases the export revenue (X) and hence net exports (X-M) of the economy, holding import expenditure (M) constant. The increase in (X-M) will improve the current account. These SSP can increase the business confidence of foreign investors as there is increase in expected profits due to increased cost efficiency. Hence there will also increase the inflow of long-term foreign direct investment (FDI), improving the capital and financial account. With both current account and capital and financial account improving, overall balance of payments can improve.

However, SSP of promoting R&D and infrastructure development may not be able to achieve favourable BOP should the problem of current account deficit be due to too high import expenditure or should the problem of capital and financial account deficit be due to net outflow of short term capital. This is because the root causes of unfavourable BOP are not tackled. An expenditure-switching policy such as devaluation of currency can better improve balance of trade and hence improve current account, and a contractionary monetary policy can better increase short-term hot money inflow and hence improve capital and financial account.

SSP of promoting R&D and infrastructure development cannot achieve actual growth, inclusive growth and low unemployment rate

SSP of promoting R&D and infrastructure development that focus on increasing productive capacity of the economy are not able to achieve positive actual growth and low unemployment rate through the reduction in cyclical unemployment which are due to rising AD and/or AS in the short run. This is because the root causes of the problems are not tackled. Expansionary demand management policies such as expansionary fiscal or monetary policies can better achieve positive actual growth when there is deficiency in demand, and the appreciation of SGD can better reduce COP arising from rising prices of imported raw materials and intermediate goods. Through these policies, the increase in NY will then signal firms to expand production and increase derived demand for labour, hence can reduce cyclical unemployment.

SSP of promoting R&D and infrastructure development are not able to achieve low unemployment rate through the reduction of structural unemployment, as well as to achieve inclusive growth because they are not the specific types of SSP that reduce the mismatch of skills. Increased spending on training, such as SkillsFuture Credit and Adapt and Grow scheme in Singapore, is able to eliminate the structural bottlenecks and aims to make workers more responsive to changes in job opportunities, hence can achieve low unemployment rate. These initiatives not only increase the productivity of workers and facilitate potential growth, but also ensure that those who may not have the necessary resources are given the support they need to bolster their skills and move up the income ladder to close the income gap, hence can achieve inclusive growth.

Evaluation

Combination of policies to tackle various root causes
SSP of promoting R&D and infrastructure development can achieve some macroeconomic objectives to a small extent. Macroeconomic problems such as internal price instability stemming from demand-pull inflation and balance of payments deficit due to current account deficit stemming from poor export growth can be alleviated. Since these macroeconomic problems are typically multi-causal or it's difficult for the government to diagnose the root cause, implementing a combination of policies to target the different root causes of the problems can better achieve the macroeconomic objectives. For structural unemployment, specifics type of SSP such as education and training are required to reduce the mismatch of skills between the retrenched workers and what is demanded by the expanding industries, thereby can also achieve inclusive growth. In addition, for example, a combination of demand management policies to achieve positive actual growth and supply management policies to achieve positive potential growth, environment protection and prudent use of natural resources can better achieve sustainable economic growth.

Possible conflicting objectives
SSP of promoting R&D and infrastructure development may result in certain trade-offs with other macroeconomic objectives. For example, with economic restructuring partly driven by promoting R&D will increase structural unemployment. This is because there will be many workers who are retrenched in the sunset industries and do not have the necessary skills and training to switch to jobs in sunrise industries, resulting in a mismatch of skills. In addition, promoting R&D through introducing capital-using technologies can create rural and urban unemployment, and promoting infrastructure development to urban areas and ignoring the rural sector where most of the poor live will result inequity and cause low- and middle-income group to have less access to basic goods such as healthcare and transport. This conflicts with inclusive growth.

Prevailing economic conditions and fiscal position
Whether SSP of promoting R&D and infrastructure development can achieve the macroeconomic objectives ultimately depend on the types and causes of challenges faced by the economy, for example weak productivity growth and global economic slowdown. Countries that face budget deficit may not be able to spend on education and training to boost productivity or expansionary fiscal policy as compared to a government with strong fiscal position. Similarly, promoting R&D and infrastructure development in the SSP require high amounts of government spending. While they generally pose less problems for governments that run budget surpluses such as Singapore, governments such as those in the US might have less ability to do so as they incur a budget deficit, hence may not be able to achieve sustainable growth. Thus, the government must exercise flexibility in deciding on a suitable combination of policies to ensure that the economic priorities are addressed and that trade-offs that could occur are minimised.

6 Discuss the possible impact of globalisation on developed and developing economies and the policy measures that the Singapore government could adopt in response to the threats of globalisation. [25]

Level	Knowledge, Application, Understanding, and Analysis	Marks
L3	For a well-developed explanation on gains and threats of globalisation on developed and developing economies, and the effectiveness of policy measures to deal with the threats of globalisation. Top marks for students who display application to context, show similarities/differences of gains/threats between developed and developing economies.	**15 – 20**
L2	Descriptive explanation on gains and threats of globalisation on developed and developing economies, and the effectiveness of policy measures to deal with the threats of globalisation.	**9 – 14**
L1	For an answer that shows descriptive knowledge	**1 – 8**
	Evaluation	
E3	For a well-reasoned judgement based on economic analysis.	**4 - 5**
E2	For an attempt at judgement.	**2 – 3**
E1	For an unexplained judgement.	**1**

Introduction

Globalisation is the increased integration of national economies into the global economy. Globalisation results in greater flow of goods and services, capital and factor resources among different economies, both developed & developing, which leads to greater interconnectedness and interdependence.

Developed economies has highly progressed and possesses great technological infrastructure whereas economies with low industrialisation and low human development index are termed as developing economies.

Body 1
– Explain the positive impact of globalisation on developed and developing economies

International trade refers to the exchange of goods and services between countries. Due to international immobility of resources, different countries have differences in efficiency in producing different goods. For example, for a developed economy such as Singapore has more advanced technology and skilful workforce whereas a developing economy such as Vietnam are endowed with natural resources, fertile land and has a cheaper workforce which is less skilled. This results in international differences in costs which causes differences in prices, which is the basic cause of trade. Some things which might be cheaper to produce at home will be exported while those which are more costly to produce at home will be imported.

These economies exploited the theory of comparative advantage and tapped on the opportunities presented by globalisation to expand their exports market beyond her national boundaries. This resulted in specialisation in producing goods and services where their area of comparative advantage (CA) lies in. The theory of CA explains that Singapore might wish to trade with Vietnam based on the differences in opportunity costs of production. The opportunity cost of producing good X is the amount of the other good which has to be sacrificed in order to produce an additional unit of X. As long as there is a difference in relative opportunity cost between economies and each economy specialises according to their CA, both economies could gain from trade. When developed and developing economies specialise according to where their CA lies in, developed economies tend to produce high value-added goods whereas developing economies produce low-end and labour intensive manufacturing. For example, Singapore specialised in refined petroleum and trade with Vietnam for her crude oil and garments.

Specialisation also leads to an expansion of their scale of production, thus allowing firms in these economies to enjoy economies of scale leading to lower unit costs of production. This in turn enabled them to make their exports more price competitive. Ceteris paribus, rising net exports earnings would increase their AD leading to an increase in the national income via the multiplier effect. This rise in national output would be fuelled by greater production and expansion plans which would lead to higher employment. The living standards of these economies will see an improvement, both in the material and non-materials aspects due to rising affluence.

Due to its low agricultural output, Singapore imports almost 90% of its food products from neighbouring countries. This has led Singapore to develop expertise in the areas of food technology, storage, packaging and logistics. On the other hand, the agriculture sector in Vietnam has been a major contributor to her economy but its products are perceived as being of lower value and quality. Singaporean firms can provide the expertise in the use of advanced technology and techniques for value-added processing. They can subsequently re-export the processed food products from Singapore after value-added processing.

Domestic factor inputs in developed economies may be relatively more expensive due the differences in their stage of development as compared to what is available in developing economies. Globalisation provides opportunities for Singapore to source for cheaper factor inputs such as electronic components from different developing economies. This would help to avoid rising cost of operations and imported inflation and in turn raise Singapore's export competitiveness since many of her exported goods use imported raw materials. At the same time, Vietnam imports intermediate factor inputs and capital equipment from more developed economies for her assembly line sectors and manufacturing industries. Thus greater ease in flow of goods and services would imply a cheaper and a wider variety of imports to choose from.

Developed and developing economies both enjoy a higher standard of living as a result of access to foreign imports. For example, developed economies import luxury goods and developing economies import consumer durables.

The educated, skilled workforce and positive investment climate in Singapore and Vietnam's low operating cost environment attracted many different types of foreign direct investments (FDIs) respectively. The ease of inflow of FDIs helped improve economic growth and employment of these economies. In addition, the technological transfer from the MNCs has helped to enhance the productivity of their production, distribution and marketing processes, together with greater sharing of technical and managerial skills, knowledge and experience. In this regard, developing economies gain more from FDIs inflows as their local investors are often handicapped in terms of financial ability and are not scalable. The increase in FDIs and productivity levels has boosted the long run potential growth of these economies. The increase in trade and capital movements in favour of Singapore and Vietnam improve their balance of payments and strengthen their external value of currency. As the stronger currencies are achieved via free market forces, there is no need for their governments to tap on its foreign reserves. This in turn benefited the economies in fending off imported inflation.

With a freer movement of labour, developed economies such as Singapore which experiences high labour costs are now better able to utilize workers from other economies. Foreign workers can fill up the vacancies requiring lower level of skills and which Singaporeans tend to shun. For instance, Singapore imports a lot of low skilled foreign workers from South Asia like India, China, Malaysia and Philippines to work in the construction sector and as domestic maids. Vietnam on the other hand, was able to tap of foreign expertise and talents to boost their capability and potential capacity.

Body 2
– Explain the negative impact of globalisation on developed and developing economies

Unfortunately, the economic gains of globalisation do not come without threats.

The downside of being open to trade and adopting a pro-globalisation stance increased both developed and developing economies' vulnerability to external shocks. The 2009 Global Financial Crisis affected these economies adversely, caused them to slip into recession and resulted in high cyclical unemployment. The extent of the adverse impact depends on the financial abilities of the respective governments to implement policy measures to contain such the spillover effects. Developed economies may be more equipped than developing economies in doing so. This could be due to their stronger fiscal health which could assist in cushioning spillover effects. Developed economies may have a more structured and established process to manage such external shocks, in short, they may have developed greater resilience after going through more economic hardships.

Developed and developing economies also experience increased threats to external shocks such as imported inflation - increase in global prices of imported raw materials, intermediate factor inputs and final goods and services, all depending on what they import and where they import from.

With freer flow of FDIs, some industries start to move out from developed economies such as Singapore to low-cost economies where costs of labour, land and raw materials are relatively lower. The Singapore economy will then undergo restructuring and this will result in structural unemployment if the retrenched workers do not have the relevant skills to take up other jobs in the labour market. Although, developing economies such as Vietnam seems to benefit more from such FDIs movements, they are not safe from threats of globalisation either. Vietnamese workers face challenges in terms of supressed wages. This is both due to the profit maximising expectations by FDIs and also Vietnam's heavy dependence on foreign investments. Vietnam's economic success over the past three decades has been built in no small part on its openness to foreign investments. FDI accounted for 25% of investment in Vietnam between 2011 and 2015, and contributed 20.1% of GDP in 2015. Such exposure meant greater susceptibility due to freer FDIs movements in time to come when Vietnam gets less cost effective relative to other less developing economies.

Globalisation results in rising income inequalities between the skilled and the unskilled workers in these economies. With greater mobility of labour, the unskilled workers face stiff competition from foreign workers. With a higher supply, the wages for unskilled workers fall. On the other hand there is a shortage of skilled workers whose supply is limited and the demand for their services is high. This situation leads to rising wages for the high skilled workers.

Evaluation 1

In conclusion, different economies both get to enjoy various economic gains from globalisation and also suffered as a result of various threats of globalisation. The similarities and differences in terms of gains and threats of globalisation experienced by both developed and developing economies are also discussed above.

Government intervention is hence necessary. The effectiveness and success of policy measures are crucial to determine whether any economy can reap the net benefits of globalisation.

Body 3
– Explain policy measures that the Singapore government could adopt in response to the threats of globalisation and its limitations

The Singapore government could implement the following policy measures to reduce the threats of globalisation she suffered from.

Policy 1

To reduce the vulnerability to an external shock such as global recession, which will spill over to dampen the Singapore economy, the Singapore government could adopt an expansionary fiscal policy to stimulate her economy. The Singapore government could spend on infrastructure projects such as building new airport terminals and expanding her MRT networks. A reduction in personal income tax would stimulate consumer spending through an increase in disposable income, whereas reductions in indirect taxation would enable a given disposable income to buy more goods and services. A cut in corporate tax will increase after-tax profits and thus encourage private investment. When the Singapore government increases her spending or reduces taxes, the resultant increase in AD will in turn raise national income via the multiplier process and reduce cyclical unemployment.
However, the expansionary effect of fiscal policy is limited as the root cause of recession is caused by external factors. Further, Singapore is a small and open economy with a weak multiplier effect. Singapore's fiscal multiplier effect tends to be weak as she has a lack of resources and is an import dependent country. In addition, due to her compulsory savings scheme (Central Provident Fund), it resulted in a large amount of leakages from the circular flow of income. An increase in government spending may not have a significant impact on income and employment as a big proportion of the increase in income is spent on imported goods. Consequently, the magnitude of the impact on national income, production and hence unemployment will also be small.

Policy 2

A relatively strong Singapore's exchange rate has to be maintained to cushion the impact of rising costs of imported raw materials and final goods and services. A modest and gradual appreciation of the Singapore dollar causes the prices of imports to become relatively cheaper and this will help to tame imported inflation.

However, an appreciation of the exchange rate tends to erode the price competitiveness of her exports. It will in turn hurts trade, worsen her current account balance and balance of payments. Managing the exchange rate also has its challenges, the Monetary Authority of Singapore (MAS) needs to know when to intervene, what exchange rate they should aim to maintain, and how persistently they should try to maintain that rate.

MAS may not have up-to-the-minute, reliable information about the state of the global economy and the various interactions in the foreign exchange market. Since the extent of success of the policy depends on how much the exchange rate is allowed to appreciate or depreciate, this would require the accurate analysis of the level of world inflation and likely movements of other exchange rates.

If the SGD is too strong, it will discourage FDIs as the cost of wages, raw materials and capital goods will be relatively higher when expressed in home currency. Nevertheless, besides the exchange rate, there are also other determinants of investment. On the other hand, if the SGD is too weak, it may lead to domestic inflationary pressures. Intervention is only possible if there are enough foreign reserves. MAS must have adequate foreign reserves in order to intervene in the foreign exchange market as frequent buying to prop up the value of SGD may deplete the foreign reserves. Thus, such a measure is only feasible when it is supported by strong economic fundamentals that lead to an increase in the demand for the local currency, otherwise intervention to prop up the local currency is not sustainable in the long run.

Policy 3

To reduce structural unemployment, workers need to be retrained in order to acquire the skills required in the sunrise industries. Investment in retraining and upgrading of skills of workers is essential to ensure occupational mobility of labour. The Continuing Education and Training helps to equip the Singapore workforce with the skills for job opportunities in the sunrise industries. There is also a need to provide assistance to the lower-income households to reduce the widening income gap. Instead of encouraging reliance on the government for financial assistance, policy measures that help workers to upgrade their skills and the Workfare Income Supplement scheme could be adopted to provide incentives for workers to remain employed and acquire better skills that enable them to earn more.

However, the success of skills upgrading depends on the receptiveness of the workforce to retraining as workers may not have the abilities to learn new skills or they are resistant to the idea of changing jobs. This measure also requires large funding and takes a long time to see positive results.

Evaluation 2

In view of the nature of the Singapore economy, Singapore has gained much from globalisation. A combination of policy measures is required to reduce the threats of globalisation and any possible trade-offs. Protectionism is not a choice to protect the local industries or Singaporeans. The Singapore economy can only thrive on its openness and ride on the wave of globalisation through signing free trade agreements (FTA).

FTA could be signed with various countries to eliminate tariffs on Singapore's exports, thus boosting the export earnings. This benefits industries which are mainly export-oriented and creates employment for the economy. However, free trade agreements can at best diversify our risks. As the global economy is interconnected, a recession in one country tends to affect the economic performance of other countries. In order to reduce the external shocks transmitted from other countries to Singapore, policy measures should be implemented to attain sound economic fundamentals of the economy so that Singapore is resilient when it encounters any crisis.

As comparative advantage evolves over time, the Singapore government also needs to be ahead of its times and be able to identify new niche areas. This includes the attempt to develop new clusters of growth and to equip Singaporeans in knowledge intensive sectors such as environmental and water technology. The Singapore government places huge emphasis on continuous education, retraining and skills upgrading to help her workforce upskill. This can be shown by her economic priority and large amount of budget set aside for this purpose. These plans to upgrade the skillsets of her workforce, unlike other countries, is not impeded by a lack of funding. This is because the Singapore government has the financial ability to implement her plans, aided by past fiscal prudence.