	PRELIMINARY EXAM 2017
	Economics JC2 H2 (9757/02)

PAPER 1

Tuesday
12 September 2017
08:00 – 10:15

TIME : 2 hours 15 mins

INSTRUCTIONS TO CANDIDATES

Do not open this paper until you are told to do so.

Write your name, class and name of economics tutor in the space provided on the writing paper.

Do not use staples, paper clips, glue or correction fluid/tape.

Answer **all** questions. The number of marks is given in the brackets at the end of each question. Write your answers on the writing papers provided. If you use more than one sheet of paper, fasten the sheets together. Submit the answers for both case study questions **separately**.

You are advised to spend several minutes per question reading through the data and questions before you begin writing your answers.

There are 8 printed pages including this cover page

Answer all questions.

Question 1

Milk Market on the Milky Way

Extract 1: Rising formula milk price

Formula milk manufacturers have been spending more on research and development as well as marketing, pushing the wholesale prices of their products up, and in turn resulting in the higher prices seen at retail stores, the Competition Commission of Singapore (CCS) has found. A standard can of 900 grams of infant formula purchased from a regular supermarket costs about S\$56 on average, compared to \$25 in 2007

The CCS report found that manufacturers spend heavily on research and development as well as marketing campaigns that contain “premiumisation” messages in order to build consumer loyalty and make their products appear to be higher quality. Manufacturers introduce new ingredients that contribute to attributes desired by parents and make promises like improving overall mental function, promoting a healthy intestinal tract and aiding brain and eye development. A premium image is important to these brands because they compete against other brands and their products based on brand name, nutrition and safety. Such strategies appear to have worked, with premium and specialty formula milk making up an estimated 95 per cent of total sales in 2015.

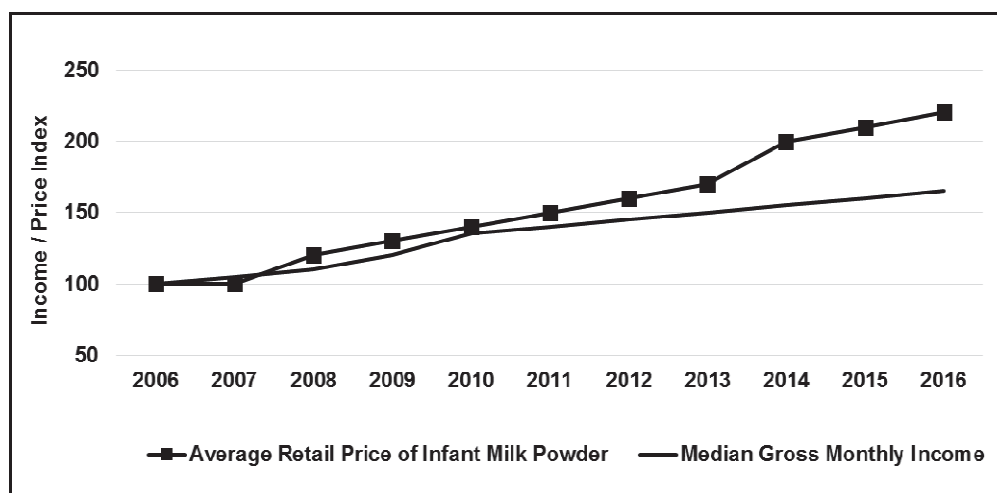
Source: Adapted from Channel NewsAsia, accessed 12 May 2017

Table 1: Price of staples over 10 years

Goods	2007	2017
Fresh Milk (1 litre pack)	\$2.63	\$2.81
Infant Formula Milk Powder (900gram tin)	\$25.42	\$56.06
Cheese (pack of 12 slices)	3.89	\$4.56
Hen eggs (10)	1.69	\$2.17
Ordinary white bread (400gram)	\$1.21	\$1.62
Thai Fragrant Rice (5 kg)	\$7.87	\$13.13

Source: Singapore Department of Statistics, accessed 27 May 2017

Figure 1: Changes in median income and price of infant milk powder in Singapore



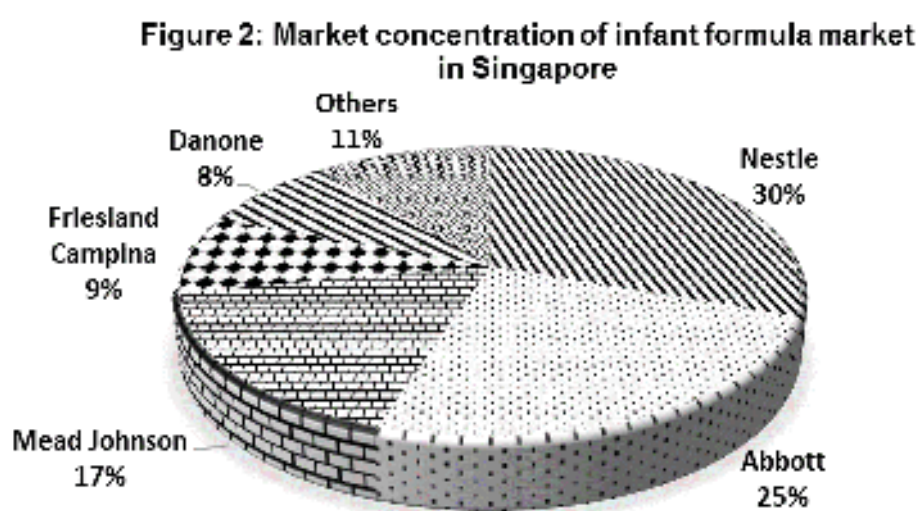
Source: Various

Extract 2: Children over one do not need formula milk

While parents may rely on health claims to choose a formula milk brand for their children, experts say such claims meant for children above one are a “marketing ploy” because the same nutrients can be found in everyday food.

Referring to nutrients like docosahexaenoic acid (DHA), taurine and choline which are prominently promoted on milk tins, paediatric dietitian Meave Graham from Child Nutrition Singapore said: “These nutrients are found in breast milk and in normal balanced diets. Children do not need special supplements of these nutrients.” These nutrients have been promoted by milk manufacturers as giving health benefits like brain and eye development, healthy immune system and helping fat digestion.

Source: Channel NewsAsia, accessed 30 May 2017



Source: Channel NewsAsia, accessed 27 May 2017

Extract 3: Government shares concerns about rising prices of formula milk

The Singapore government shares the concerns of parents about the rising prices of infant formula milk and will take steps to ensure that options are available for their children, said Senior Minister of State for Trade and Industry (MTI) Koh Poh Koon.

A concentrated market, coupled with aggressive marketing and existing consumer preferences, have raised barriers for new players in the infant formula milk market in Singapore. Retailers such as supermarkets and pharmacies are keen to stock more of what consumers demand which may further reinforce consumer brand loyalty. They also prefer to obtain formula milk supply only from local authorised distributors and do not consider parallel importing a viable alternative.

“The government will simplify and streamline import requirements as well as remove unnecessary barriers to bring in more options for parents” Koh said. He added that there are a number of formula milk products in Singapore across different brands that range from \$20 to over \$60 per 900g and regardless of brand and price, all milk products sold here must meet the safety and nutrient requirements set by the Agri-Food & Veterinary Authority.

“The Agri-food and Veterinary Authority (AVA) will also tighten its restrictions on labelling and advertising further, including prohibiting the use of nutritional and health claims, and idealised images for infant formula milk,” Koh said. On their part, parents should be careful about unsubstantiated claims from sellers of such products, he added.

Source: Adapted from Yahoo News Singapore, accessed 13 May 2017

Extract 4: United States’ WIC Programme

In the United States, the Special Supplemental Nutrition Programme for Women, Infants, and Children programme (WIC) provides subsidies for infant formula milk. The programme believes that by providing needed assistance to low income mothers, it can help the development of their children and avoid future health issues.

The programme provides a benefit card for beneficiaries to use at authorised retailers. With the card, beneficiaries can purchase selected types and brands of infant formula milk at a discounted cost. Since the 1990’s, only three manufactures have been chosen as the manufacturer of choice for the WIC programme. Though this programme does not provide great profit margins for the manufacturers, it is most likely part of the reason that the three WIC manufacturers maintain almost all market share in the United States.

Source: United States Department of Agriculture, accessed 28 May 2017

Questions

- (a) (i) Compare the change in price of infant formula milk powder (900 grams) with that of Thai fragrant rice (5 kg) between 2007 and 2017. [2]
- (ii) With the use of a diagram, account for the change in the price of infant formula milk powder as mentioned in (i). [4]
- (b) Explain how “premiumisation” affects the price elasticity of demand of infant formula milk. [2]
- (c) Explain how the high price for infant formula milk in Singapore can represent a form of market failure. [4]
- (d) Assess the factors that formula milk manufacturers would consider in deciding to supply a new formula milk product in Singapore. [8]
- (e) Discuss whether provision of subsidies such as the WIC programme in the US would be the most appropriate way of responding to the rising formula milk prices in Singapore. [10]

[Total: 30 marks]

Question 2

Trade Slump and Deflation

Extract 5: UK slips into deflation as prices fall 0.1%

The UK has officially slipped into deflation for the first time in more than half a century, but economists and policy makers are not concerned, saying that a brief period of gently falling prices is more likely to help growth than harm it.

The UK has been teetering on the brink of deflation for several months because of the slide in global oil prices, falling household incomes and the strength of sterling, which has reduced UK's export competitiveness.

Suneil Mahindru, chief investment officer international equity at Goldman Sachs Asset Management, reacted by saying: "We are not concerned about the UK". Falling prices are "freeing disposable income and many industries, such as retail, are benefiting", he added. UK households have suffered from falling real wages over the past few years. Now that prices of consumer essentials like food and energy are stagnant or falling, many households are finally getting a boost in living standards.

Chancellor George Osborne said the data were good news for family budgets and should not be mistaken for "damaging deflation" — a vicious cycle of falling prices and wages which shrinks an economy. He added that once deflation sets in consumers would expect prices to fall and they would delay spending for as long as possible in order to save money. This would perpetuate the problem and is known as a deflation trap. The deflation trap would lead to falling economic growth.

Source: Adopted from The Financial Times, 19 May 2015

Extract 6: Deflation risk and trade slump cast chill over global economy

The world economy is at risk of slipping into a deflation trap and faces a historic slump in global trade that should serve as a wake-up call for governments around the world. The International Monetary Fund warned on Tuesday that a "broad-based phenomenon" of low inflation, fed by a collapse in commodity prices and faltering demand, risked deteriorating into a full-blown deflation trap, particularly in advanced economies.

The fund's warning, came as the World Trade Organisation forecast global trade volumes would rise only 1.7 per cent this year. This would be the slowest increase since the 2008 financial crisis, and a big reduction from the 2.8 per cent growth it forecast in April. "The dramatic slowing of trade growth is serious and should serve as a wake-up call," said Roberto Azevêdo, the WTO's director-general.

The trend was particularly worrying in the context of an increase in protectionism and anti-globalisation rhetoric seen in the US and around the world, he said, adding: "This is a moment to heed the lessons of history and recommit to openness in trade, which can help to spur economic growth."

The twin warnings highlight mounting concerns over the world economy's slow recovery from the 2008 crisis and the tepid response by policymakers. They also point to two key areas of concern. International institutions are increasingly worried about the potential impact on a fragile global economy of the rise of populist politicians, such as US presidential candidate Donald Trump, and the protectionist policies they put forward.

They are equally frustrated by what they see as the failure of many governments to take tough decisions and their continuing overreliance on central banks and monetary policy to respond to slow growth. The IMF has for years urged governments to adopt more growth-friendly fiscal policies and to push structural reforms to stimulate consumption and investment. Alongside the warning of a deflation trap, the IMF called for governments to target stagnant wages and adopt policies such as raising the minimum wage to boost incomes. Such a response, IMF economists wrote, was particularly necessary in advanced economies, where “the scope of monetary policy to further stimulate demand is perceived to be increasingly constrained” and “policy rates are not far from their effective lower bounds”.

Source: Adopted from The Financial Times, 28 September 2015

Extract 7: MAS 'must remain alert' to signs of slow growth

Singapore's central bank should "remain vigilant" to signs of slow growth in the country and make policy adjustments if needed, the International Monetary Fund (IMF) said. In a statement released yesterday, after a visit here, fund representatives noted that Singapore's growth prospects remain subdued, given a lacklustre global outlook.

The IMF also said the Monetary Authority of Singapore's (MAS) latest move to stop the local currency from rising further against a basket of key currencies was "appropriate", given slowing growth, a weakening labour market as well as low oil prices worldwide. The fund noted that Singapore's economic growth has slowed markedly in recent years owing to both domestic and external factors.

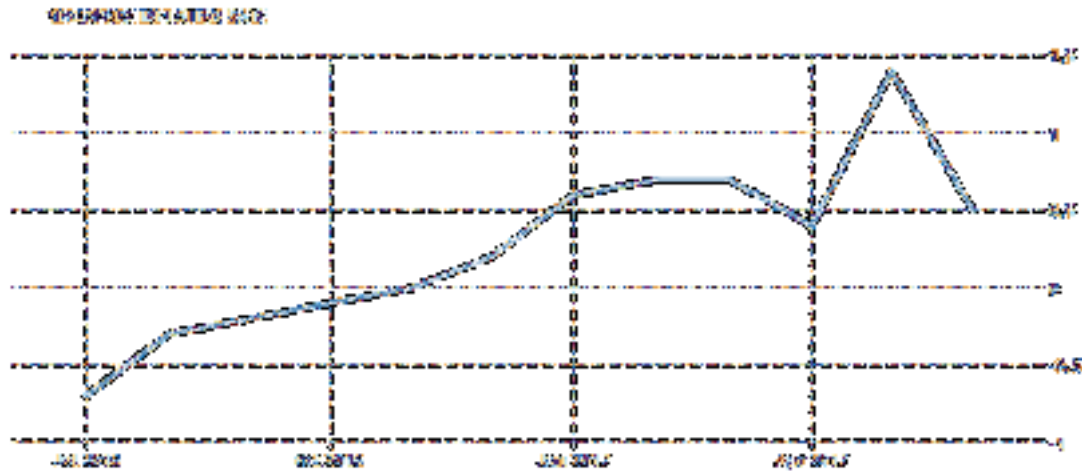
At home, growth is constrained by an ageing labour force, tighter limits on foreign workers and the transition costs of the shift to an innovation-based growth model. On the external front, the outlook for global growth and trade remains subdued, the IMF said. The fund also said Singapore's growth is likely to slow further this year, as the full impact of the slowdown in global trade and capital outflows is felt and companies continue to hold back on hiring and investment. The most important short-term external risk is a sharper-than-expected global slowdown, which could result from weak growth in China, other emerging economies as well as key advanced economies.

Still, the Singapore Government has enough in its coffers to ramp up spending and provide a short-term lift if the economic outlook worsens further, said the IMF. "The authorities are prepared to implement fiscal stimulus through targeted measures, for example providing more income transfers to poor families and seniors and accelerating infrastructure spending," added the fund in its statement.

In the longer run, raising productivity will be essential to Singapore's growth, given slower labour force expansion, the IMF said.

Source: The Straits Times on 11 May 2016

Figure 3: Inflation Rate in Singapore




Source: SingStats

Questions

- (a) Describe the trend in the consumer prices in Singapore between July 2016 and April 2017. [2]
- (b) Using extract 5, comment on whether economies should fear deflation. [4]
- (c) Using aggregate demand and supply analysis, explain the causes of deflation in the UK in 2015 as identified in extract 5. [6]
- (d) Using both the case study and your own relevant knowledge, discuss whether “an increase in protectionism and anti-globalisation rhetoric” seen in the US and around the world can be justified in terms of economic theory. [8]
- (e) Discuss whether depreciation of the Singapore dollar would be most appropriate way of responding to slow growth in Singapore. [10]

[Total: 30 marks]

***** The End *****

 NYJC	PRELIMINARY EXAM 2017
	JC2 Economics H2 (9757/02)

Paper 2 - Essay

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08:00 – 10:15

TIME: 2 hours 15 mins

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

The number of marks is given in the brackets at the end of each question or part question. Write your answers on the writing papers provided. At the end of the examination, fasten all your work securely together.

There are 3 printed pages including this cover page

Answer **three** questions in total.

Section A

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

- 1 Restaurant owners are now crying woes in Singapore as their profit margin has been hit hard due to rising rental and food costs. However, their most pressing issue is the lack of manpower and to make things worse, consumers are now tightening their belts due to the negative growth rate for the first quarter of the year. But not all hope is lost. With the rise of online food delivery services, restaurants owners are now partnering them in the hope of attracting more customers.
- (a) Explain, using examples, the concepts of price elasticity of demand and income elasticity of demand. [10]
- (b) Discuss how the combination of the above factors affect the market for different types of restaurant services in Singapore [15]
- 2 (a) Explain how the level of competition influences firms' price and output decisions. [10]
- (b) Assess whether a firm's behaviour is always dependent on the actions of its rivals. [15]
- 3 (a) Using examples, explain the basis by which rational decisions are being made by consumers and producers [10]
- (b) Assess the economic case for government intervention in the market when externalities are present [15]

Section B

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

- 4 Germany took in 1.1 million migrants in year 2015. The government will spend 12 billion euros on accommodating and integrating them in year 2016 in the midst of a decline in exports hit by global economic weakness. Furthermore, Germany's inflation rate may reach the European Central Bank 2 percent price stability ceiling in year 2016. It is unlikely to stay there for long as there are price pressures far weaker elsewhere in the European region.

Source: various

- (a) Explain how the combination of a decline in export revenue and an increase in government expenditure could affect the circular flow of income in Germany. [10]
- (b) Discuss whether an economy's inflation rate is more likely to be determined by domestic or external factors. [15]

- 5 It is the economy-wide productivity consequences of technological improvement, not technological improvement per se, that lifts standard of living.

Assess the extent to which higher labour productivity are likely to improve standard of living in Singapore. [25]

- 6 The United States has run a large deficit on the current account of its balance of payments for several years.

- (a) Explain what might cause a persistent and large deficit on the current account of a country's balance of payments. [10]
- (b) Discuss the view that policies to deal with such a deficit can be ineffective and potentially damaging. [15]

Question 2

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The trend was particularly worrying in the context of an increase in protectionism and anti-globalisation rhetoric seen in the US and around the world, he said, adding: "This is a moment to heed the lessons of history and recommit to openness in trade, which can help to spur economic growth."

The twin warnings highlight mounting concerns over the world economy's slow recovery from the 2008 crisis and the tepid response by policymakers. They also point to two key areas of concern. International institutions are increasingly worried about the potential impact on a fragile global economy of the rise of populist politicians, such as US presidential candidate Donald Trump, and the protectionist policies they put forward.

They are equally frustrated by what they see as the failure of many governments to take tough decisions and their continuing overreliance on central banks and monetary policy to respond to slow growth. The IMF has for years urged governments to adopt more growth-friendly fiscal policies and to push structural reforms to stimulate consumption and investment. Alongside the warning of a deflation trap, the IMF called for governments to target stagnant wages and adopt policies such as raising the minimum wage to boost incomes. Such a response, IMF economists wrote, was particularly necessary in advanced economies, where “the scope of monetary policy to further stimulate demand is perceived to be increasingly constrained” and “policy rates are not far from their effective lower bounds”.

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The IMF also said the Monetary Authority of Singapore's (MAS) latest move to stop the local currency from rising further against a basket of key currencies was "appropriate", given slowing growth, a weakening labour market as well as low oil prices worldwide. The fund noted that Singapore's economic growth has slowed markedly in recent years owing to both domestic and external factors.

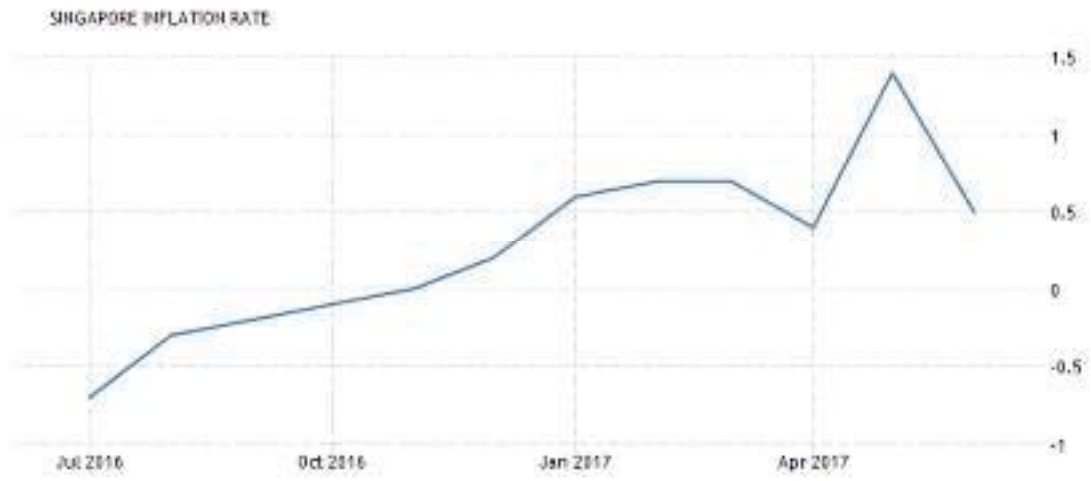
At home, growth is constrained by an ageing labour force, tighter limits on foreign workers and the transition costs of the shift to an innovation-based growth model. On the external front, the outlook for global growth and trade remains subdued, the IMF said. The fund also said Singapore's growth is likely to slow further this year, as the full impact of the slowdown in global trade and capital outflows is felt and companies continue to hold back on hiring and investment. The most important short-term external risk is a sharper-than-expected global slowdown, which could result from weak growth in China, other emerging economies as well as key advanced economies.

Still, the Singapore Government has enough in its coffers to ramp up spending and provide a short-term lift if the economic outlook worsens further, said the IMF. "The authorities are prepared to implement fiscal stimulus through targeted measures, for example providing more income transfers to poor families and seniors and accelerating infrastructure spending," added the fund in its statement.

In the longer run, raising productivity will be essential to Singapore's growth, given slower labour force expansion, the IMF said.

Source: The Straits Times on 11 May 2016

Figure 3: Inflation Rate in Singapore



Source: SingStats

H2 CSQ 2 Suggested Answers

(a)	Describe the trend in the consumer prices in Singapore between July 2016 and April 2017.	[2]
	<ul style="list-style-type: none"> • Consumer prices show a falling trend between July 2016 and Oct/Nov 2016 (1m) • before rising from Oct/Nov 2016 to April 2017 (1m). 	
(b)	Using extract 5, comment on whether economies should fear deflation.	[4]
	<p>i. Thesis</p> <ul style="list-style-type: none"> • Yes economies should fear deflation if the economy is experiencing deflation trap or ‘damaging deflation’ as mentioned in Extract 5 para 4. Deflation trap is known as ‘a vicious cycle of falling prices and wages which shrinks an economy’ as ‘consumers would expect prices to fall and they would delay spending for as long as possible’, leading to a continuous fall in C and fall in AD (Draw) and fall in RNY, leading to ‘falling economic growth’ . <p>ii. Anti-Thesis</p> <ul style="list-style-type: none"> • No economies should not fear deflation as ‘consumer essentials like food and energy are stagnant or falling, many households are finally getting a boost in living standards’ as stated in Extract para 3. Thus deflation can benefit households and make groceries more affordable for everyone, especially benefitting the low income groups or unemployed who spend a large proportion of income on groceries / food which is a basic necessity, hence promoting income equity. <p>iii. Judgement</p> <p>Whether economies should fear deflation depends on whether the consumers are expecting prices to fall. If consumers expect that deflation is only temporary and economic conditions and prices will eventually improve in the months ahead, then deflation is not a concern.</p> <p><u>Note:</u></p> <ul style="list-style-type: none"> • <i>Two-sided answer on whether economies should fear deflation (3m)</i> • <i>Judgement on the overall SOL (1m)</i> 	
(c)	Using aggregate demand and supply analysis, explain the causes of deflation in the UK in 2015 as identified in extract 5.	[6]
	<p>Deflation in UK is due to ‘slide in global oil prices, falling household incomes and the strength of sterling, which has reduced UK’s export competitiveness’ as mentioned in Extract 5 para 2</p> <p>i. Falling AD (4m)</p> <ul style="list-style-type: none"> • Falling household incomes in UK has contributed to fall in purchasing power, leading to a fall in consumption, resulting in a fall in AD. • Furthermore the strength of sterling has led to rise in export prices in foreign currency, since prices in domestic currency has not changed but there is a fall in volume of export revenue falls. (Draw fall in Xrev, via falling DD for exports) • Hence, fall in C and X, will cause AD curve to shift to the left (Draw), leading to fall in GPL. 	

	<p>ii. Falling AS (2m)</p> <ul style="list-style-type: none"> • Slide in global oil prices will lead to lower cost of production, as oil is factor input which is required in most production process. • Hence, this will lead to rise in AS and AS curve shift downwards (Draw), leading to fall in GPL. 										
(d)	<p>Using both the case study and your own relevant knowledge, discuss whether “an increase in protectionism and anti-globalisation rhetoric” seen in the US and around the world can be justified in terms of economic theory.</p>	[8]									
	<ul style="list-style-type: none"> • In anticipation of a deflation trap and falling economic growth, countries it is not uncommon to see ‘an increase in protectionism and anti-globalisation rhetoric seen in the US and around the world. • By imposing protectionism e.g. tariff (draw tariff diagram), there will be a fall in import expenditure(show on diagram). This will force the locals to turn to domestic consumption as it is relatively cheaper. The rising domestic consumption will give rise to a rise in AD and hence combatting a deflation trap and raise GDP(draw AS-AD). • Although seem justifiable for the country imposing tariff, the outcome may be counter intuitive due to ‘beggar-thy-neighbour’ effect. Trading partners whose exports are now having less demand due to the tariff, would face falling GDP. This will result in falling purchase of imports. • Hence countries that place tariffs in order to raise domestic consumption would face falling export revenue. The extent of the fall in export revenue would depend on the fall in the GDP of the trading partner as well as the responsiveness of demand for exports due to the fall in income. If the export revenue falls more than the rise in consumption, then there will be contraction for the economy that impose the tariff. • In addition, should trading partner retaliates, it may be counter-productive and it could lead to a lose-lose situation. • Other areas of consideration would include the impact of the tariff on the allocation of resources. Once a tariff is imposed, there would be a dead weight loss. (Use diagram) and explain. • Protectionism also goes against the benefits offered by the theory of comparative advantage. (Draw PPC vs CPC diagram). • Conclusion, although protectionism can help alleviate short term economic problem, in the long run it seem to harm economies. I believe that free trade is essential and hence agree with Roberto Azevêdo, the WTO’s director-general who said “This is a moment to heed the lessons of history and recommit to openness in trade, which can help to spur economic growth.” 										
	<table border="1"> <tr> <td>L1</td> <td>One sided answer on the benefits of protectionism/anti-globalisation or arguments against protectionism/anti-globalisation with the use of economic theory (framework)</td> <td>1-3</td> </tr> <tr> <td>L2</td> <td>Two sided answer on the arguments for and against protectionism/anti-globalisation. Expected use of economic theory (framework)</td> <td>4-6</td> </tr> <tr> <td>E</td> <td>Judgement of the justification of protectionism/anti-globalisation</td> <td>1-2</td> </tr> </table>	L1	One sided answer on the benefits of protectionism/anti-globalisation or arguments against protectionism/anti-globalisation with the use of economic theory (framework)	1-3	L2	Two sided answer on the arguments for and against protectionism/anti-globalisation. Expected use of economic theory (framework)	4-6	E	Judgement of the justification of protectionism/anti-globalisation	1-2	
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	Note : Answers could also focus on anti-globalisation rather than simply protectionism. Explicit dimensions of anti-globalisation must be explained rather than using the generic term anti-globalisation. Eg....reduce mobility of goods and services via protectionism, reduce mobility of labour, reduce mobility of investment.	
(e)	Discuss whether depreciation of the Singapore dollar would be most appropriate way of responding to slow growth in Singapore.	[10]
	<p>i. Explain briefly the causes of slow growth in Singapore</p> <ul style="list-style-type: none"> • Domestic causes: Ageing labour force, tighter limits on foreign workers and the transition costs of the shift to an innovation-based growth model. (Extract 7 para 3). • E.g. tighter limits on foreign labour will lead to rising wages and falling SRAS. • External causes: Fall in X and possibly FDI hence AD due to the 'outlook for global growth and trade remains subdued' (Extract 7 para 3) <p><u>Thesis</u></p> <p>ii. Explain how depreciation will increase growth in Singapore</p> <ul style="list-style-type: none"> • Assuming M-L condition holds, which is the sum of PED for exports and imports is greater than one, depreciation will lead to rise in net exports. • Hence, this will help increase AD (Draw) and increase RNY. <p><u>Anti-thesis</u></p> <p>iii. Explain the limitations of exchange rate depreciation</p> <ul style="list-style-type: none"> • M-L condition may not hold in the SR (give reasons). Hence in the SR, AD may actually fall leading to even slower growth. • Temporary and short-term measure to boost export competitiveness and weaker exchange rate will eventually lead to rise in price of locally produced goods that use imported inputs to go up, leading to cost-push inflation and will eventually erode export competitiveness <p>iv. Explain how other policies will be more appropriate</p> <ul style="list-style-type: none"> • Exchange rate depreciation may not be appropriate as it is unable to target internal causes such as aging labour force which would lead to shrinking size of labour force in the future and fall in productive capacity and fall in LRAS and fall in RNY and Yf. • Hence, 'raising productivity will be essential to Singapore's growth' as stated in Extract 7 last para. • Explain at least 1 measure of SS side policy (e.g. education or retraining) and show how it will help increase growth, especially for potential growth. • Extract 7 para 4 also mentions that "The authorities are prepared to implement fiscal stimulus through targeted measures, for example providing more income transfers to poor families and seniors and accelerating infrastructure spending" • Explain at 1 least measure of the fiscal policy as a DD side policy and show how it will help increase actual growth <p>v. Explain the limitations of the alternative policies</p> <ul style="list-style-type: none"> • Time Lag • Small K 	

Conclusion

vi. Take a stand

L1	A brief description of how depreciation will improve growth without considering the causes of slow growth in Singapore .	1-4
L2	Provides a clear two-sided explanation on how depreciation and other measures will help improve growth in Singapore through the use of relevant diagrams. Clear explanation on rise in AS and AD that links to Sg's growth.	5-7
E1	Provides an unexplained judgement on the appropriateness of exchange rate depreciation on improving Sg's growth. Good use of data in considering the appropriateness of exchange rate depreciation on improving Sg's growth.	1 2-3

Question 1

Milk Market on the Milky Way

Extract 1: Rising formula milk price

Formula milk manufacturers have been spending more on research and development as well as marketing, pushing the wholesale prices of their products up, and in turn resulting in the higher prices seen at retail stores, the Competition Commission of Singapore (CCS) has found. A standard can of 900 grams of infant formula purchased from a regular supermarket costs about S\$56 on average, compared to \$25 in 2007

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Infant Formula Milk Powder (900gram tin)	\$25.42	\$56.06
Cheese (pack of 12 slices)	3.89	\$4.56
Hen eggs (10)	1.69	\$2.17
Ordinary white bread (400gram)	\$1.21	\$1.62
Thai Fragrant Rice (5 kg)	\$7.87	\$13.13

Source: Singapore Department of Statistics, accessed 27 May 2017

Figure 1: Changes in median income and price of infant milk powder in Singapore



Source: Various

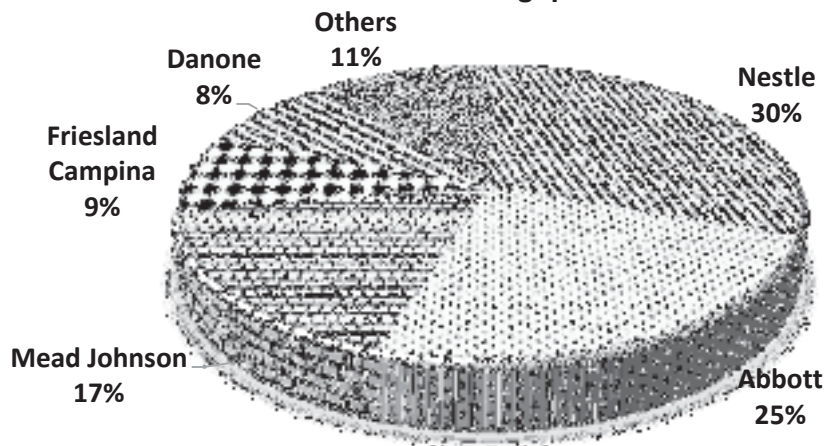
Extract 2: Children over one do not need formula milk

While parents may rely on health claims to choose a formula milk brand for their children, experts say such claims meant for children above one are a “marketing ploy” because the same nutrients can be found in everyday food.

Referring to nutrients like docosahexaenoic acid (DHA), taurine and choline which are prominently promoted on milk tins, paediatric dietitian Meave Graham from Child Nutrition Singapore said: “These nutrients are found in breast milk and in normal balanced diets. Children do not need special supplements of these nutrients.” These nutrients have been promoted by milk manufacturers as giving health benefits like brain and eye development, healthy immune system and helping fat digestion.

Source: Channel NewsAsia, accessed 30 May 2017

Figure 2: Market concentration of infant formula market in Singapore



Source: Channel NewsAsia, accessed 27 May 2017

Extract 3: Government shares concerns about rising prices of formula milk

The Singapore government shares the concerns of parents about the rising prices of infant formula milk and will take steps to ensure that options are available for their children, said Senior Minister of State for Trade and Industry (MTI) Koh Poh Koon.

A concentrated market, coupled with aggressive marketing and existing consumer preferences, have raised barriers for new players in the infant formula milk market in Singapore. Retailers such as supermarkets and pharmacies are keen to stock more of what consumers demand which may further reinforce consumer brand loyalty. They also prefer to obtain formula milk supply only from local authorised distributors and do not consider parallel importing a viable alternative.

“The government will simplify and streamline import requirements as well as remove unnecessary barriers to bring in more options for parents” Koh said. He added that there are a number of formula milk products in Singapore across different brands that range from \$20 to over \$60 per 900g and regardless of brand and price, all milk products sold here must meet the safety and nutrient requirements set by the Agri-Food & Veterinary Authority.

“The Agri-food and Veterinary Authority (AVA) will also tighten its restrictions on labelling and advertising further, including prohibiting the use of nutritional and health claims, and idealised images for infant formula milk,” Koh said. On their part, parents should be careful about unsubstantiated claims from sellers of such products, he added.

Source: Adapted from Yahoo News Singapore, accessed 13 May 2017

Extract 4: United States' WIC Programme

In the United States, the Special Supplemental Nutrition Programme for Women, Infants, and Children programme (WIC) provides subsidies for infant formula milk. The programme believes that by providing needed assistance to low income mothers, it can help the development of their children and avoid future health issues.

The programme provides a benefit card for beneficiaries to use at authorised retailers. With the card, beneficiaries can purchase selected types and brands of infant formula milk at a discounted cost. Since the 1990's, only three manufactures have been chosen as the manufacturer of choice for the WIC programme. Though this programme does not provide great profit margins for the manufacturers, it is most likely part of the reason that the three WIC manufacturers maintain almost all market share in the United States.

Source: United States Department of Agriculture, accessed 28 May 2017

Questions

(a)	(i)	Compare the change in price of infant formula milk powder (900 grams) with that of Thai fragrant rice (5 kg) between 2007 and 2017.	[2]
		<ul style="list-style-type: none"> Prices of both infant formula milk and Thai fragrant rice have increased. Price of infant formula milk has increased by 120%, more than the price increase of Thai fragrant rice which is 66%. 	(1) (1)
	(ii)	With the use of a diagram, account for the change in the price of infant formula milk powder as mentioned in (i).	[4]
		<ul style="list-style-type: none"> Increase in demand: Increase in income (Fig 1) Fall in supply (Any 1) <ul style="list-style-type: none"> Increase in marketing and R&D costs (Ext 1, para 1), or Increase in COP due to new ingredients (Ext 1, para 2) Simultaneous increase in demand and supply → Adjustment process (shortage and upward pressure) Diagram 	(1) (1) (1) (1)
(b)		Explain how “premiumisation” affects the price elasticity of demand of infant formula milk.	[2]
		<ul style="list-style-type: none"> Premiumisation refers to the addition of new ingredients to the milk formula by producers and marketing those additions as factors leading to desired attributes to make their products appear to be of higher quality than that of their competitors (Ext 1, para 2) This will differentiate their products as consumers will not see their products as perfect substitutes to their competitors’. Thus, demand facing the firm will be more price inelastic. 	(1) (1)
(c)		Explain how the high price for infant formula milk in Singapore can represent a form of market failure.	[4]
		<ul style="list-style-type: none"> Any one of the sources of market failure <ul style="list-style-type: none"> Imperfect information: Over-estimated MPB of formula milk (Ext 2, para 2), or Market dominance: Oligopoly market structure leading to market power (Fig 2). Imperfect information <ul style="list-style-type: none"> Explain the over-estimation of MPB: Consumers thought the formula milk will be beneficial to their children. Explain $Q_{perceived}$ and $P_{perceived}$: Consumers maximise satisfaction by consuming at the output where $MPB_{perceived}$ equals to MPC, with quantity as $Q_{perceived}$ and price as $P_{perceived}$. Explain Q_{actual} and P_{actual}: If there was no imperfect information, consumers maximise satisfaction by consuming at the output where MPB_{actual} equals to MPC, at Q_{actual} and P_{actual}. Explain the market failure: Since $P_{perceived}$ is greater than P_{actual}, and $Q_{perceived}$ is greater than Q_{actual}, there is over-consumption and DWL. Market has failed. 	(1) (1) (1)

	<ul style="list-style-type: none"> ○ Thus, the high price ($P_{\text{perceived}} > P_{\text{actual}}$) represents a form of market failure. (1) ● Market dominance <ul style="list-style-type: none"> ○ Explain that the market structure of infant milk powder is oligopoly and firms have the ability so set prices. (1) ○ Thus, firms will maximise profits and produce at the output where $MR=MC$, with quantity as Q_0 and price as P_0. (1) ○ If the market was perfectly competitive, the competitive output level would be where $P=MC$ at Q_1 with price P_1. (1) ○ Since P_0 is greater than P_1 and Q_0 is lesser than Q_1, there is under-production and DWL. Market has failed. ○ Thus, the high price ($P_0 > P_1$) represents a form of market failure. (1) 	
(d)	Assess the factors that formula milk manufacturers would consider in deciding to supply a new formula milk product in Singapore.	[8]
	<ul style="list-style-type: none"> ● Objective of firms is to maximise profits which is revenue less costs. Thus, firms will consider the factors that directly affect the revenue and costs in supplying the milk product in Singapore, as well as the other factors involved. ● Direct costs factors <ul style="list-style-type: none"> ○ Cost of entering and supplying to the Singapore market → Oligopoly market structure → high BTEs such as supermarkets unwilling to stock up the brands of milk powder that are not in high demand (Ext 3, para 2) → firms may have to incur additional costs to convince supermarkets to display and stock up their products <ul style="list-style-type: none"> ▪ Could be a significant factor to consider as supermarkets are also concerned with their profits. Costs to convince the supermarkets could be high. ○ Costs of competing → Oligopoly market structure → high degree of non-price competition i.e. marketing and R&D to build up brand loyalty (Ext 1, para 2) → incur high marketing costs to compete with the incumbent firms. <ul style="list-style-type: none"> ▪ Could be a significant factor to consider as such strategies to compete “appear to have worked” for the incumbent firms (Ext 1, para 2) → New firms will have to spend greatly on such strategies as well. ● Direct revenue factors <ul style="list-style-type: none"> ○ Oligopoly market structure → existing firms could be making LR supernormal profits → Induce new firms to enter and supply to the Singapore market. ○ High brand loyalty to the incumbent firms (Ext 1, para 2) → demand facing new firms may be low as consumers are unwilling to switch to other brands. (XED is positive but <1) <ul style="list-style-type: none"> ▪ Could be a significant factor to consider as firms may not be able to have enough demand in the short run and could affect profitability. ● Other factors <ul style="list-style-type: none"> ○ Existing information <ul style="list-style-type: none"> ▪ Singapore government is beginning to intervene in the market by introducing more competition and reducing the imperfect information in the market (Ext 3, paras 3 & 	

		<p>4) → Market may become more competitive in the long run and consumers may turn to non-formula milk and other alternatives that also fulfil the same safety and nutritional requirement (Ext 3, para 3) → Demand facing the firm may fall in the long run.</p> <ul style="list-style-type: none"> • Significantly factor to consider as it may affect the long run profitability of the firms, <ul style="list-style-type: none"> ▪ Increasing income of consumers (Fig 1) → Formula milk is seen as a normal or luxury goods to most people → as median income increases in Singapore, demand for infant formula milk could be expected to increase. ▪ Birth rate: Falling birth rate in Singapore → demand for infant formula milk could fall over time. <ul style="list-style-type: none"> • May affect the long term profitability ○ Perspective of other stakeholders: Actions of the rival firms → under oligopoly market structure, incumbent firms may individually or collude together to strengthen the BTEs to prevent new firms from entering the market e.g. cartel, predatory pricing or even bargain with the supermarkets to block the stocking up of other brands etc → costs to the firms to enter the market could be even higher. <ul style="list-style-type: none"> ▪ Not a major concern as collusion is unlikely to occur in Singapore due to CCS's close monitoring of the market. ○ Constraints: Excess capacity → Firms will also have to consider their own production constraints → large excess capacity that could enjoy IEOS will encourage firms to increase output to enter and supply to the Singapore market as AC will fall and profitability will increase. On the other hand, if increasing output to supply to the Singapore market will lead to IDEOS, firms will have to incur a higher AC leading to lower profits. • Judgement → objective of firms is to maximise profits. Thus, firms will aim to earn high supernormal profits in the long run. As the Singapore government is starting to intervene to make the market more competitive and consumers more informed, the demand and supply conditions and thus, the direct costs and revenue factors in the market may change drastically over time. Thus, the extent and effects of government intervention could be the most important factors that firms may take into account (or any other factor that students can justify). 	
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Level	Knowledge, Application, Understanding & Analysis	Marks
L2	<ul style="list-style-type: none"> • A well-developed answer on direct costs & revenue and other factors that firms will consider. • Well supported with economic theories and case materials. • A well-explained answer on either the costs & revenue factors or the other factors 	4-6 Max 4
L1	<ul style="list-style-type: none"> • Brief, one-sided answer that focuses on either the cost or the revenue factors, or a smattering of factors. • Limited use of case materials or examples. 	1-3

E	<ul style="list-style-type: none"> Application of relevant data and own knowledge to make judgment on the importance of factors. 	1-2
(e)	Discuss whether provision of subsidies such as the WIC programme in the US would be the most appropriate way of responding to the rising formula milk prices in Singapore.	[10]
	<ul style="list-style-type: none"> WIC programme provides subsidy to the low income consumers in the US. The objective is to help the development of children from the low income families and avoid future health issues (Ext 4, para 1). Thesis: The WIC programme could be used to respond to the rising milk prices in Singapore <ul style="list-style-type: none"> A subsidy on low income consumers will increase the demand by the low income consumers, thus helping them to cope with the rising milk prices → Increases material SOL of the low income group → Diagram (Market demand and supply diagram to show equilibrium price and quantity. Another diagram to show the demand by low income consumers only with horizontally supply curve as they follow market price. Demand by low income consumers will increase due to subsidy.) Anti-thesis: The WIC programme may not be the most appropriate way of responding in Singapore. <ul style="list-style-type: none"> One reason for the high price in Singapore is due to rising income and thus rising demand for formula milk which is generally deemed as a normal / luxury good. Since there are cheaper alternatives in the market that fulfil the same safety and nutritional requirements as formula milk (Ext 3, para 3), there may not be a need to subsidise it. In addition, consumers prefer formula milk, and thus leading to higher demand, due to imperfect information as they over-estimated the benefits (Ext 2, para 1). With a subsidy, the cost of consumption to the lower income group will decrease, thus worsening the problem of over consumption, leading to a bigger DWL. Overall market demand and equilibrium price will increase. → Market failure and demand supply diagrams. High price is also due to the firms having market power to set price above MC. The WIC programme selects milk producers to be the “producer of choice” for the programme (Ext 4, para 2). This will give the selected producers even greater market power as demand facing them will increase. The DWL will increase and the price to the non-subsidised consumers will be even higher → Diagram (AR & MR shift right) However, with greater market power, the producers may be able to force the smaller firms out of the market. With lesser competition, firms may be able to cut down on their marketing and R&D costs and pass on the costs savings to consumers. Other policies could be more appropriate <ul style="list-style-type: none"> Reduce imperfect information → government could tighten its control on labelling and advertising ((Ext 3, para 4) or educate the public → Consumers understand the true benefits of infant 	

		<p>formula milk and thus reduce the overconsumption → reduces market demand and equilibrium price will fall → Diagram</p> <ul style="list-style-type: none"> ○ Increase more competition → Government can remove unnecessary barriers and simplify its imports requirements to allow more firms to enter the market (Ext 3, para 3) → This will reduce the demand and market power of firms → With a lower demand, ability to set prices decrease and market supply will increase → prices decrease → Diagram. <ul style="list-style-type: none"> ● Evaluation <ul style="list-style-type: none"> ○ Subsidising the consumers, such as the WIS programme in the US, could help the low income consumers to cope with the rising formula milk prices in Singapore. ○ However, this comes at the expense of the consumers at large as the market demand and the demand facing the firms will increase → Price will continue to increase further. ○ If the objective of the Singapore government is the same as that of the US to help the low income group, and the Singapore government is prepared to compromise the market at large, a subsidy such as the WIS could be a way to respond. ○ However if the objective is to reduce the overall market price, a subsidy to the low income group only may not be appropriate. ○ No matter what the objective is, a subsidy should only be a short term measure as it will cause a strain on government's budget and distort the market. 	
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Level	Knowledge, Application, Understanding & Analysis	Marks
L2	<ul style="list-style-type: none"> ● A well-developed, balanced answer on the appropriateness of subsidies such as the WIC programme in Singapore. ● Well supported with economic theories and case materials. ● A well-explained one-sided answer on either the appropriateness or inappropriateness of subsidies such as the WIC programme in Singapore. 	5-7 Max 5
L1	<ul style="list-style-type: none"> ● A brief, one sided answer on either the appropriateness or inappropriateness of the WIC programme in Singapore. ● Limited usage of economic theories and case materials. 	1-4
E1	<ul style="list-style-type: none"> ● Provides a judgement on whether subsidies such as the WIS programme is appropriate, supported with well-reasoned justification. 	1-3

[Total: 30 marks]

- 1 Restaurant owners are now crying woes in Singapore as their profit margin has been hit hard due to rising rental and food costs. However, their most pressing issue is the lack of manpower and to make things worse, consumers are now tightening their belts due to the negative growth rate for the first quarter of the year. But not all hope is lost, with the rise of online food delivery services, restaurants owners are now partnering them in the hope of attracting more customers.
- (a) Explain, using examples, the concepts of price elasticity of demand and income elasticity of demand. [10]
- (b) Discuss how the combination of the above factors affect the market for different types of restaurant services in Singapore. [15]

Suggested Answers

- (a) Explain, using examples, the concepts of price elasticity of demand and income elasticity of demand. [10]

Command Word: Explain

Context: No particular goods/services given. Need to provide examples.

Content: PED & YED (Definition, Sign & Magnitude)

Introduction:

- **Elasticity** is a measure used to show how *responsive* one variable is to a change in another variable.
- Explanation of PED & YED concepts will be based on definition, sign and magnitude

Body:

1: PED

- **Definition:** PED measures the responsiveness of quantity demanded of a good due to a change in its price, ceteris paribus.
- **Formula:**

$$\text{PED} = \frac{\text{Percentage Change in Quantity Demanded of Good A}}{\text{Percentage Change in Price of Good A}}$$

- **Sign: Negative**

→ The **negative sign** of the coefficient of PED reflects the inverse relationship between price and quantity demanded (i.e. the law of demand). The law of demand states that the quantity demanded of a product is **inversely related** to its price. Hence an increase in price leads to a fall in the quantity demanded, ceteris paribus. Based on the formula for calculating PED, the negative sign is the result of quantity demanded and prices changing in opposite directions.

- **Magnitude:**

→ The magnitude of the PED value signifies the sensitivity or responsiveness of quantity demanded due to the price change of the good. Generally the greater the responsiveness of quantity demanded due to price changes, the larger the magnitude

→ If a price change causes a **more than proportionate** change in quantity demanded, quantity demanded is regarded as very responsive to price changes. Demand for the good is said to be **price elastic**.

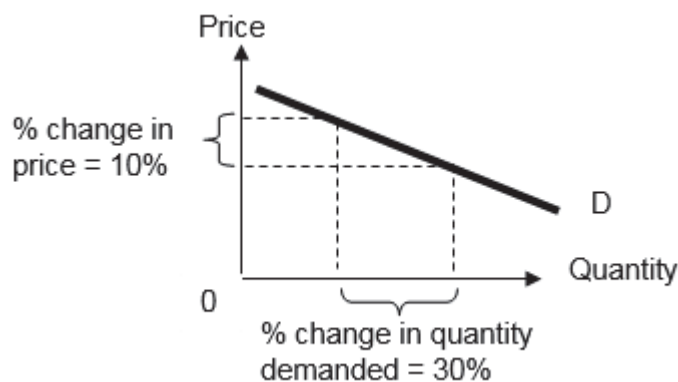


Figure 1

In Figure 1, for example, if price decreases by 10% and quantity demanded increases by 30%, the PED coefficient will be 3.

→ If a price change results in a **less than proportionate** change in quantity demanded, quantity demanded is regarded as not very responsive to price changes. Demand for the good is said to be **price inelastic**.

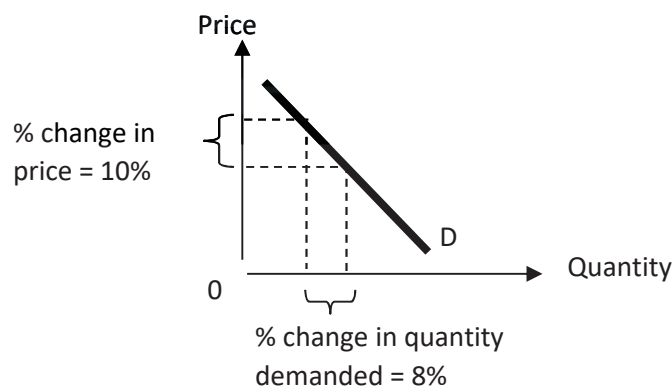


Figure 2

As illustrated in Figure 2, for example, if price decreases by 10%, and quantity demanded increases by 8%, the PED coefficient will be 0.8.

- **Factors affecting the size of Price Elasticity of Demand for a Good**
(pick any 1 of the factors and explain using example)

- (1) Number and Closeness of Substitutes in the same price range
- (2) Proportion of income consumers spent on the good
- (3) Time period
- (4) Degree of Necessity of the Good to the Consumers
- (5) Habit of the Consumers

Example:

Number and Closeness of Substitutes in the Same Price Range

How far a consumer can substitute a good for other goods depends on whether the goods concerned are good or bad substitutes. Whether the substitutes are good or bad depends on how closely related the goods are to the consumers. The more closely related the goods are, the higher the price elasticity of demand.

For example, when the price of coke increases, the quantity demanded of Coke will fall (law of demand). Consumers will then look for other carbonated drinks which are substitutes of coke such as Pepsi and Sprite. As there are many substitutes available for Coke, the demand for Coke is likely to be price elastic. Thus, when the price of Coke rises, it will lead to a more than proportionate fall in quantity demanded (PED >1). However, if the consumers deemed other carbonated drinks to be very different from Coke in terms of taste, then they are likely to deem the demand for coke to be price inelastic where the increase in price of coke will lead to a less than proportionate fall in quantity demanded.

2: YED

- **Definition:** YED measures the responsiveness of demand of a good due to a change in consumers' income, ceteris paribus.
- **Formula:**

$$\text{YED} = \frac{\text{Percentage Change in Demand of Good}}{\text{Percentage Change in Income}}$$

- **Sign: Positive (Normal Goods), Negative (Inferior Goods)**

- The sign of YED indicates whether a good is **normal** or **inferior**.
- Any good whose demand rises due to a rise in income or demand falls due to a fall in income are classified as **normal goods**. Based on the formula for calculating YED, a normal good has a *positive* income elasticity of demand because income and demand change in the *same direction*.
- Any good whose demand falls due to a rise in income or demand rises due to a fall in income are classified as **inferior goods**. Based on the formula for calculating YED, an inferior good has *negative* income elasticity of demand because income and demand change in *opposite directions*.

- **Magnitude:**

- The magnitude of the YED value signifies the sensitivity or responsiveness of demand due to income changes. Generally the greater the responsiveness of demand due to income changes, the larger the magnitude.

- YED is concerned with income changes, which is illustrated diagrammatically by a *shift of the demand curve* of the good or service. Hence the magnitude of YED provides an indication of the extent of the shift of the demand curve due to income changes.

- When Demand for a Good is Income Elastic: $1 < |YED| < \infty$

If an income change causes a *more than proportionate* change in the demand for a good, demand is regarded as very responsive to income changes. Demand for the good is said to be **income elastic**. These goods include luxury goods. Examples of luxury goods are meals at fine dining restaurants, cars, luxury homes. For example if a good has a $|YED| = 5$, a 1% change in income leads to a 5% change in demand for the good.

- **When Demand for a Good is Income Inelastic: $0 < |YED| < 1$**

If income change causes a *less than proportionate* change in the demand of a good, demand is regarded as not very responsive to income changes. Demand for the good is said to be **income inelastic**. These goods include necessity goods. Examples of necessity goods are rice, salt and pepper. For example if a good has a $|YED| = 0.5$, a 1% change in income leads to a 0.5% change in demand for the good.

Factors affecting YED (pick any 1 of the factors and explain using example):

- (1) Nature of Goods
- (2) Level of Income

Example:

Nature of Goods

Necessities have low value of YED as its consumption is compulsory and rather stable even with changes in income. For example, when income rises, the demand for necessities such as rice will increase less than proportionately (Figure 3). On the other hand, luxury goods tend to have a large YED value as people tend to want to purchase more of these goods to improve their lifestyle as their income increases. Thus, when income rises, there will be a more than proportionate rise in demand for branded goods such as Rolex and Chanel (Figure 4).

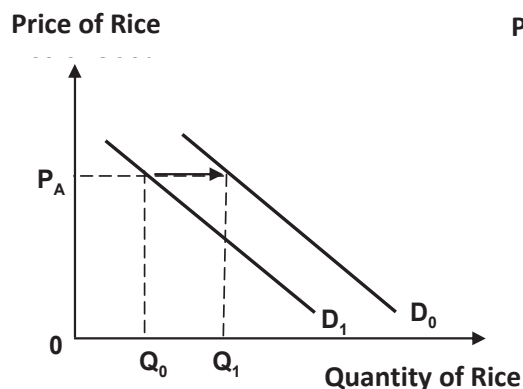


Figure 3

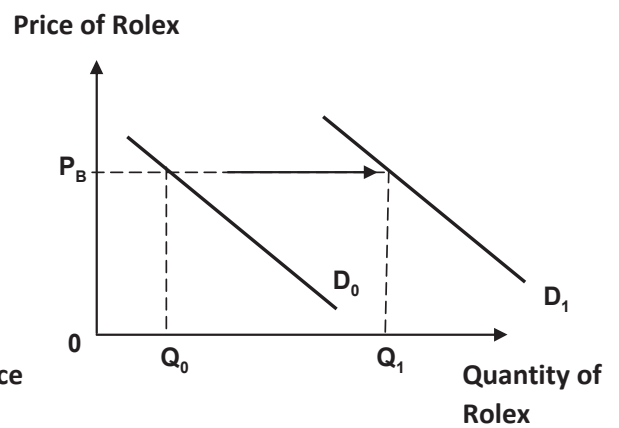


Figure 4

Conclusion:

- PED and YED of different products are different due to the different determinants of PED and YED.
- This analysis is based on ceteris paribus assumption but in reality, the PED and YED values may change over time.
- Different groups of consumers may also contribute to differing PED and YED for different products.

Level	Descriptor	Marks
L3	A well-developed answer that explains the definition, sign and magnitude of PED and YED using examples.	8 – 10
L2	An undeveloped answer and inadequate explanation of PED and YED.	5 - 7
L1	An answer that shows some knowledge on elasticity.	1 – 4

b) Discuss how the combination of the above factors affect the market for different types of restaurant services in Singapore. [15]

Command Word: Discuss

Context: Different types of restaurant services

Content: DD/SS analysis and elasticities of demand concepts

Introduction:

- P and Qty for restaurant service are determined by market forces of demand and supply
- Different types of restaurant services → Fine Dining, Casual Dining, Fast Food Restaurants

Body:

1. Supply Factor for all restaurants:

- Rising rental and food costs, Lack of manpower → Cost of Production will rise → Supply will fall
- This is shown in Figure 5 where the supply curve will shift to the left.
- Explain price adjustment process: At the original price, P₁, there exists a shortage of Q₁ and Q₂. Consumers will thus bid for higher prices in order to get the service and producers will then react by raising quantity supplied (law of supply). Therefore, the shortage will drive up prices to P₂. Quantity will also reduced from Q₁ to Q₃.
- Supply will probably fall by a great extent for fine dining restaurants as the rental cost are much higher as compared to casual dining restaurants and fast food restaurants since they are often located in prime areas. The lack of manpower is also likely to affect the cost of production of fine dining restaurants much more than other types of restaurant services as higher wages have to be offered to attract chefs with specialised cooking skills and waiters/waitresses with experience. (*Students are to bear in mind the extent of the shifts of supply curves for the simultaneous shifts diagrams for each of the restaurant services.*)

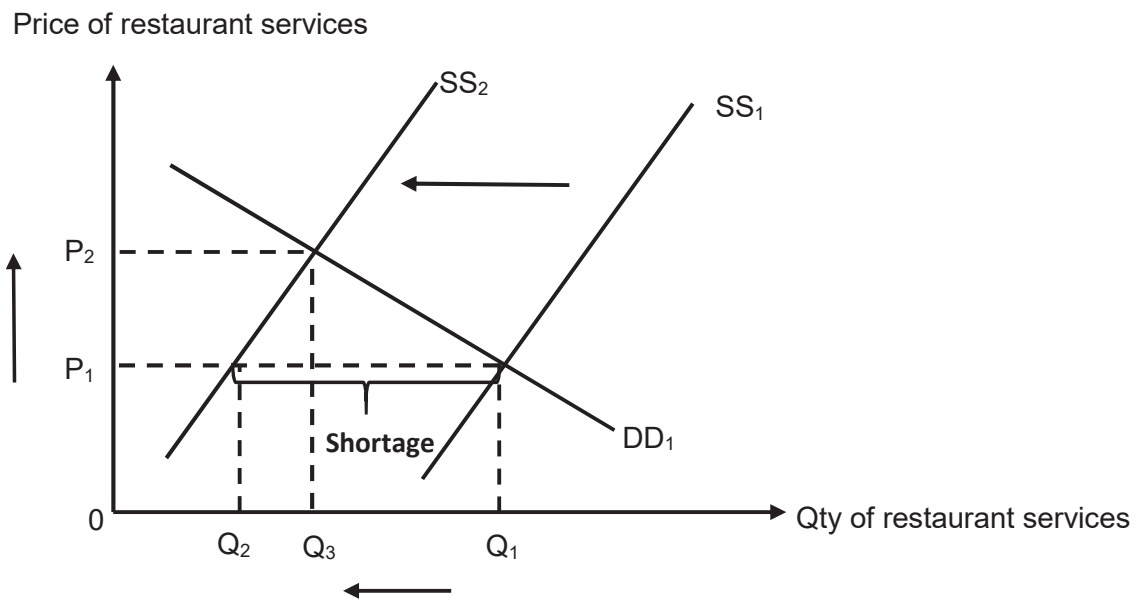


Figure 5

2: Fine Dining (e.g. Waku Ghin at MBS, Iggy's at Hilton Hotel)

Demand factor:

- Fine Dining → Luxury Service → Sign of YED is positive and greater than 1
- Negative growth rate for the first quarter of the year → Consumers' income fall → Purchasing power falls → Demand for fine dining will **fall more than proportionately** ($YED > 1$) [Figure 6], ceteris paribus → Both P and Qty will fall by a large extent
- Explain price adjustment process: At the original price, P_1 , there exists a surplus of Q_1 and Q_2 . Producers will thus lower prices in order to sell off the excess and consumers will then react by increasing their quantity demanded (law of demand). Therefore, the surplus will drive down prices to P_2 . Quantity will also reduce from Q_1 to Q_3 .

**Online delivery is unlikely to affect the demand for fine dining as fine dining focuses on the ambience and the customised services that it provides for diners.*

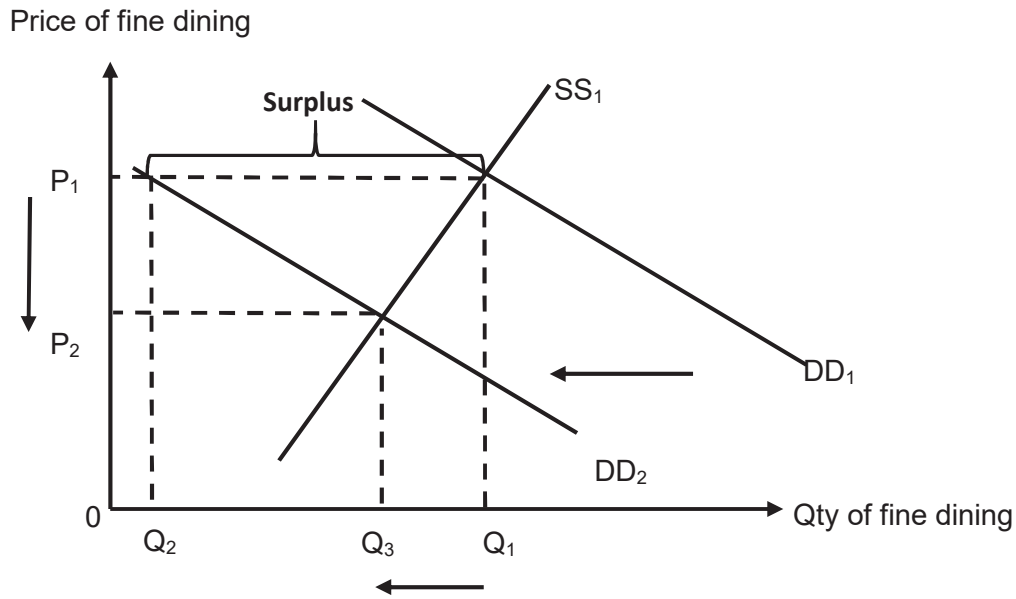


Figure 6

Supply Factor:

- As mentioned above, supply will fall by a **large extent** due to rising cost of production (Rising rental and food costs, Lack of manpower)

Simultaneous Shifts:

- With both demand and supply falling, the Qty of fine dining services provided will definitely fall but the change in price is indeterminate as it depends on the magnitude of shifts of demand and supply.
- If the magnitude of the fall in demand is larger than the magnitude of the fall in supply, then price of fine dining will fall.
- If the magnitude of the fall in demand is smaller than the magnitude of the fall in supply, then price of fine dining will fall.
- The latter might be a more probable case as the rental, food and manpower costs of fine dining contributes the most to the cost of running a fine dining restaurant. Thus, price of fine dining is going to rise (due to a shortage) and the quantity will fall. [Figure 7]

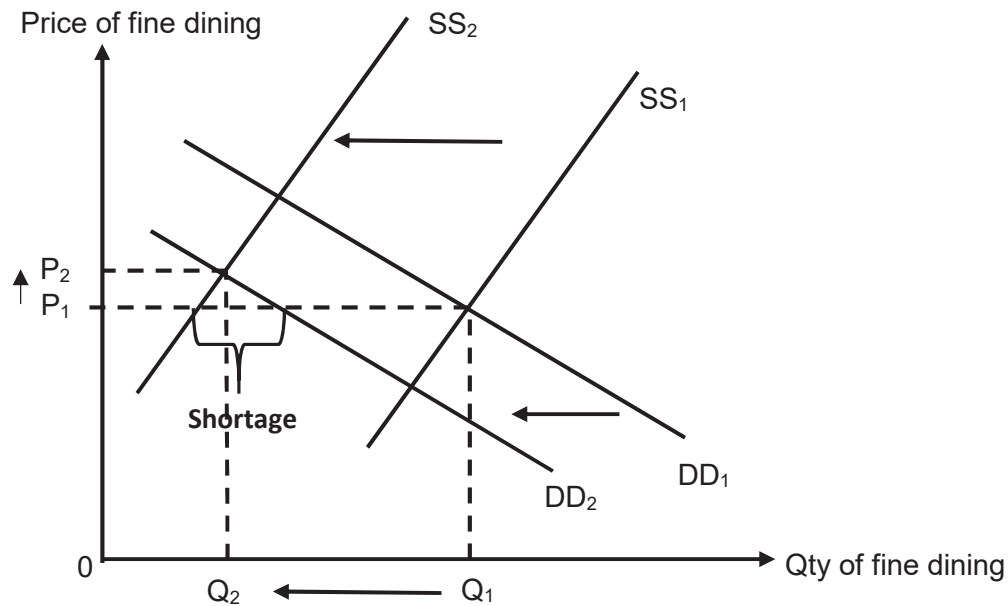


Figure 7

3: Casual Dining (E.g. Pasta Mania, Swensons)

Demand factor:

- Casual Dining → Normal good → YED is more likely to be close to 1 but not a luxury good as compared to fine dining
- Negative growth rate for the first quarter of the year → Consumers' income fall → Purchasing power falls → Demand for casual dining will fall less than proportionately (YED is positive but less than 1), ceteris paribus → Both P and Qty will fall (due to surplus)
- However, if ceteris paribus condition does not hold, the demand for casual dining may not necessary fall. This is because when the price of fine dining increases, consumers may look for cheaper alternatives such as casual dining. Hence, the demand for casual dining may rise instead. Using the concept of XED where it measures the responsiveness of demand of good A (casual dining) to the price of good B (fine dining), ceteris paribus, the demand for casual dining may rise by a small extent if consumers find that they are weak substitutes.
- In addition, with these casual dining restaurants partnering the online food delivery services, the demand for casual dining may increase as consumers may prefer the convenience offered by casual dining.
- Thus, the overall impact on demand for casual dining is likely to rise which will result in both P and Qty to rise (due to shortage). [Figure 8]

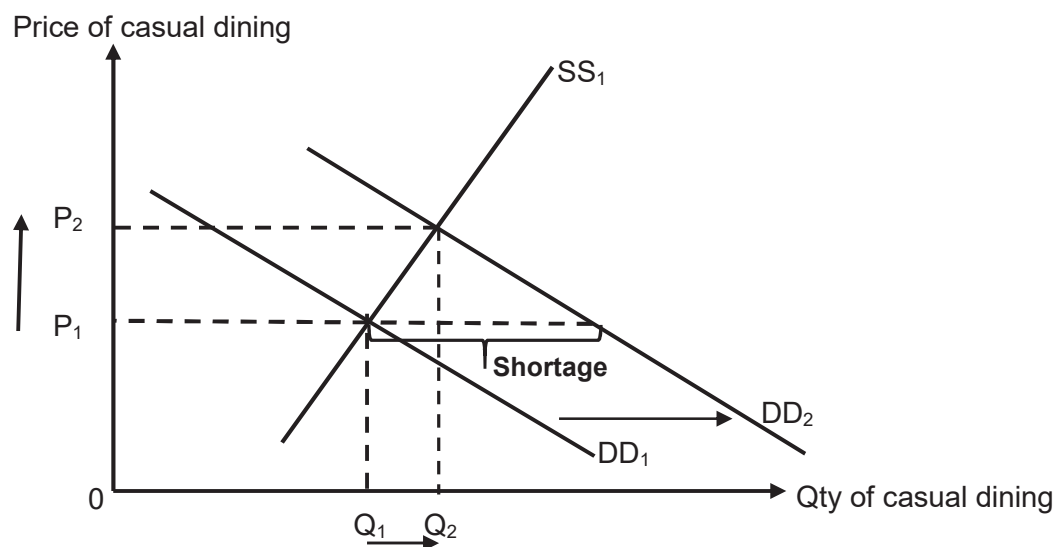


Figure 8

Supply Factor:

- Rising rental and food costs, Lack of manpower → Cost of Production will rise → SS will fall (the extent of the fall in supply will be lesser than that of fine dining)

Simultaneous Shifts:

- With the demand for casual dining likely to rise and the supply to fall, the price is definitely going to rise and the quantity is indeterminate.
- If the magnitude of the rise in demand is larger than the magnitude of the fall in supply, then quantity of casual dining will rise.
- If the magnitude of the rise in demand is smaller than the magnitude of the fall in supply, then quantity of casual dining will fall.
- Given that casual dining is a form of normal good as well, the demand is unlikely going to rise by a large extent as some consumers will still reduce their demand for it when their income falls. Thus, the rise in demand would be smaller than the fall in supply resulting in a rise in price and fall in quantity (due to shortage). [Figure 9]

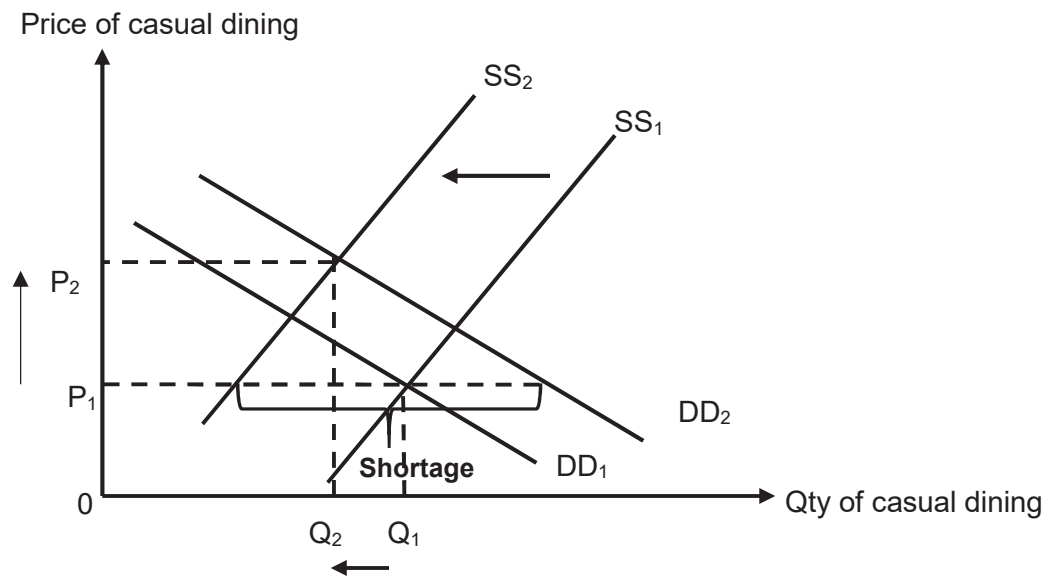


Figure 9

4: Fast food restaurants (MacDonald's, KFC etc)

Demand factor:

- Fast food restaurants → Inferior good → YED is negative
- Negative growth rate for the first quarter of the year → Consumers' income fall → Purchasing power falls → Demand for fast food will rise, ceteris paribus → Both P and Qty will rise (due to shortage) [Figure 10]

Supply Factor:

- Rising rental and food costs, Lack of manpower → Cost of Production will rise → SS will fall (extent of the fall in supply will probably be lesser than that of fine dining and casual dining)

Simultaneous Shifts:

- With the demand for fast food rising and the supply falling, the price is definitely going to rise and the quantity is indeterminate.
- If the magnitude of the rise in demand is larger than the magnitude of the fall in supply, then quantity of fast food will rise.
- If the magnitude of the rise in demand is smaller than the magnitude of the fall in supply, then quantity of fast food restaurants will fall.
- As these fast food restaurants such as MacDonald's and KFC have their own delivery services as well and that their prices are relatively lower than that of casual dining, the demand for fast food are likely to rise by a larger extent than the fall in supply. Therefore, this will result in a rise in both price and quantity (due to shortage). [Figure 10]

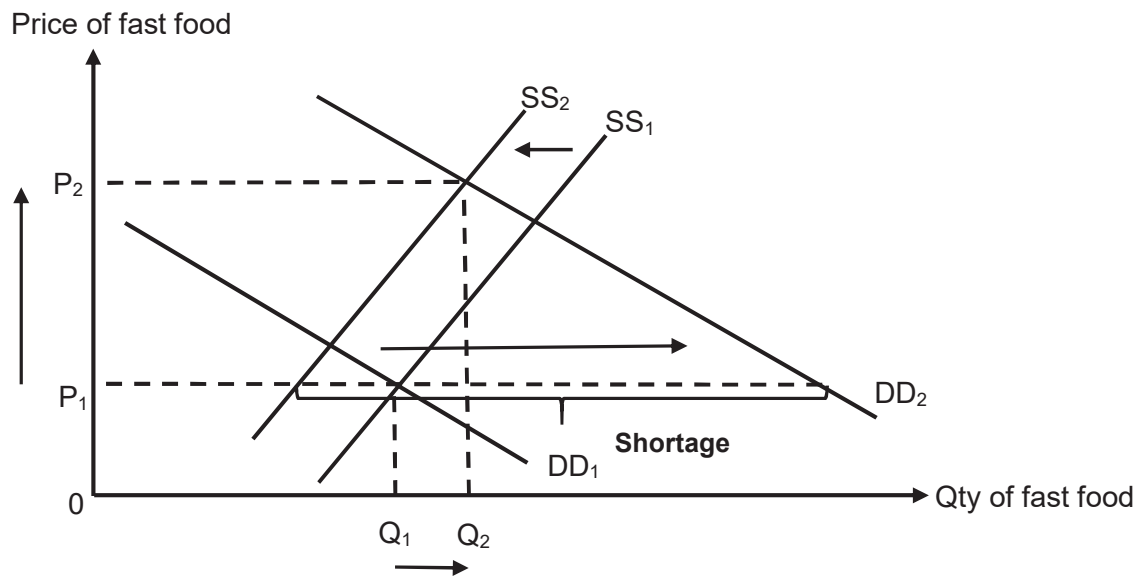


Figure 10

Conclusion:

- Summary:
 - Fine dining:** P will rise and Qty will fall due to magnitude of the fall in supply greater than the magnitude of the fall in demand.
 - Casual dining:** P will rise and Qty will fall as well due to the magnitude of the rise in demand being smaller than the magnitude of the fall in supply.
 - Fast food restaurants:** Both P and Qty will rise due to the magnitude of the rise in demand being larger than the magnitude of the fall in supply.
- However, the above impacts on price and quantity may not be certain as it depends on several factors:
 - ➔ The impact on P and Qty may differ for different level of income groups and it also depends on how much is the fall in their income. For high income earners, the fall in their income may be limited and since they are still earning high levels of income, they may still demand for fine dining services and not increase their demand for casual dining.
 - ➔ As for casual dining restaurants, if they do not have any partnership with any online delivery services, the demand for their services may not necessary rise.
 - ➔ It also depends on how much is the contribution of rental, food and manpower costs to the total costs of production to the restaurant owners. If the impact of these costs is very high, it will thus lead to a greater fall in supply and may affect the change in price and quantity more than the shift in demand.

Level	Descriptor	Marks
L3	<p>An answer that shows adequate knowledge of demand and supply forces and how equilibrium price and quantity may be affected.</p> <p>Answer is balanced in consideration of demand and supply factors (combined effects are considered).</p> <p>Magnitude of the shifts are examined in details.</p> <p>Consideration of elasticities concepts and its relevance in influencing market equilibrium.</p> <p>Good use of diagrams that is adequately explained.</p>	8 – 10
L2	<p>An answer that shows adequate knowledge of demand and supply forces and how equilibrium price and quantity may be affected.</p> <p>Answer is balanced in consideration of demand and supply factors but is not well explained</p> <p>Relevant diagrams drawn but not well explained.</p> <p>Single shifts will only be awarded max of 5 marks.</p>	5 – 7
L1	<p>An answer that shows some knowledge of demand and supply forces and how equilibrium price and quantity may be affected.</p>	1 - 4

E3	<p>Providing a judgment with explanation on the final impact on price and quantity for the different types of restaurant services and evaluating the factors that may affect the final change in price and quantity.</p>	4 - 5
E2	<p>Providing a judgment with explanation on the final impact on price and quantity for the different types of restaurant services.</p>	2 - 3
E1	<p>Unexplained assessment or one that is not supported by analysis.</p>	1

Question 2

- a) Explain how the level of competition influences firms' price and output decisions. 10m
- b) Assess whether a firm's behaviour is always dependent on the actions of its rivals. 15m

a) Explain how the level of competition influences firms' price and output decisions.

1. Intro : Level of Competition and Market Structure

Level of competition is determined by the presence of barriers to entry - Barriers to entry refer to any impediment that prevents new firms from competing on an equal basis with existing firms in an industry. Identify PC as a market structure that has no BTE and hence high level of competition.

The higher the barriers the lower the level of competition faced by the firms. Barriers to entry determine the degree of competition faced by firms in an industry and hence the degree to which they can influence price and output decisions. Identify monopoly as a market structure that has high BTE and hence low levels of competition.

Assume that firms operate under profit maximisation motive.

2. Explain how high levels of competition affects firms' pricing and output decisions

In a perfectly competitive market - no barriers to entry - existing firms are unable to stop new firms from entering the market - no restrictions on existing firms leaving the market - no single firm has the market power to influence the market price of the product - product is identical - each firm is a price taker eg shares of listed companies in the stock markets.....

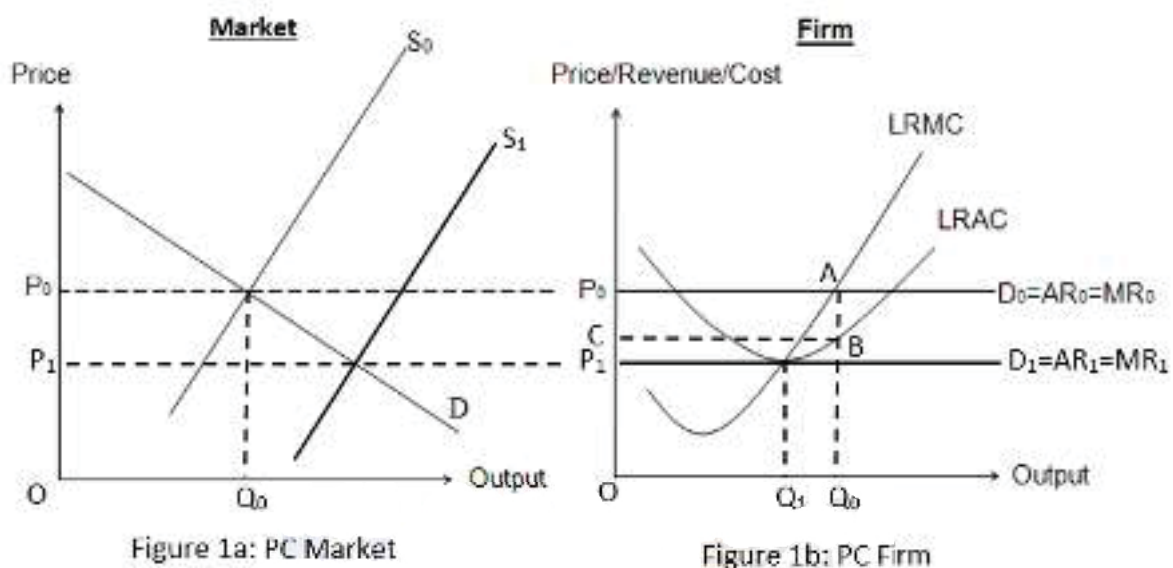


Figure 1a above, shows how the intersection between the market demand and supply curves of a perfectly competitive market determines the equilibrium price P_0 , and output Q_0 . Each firm in the perfectly competitive market will then take the market price P_0 , as each firm in the perfectly competitive market is a price taker. The demand curve faced by each firm is thus perfectly price elastic (see Figure 1b). Each firm will then produce at its profit-maximising output, Q_2 , where marginal revenue (MR_0) cuts the marginal cost (MC) curves.

Here, the perfectly competitive firm is initially earning supernormal profits, area P_0ABC . High competition, no barriers to entry, potential profits entice new entrants into the industry leading to a shift in the market supply curve to its right, lowering its market price as a result.

The price of the perfectly competitive firm will thus follow the price determined by the market. The output however will be determined by the individual firm depending on its cost curves set. The firm will eventually earn normal profits.

2: Explain how no competition affect firms' pricing and output decisions

On the other end of the spectrum, where there is no competition due to high barriers to entry a monopoly will develop. A monopoly is one in which there exists only a single firm in the market. There is no competition as a result of the high barriers that can be classified into two categories, namely natural barriers to entry and artificial barriers to entry. The greater the natural barriers present the greater the firm's ability to set a higher price.

As the monopolist is the only producer it is the industry. The monopolist's demand curve is also the market demand curve and is relatively price inelastic since it is the sole seller of a good with no close substitutes.

To maximise profit or minimise losses, the monopolist will produce at an output where $MR = MC$. In the short run, the monopolist can be in equilibrium earning supernormal profits, normal profits or subnormal profits. Figure 2 shows a monopolist making supernormal profits where he will produce at the profit-maximising output, $MR=MC$, such that output is at Q_e and price is at P_e . The supernormal profit is indicated by area P_eABC .

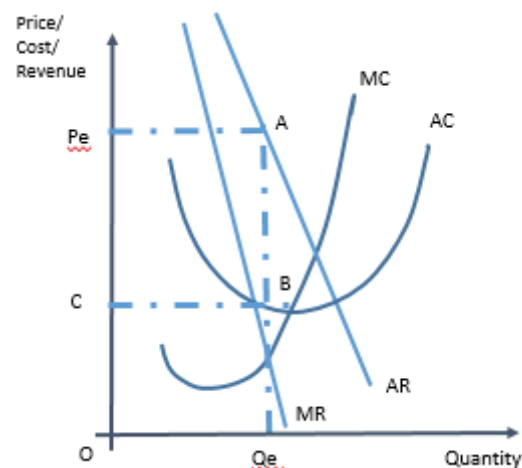


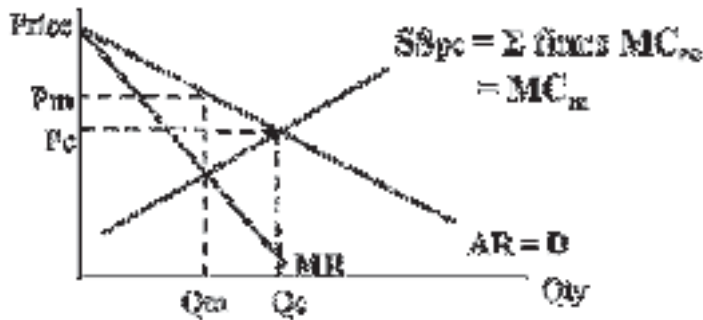
Figure 2 : Monopolist earning supernormal profits

Since there are high barriers to entry for new firms, a monopolist's short-run profits will not be competed away in the long run. Unlike the perfectly competitive firm, the monopolist can continue to sell Q_e at price P_e and continue to earn supernormal profits even in the long run. The monopolist can price his product higher and continue to earn supernormal profits for a longer period of time if his barriers to entry are natural ones than if they are artificially put up.

3. Compare the price and output determination in a market structure with different levels of competition

Assuming that there are identical cost structure, markets with different levels of competition would have different price and output levels.

A monopolist would have a higher price and a lower output as compared to a PC market. (Draw the diagram).



- However it is not always true that low levels of competition enables firms to dictate its price and output. In the case of Oligopoly, under the non-collusive model, firms tend not to change their price due to the characteristics of mutual interdependence (briefly explain). Similarly under the price leadership model, firms do not independently determine their prices as well as their output levels (briefly explain).

Conclusion

Barriers to entry is a key determinant to pricing and output decisions, as seen in the need for firms in perfect competition and monopolistic competition to price their product to maximise profits, so as to achieve normal profits in the long run in order to survive in the industry, but there is no need to do so for monopoly and oligopoly. High natural barriers to entry allow the monopolist to maintain its price and output so as to continue earning supernormal profits. However, firms under the perfectly competitive market that are earning supernormal profits will face a lower price and a smaller output as more firms join the market due to the presence of high competition and freedom of entry and exit.

Level	Descriptors	Marks
L3	Developed explanation of how barriers to entry can cause firms to make differing pricing and output decisions for different market structure types.	8-10
L2	Under-developed explanation of how barriers to entry can cause firms to make differing pricing and output decisions of at least 2 types of market structure types.	5-7
L1	A general discussion of only one type of market structure and its determination of price and output decision	1-4

b) Assess whether a firm's behaviour is always dependent on the actions of its rivals.

Rivals can be defined as a person, thing or firm competing with another for the same objective or for superiority in the same field of activity. Firms (including businesses and corporations) exist and make decisions to maximize profits. Firms interact with the market to determine pricing and demand and then allocate resources according to models that look to maximize net profits.

In an oligopoly, the firm exhibit mutual interdependence which means that one firm's action will have a significant impact on the other firms and the other firms will respond accordingly.

Assuming that the firms are profit-maximising, their behavior may be influenced by their rivals' actions and other factors. The extent to which the behaviour of firms depend in reality on the actions of their rivals can be discussed with reference to the concepts of market structure, strategic interdependence, government intervention/regulation and the alternative objectives of firms.

1: The behaviour of firms depends, in reality, closely, on the actions of their rivals

This is true for an oligopolistic industry whereby firms exhibit mutual interdependence where a few firms account for a large market share, with strong barriers to entry and producing homogeneous or differentiated good or service, firms are mutually interdependent. This means that the main dominant firms have a very high degree of rival consciousness. Firms will consider the reactions of other firms before making its decisions. With this interdependence, firms may find their pricing decisions resulting in price rigidity in the market. This can be represented with the kinked demand curve model.

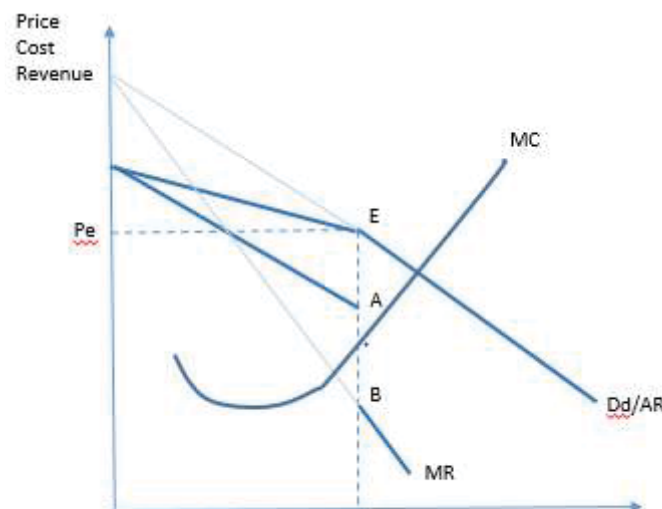


Figure 1: Kinked Demand Curve

Assuming an initial market equilibrium price is P_e , if a firm raises its price above P_e , rival firms will not follow as customers will now increase demand for their goods since they have become relatively cheaper. This firm will lose substantial amount in sales and experience a fall in its revenue. Its demand curve is thus price elastic above P_e .

If a firm lowers price below P_e , rival firms would quickly follow the price cut as they would want to prevent loss of sales and protect their market share. Unable to lure customers away from rivals, this firm would experience changes in its sales. Its demand curve would thus be price inelastic below P_e , experiencing a fall in revenue with a reduction in price.

As both unilateral raising and lowering of price leads to losses in revenue, an oligopolist would avoid price changes as it takes into account its rivals' likely responses. There is thus generally price stability (or price rigidity) at the prevailing price P_e .

Oligopolistic firms however, tend to compete on the basis of non-price competition like advertising, promotions and innovation given their ability to do so due to the large supernormal profits earned. Even so, firms would be responsive to such actions by their rivals as it would negatively impact the firm's demand eg, in a typical petrol-retailing industry in S'pore, where non-price competition prevails. Non-price competition can even be in the form of product innovation or even R&D eg, each petrol company has claimed that their fuel is unique - Shell claims to offer more mileage, while Caltex claims that its fuel keeps engines very clean, etc.

Even collusion sees mutual interdependence as the key to its success eg, SingTel being most established may be able to predict global market trends better than StarHub or M1. If SingTel decides to go beyond 5G technology, Star hub and M1 would follow suit even if they still lack info regarding the future trends but take the cue from SingTel. A form of tacit collusion, where SingTel acts and others follow, also known as the barometric firm leading the market.

Mergers and acquisitions may also sometimes be used as a strategy to expand market share by gaining an edge over rival firms such as through reaping economies of scale.

2: The behaviour of firms does not always depend on the actions of their rivals

However, not all firms' react based on their competitors' actions eg, under monopolistic competition, each firm is able to set pricing and output decision without regard to its competitors' actions. Monopolistic competition, due to the large number of small firms and hence the small market share of each firm, the actions of one firm do not affect and are not affected by the actions of the other firms in the market, and this means that there is no strategic interdependence. When the firm changes its price, it will not have any significant effect on the other firms in the market. The rival firms will hence not react by changing their prices. Therefore, it need not take into consideration the reactions of the other firms in the market and does not depend on the behaviour of competitors. For example, if a chicken rice stall reduces the price of its dishes, the reduction in the price will not have any significant effect on other stalls which will not prompt them to react. Therefore, the stall does not need to consider the reactions of other stalls. However, in reality, a monopolistically competitive firm may have the incentive to be aware of its rivals' actions eg, if the outlet's proximity are close enough with a rival's and are substitutable, then one's behaviours will tend to depend on the other's actions. This is because each firm has its own demand curve, and the products and services are differentiated from one another.

3: Government intervention

Firms may also be subjected to **government intervention measures in the industry**. Their behaviour may be affected by government regulations rather than as a responds action to their rivals' actions eg, the governments may apply anti-trust laws to disallow mergers and acquisitions that firms may wish to undertake to reduce the concentration of market power. Alternatively, governments may choose to nationalise firms so as to take over production directly. The government would thus set the price and output behaviour of the firm, which may deviate from the profit-maximising levels to welfare maximizing levels. Such government intervention may be carried out with the aims of improving allocative efficiency or equity.

Body 4: The behavior of firms does not dependent on rival's actions but on other factors

- a. Alternative objectives of the firms – firms having objectives of output maximization ($AR=AC$), revenue maximization ($MR=0$), welfare maximization ($P=MC$), growth maximisation...would not be affected or bothered by the actions of their rivals as achieving their objective takes greater priority.
- b. Price discrimination – can only take place under specific conditions and the firm has a high degree of monopoly power thus its actions will not be affected by rivals in any way as the product involved is distinct and unique with no substitutes.
- c. Changes in market demand – firms facing changes in market demand would be more concerned with their individual firm's ability to cope with the changes rather than with their rivals' actions. They would however want to look at their rivals' actions after they have made their necessary adjustments.
- d. Entry deterrence – the larger the amount spent by the firm on entry deterrence, the lower the dependence on rival actions. When rivals are deterred entry, there would not be a need for the firm to bother about rivals' actions as there would be no rivals.

Conclusion

The actions of their rivals would likely be the main factor affecting the behavior of firms. This is because the degree of rivalry is likely to be high, given the close substitutability of the goods or services provided by the different firms as perceived by its consumers.

Furthermore, there is a low likelihood of potential entrants overcoming the high barriers to entry for the industry if it has high start-up costs. The likelihood of government intervention in a market is low, when the market appears to be sufficiently competitive between the major players and the nature of the service does not warrant strong equity considerations.

Level	Descriptors	Marks
L3	Developed explanation with examples of how firms under different market structures may or may not react to their rivals' decisions.	8-10
L2	Undeveloped explanation that compares different market structure's reaction to rivals.	5-7
L1	A general discussion of the behaviour of firms to their rival's actions.	1-4
E3	A detailed analysis of the determination of factors of firms behaviour with a ranking of the determinants	4 - 5
E2	A detailed judgement made with sound analysis and real world behaviour of firms.	2 - 3
E1	A judgement that is not substantiated by analysis	1

Question 3

- a. Using examples, explain the basis by which rational decisions are being made by consumers and producers. [10]
- b. Assess the economic case for government intervention in the market when externalities are present. [15]

Part a: Using examples, explain the basis by which rational decisions are being made by consumers and producers.

Command – Explain

Content – Basis for decision making for consumers and producers

Context – Open

The fundamental basis of economic decision making is individuals' or organizations' desire to maximize benefits while minimizing costs. This balancing act is referred to as maximizing value, and it is a skill that takes practice to master. For individuals, value maximization decisions may include choosing between name-brand products and generic products, and choosing between small or bulk sizes. For a company, value maximization involves finding the lowest-cost suppliers that meet the company's quality standards, then determining the economic order quantity for each purchase. Economic order quantity is the perfect amount of a product or material to order at a time, taking advantage of quantity discounts while also keeping holding and transportation costs under control.

Explain what is involved in rational decision-making both by consumers and by firms.

All economies face the problem of scarcity, a situation where there are unlimited wants but limited resources. Thus, choices have to be made for the best allocation of resources in an economy. Similarly, consumers and firms also face constraints and thus must also make choices. As opportunity cost is incurred when making choices, societies will choose the particular assortment of goods and services with the objective of gaining the highest level of satisfaction with the least possible cost. Both consumers and firms make rational decisions where they aim to maximize their self-interest. In the case of consumers, utility maximization while in the case of firms, it is profit maximization. This can be achieved by weighing up the opportunity cost arising from an activity against the benefits, by considering the marginal effects of change.

Body 1: Marginalist principle applied to consumers in their decision making process

A rational consumer seeks to maximize net total benefits from consuming a good. Rational decision-making by consumers involves considering the marginal benefits and the marginal costs of consuming the good. Consumer will consume when $MPB = MPC$. The marginal benefit is the satisfaction derived from consuming an additional unit of the good while the marginal cost is the price paid for the good. For example, if the plate of wanton mee costs \$3 and \$1 is equivalent to 100 utils, the wanton mee should bring the consumer 300 utils of satisfaction. If a plate of wanton mee brings Tim 400 utils of satisfaction then Tim would deem that the plate of wanton mee is cheap as he pays only \$3 for 400 utils of satisfaction. Tim would then buy that plate of mee. If the 2nd plate brings him 300 utils of satisfaction, then Tim would consume the second plate and stop there as the price he pays is equivalent to the satisfaction he gets from consuming it!

A rational consumer will buy an extra unit of a good as long as marginal benefit (MB) exceeds the price of the good because it increases the level of net total benefits from consumption i.e. consumers will consume up to the point where $MB = P$ where the total net benefits are maximised. Consumers will not

consume the additional unit where MB is less than prices as it lowers the net total benefits from consumption. (Explanation could also be given with reference to the $MPB=MPC$ concepts)

Since rational consumers will buy a product only if the MB exceeds or is at least equal to the price paid for it, it follows that the demand curve in a market represents the MB that consumers derive from consuming an extra unit of the good.

Body 2: Marginalist principle applied to firms in their decision making process

A rational firm seeks to maximise total profits from the production and sale of a good. Rational decision making by firms means that firms will base their output decision on the marginal revenue and marginal cost. In deciding how many units of a good to produce, a profit maximising firm will produce up to the point where the additional cost from producing one additional unit of output equates the additional revenue from selling it.

A rational firm will produce and sell an extra unit of a good as long as $MR > MC$. Because this means that by producing that unit, there will be bigger addition to revenue (MR) than to cost (MC) and total profits will increase given that marginal profit is positive. When production by the firm is at an output where MC exceeds MR, producing that add more to cost than to revenue and hence reduce profit. Firms' profits can be increased by cutting back on production since marginal profit is negative. Firms thus produce up to the point where $MR=MC$ where the total profit is maximised.

In perfect competition, $MR=P$. This means that the firms produce up to the point where $P=MC$. This also means that the firm's supply curve for the good, reflects the MC of the good.

Body 3: Other basis for decision making by the consumer and the producer

Rational consumer and producer decisions could also be made based on the following:

- Gut instincts – some consumers or producers could base their decisions on an experiential or emotional background that may have no theoretical or analytical basis. Decisions made on gut instincts could come about due to refined and improved intuitive instincts drawn from repeated successes and sharpened discernment.
- Alternative objectives – producers may have alternative objectives eg output maximization, revenue maximization, welfare maximization or others and these would govern their decision making maxim upon which they will decide as to how to price their product or decide upon which amount of output they would want to produce.
- Statistical data – some consumers or producers may make decisions based on some statistical data that they may have gathered on their own or through some other means. These data may be random inputs that in and of themselves may hold little value. Validity of such decisions may be flawed depending on the nature of the data collected.
- Information – **information is obtained when data is derived from a more complete set of processed facts that would allow for a more thorough analysis and thus better informed decisions that are to be made.**
- Knowledge - **Knowledge is information that has been refined by analysis.** The knowledge has been assimilated, tested and/or validated. **Most importantly, it is actionable with a high degree of accuracy as there is proof that the concept exists.** Decisions based on knowledge would prove to be more accurate than those based on data or information.

These alternative sources of decision making processes for the consumer or the producer are valid and used by them.

Conclusion

The marginalist principle is adopted by both consumers and firms when they attempt to maximise their self-interest. When resource allocation is left to the price mechanism, goods are produced up to

the point where demand matches supply. Since demand reflects MB and supply reflects MC, at the market equilibrium point, where demand matches supply, MB=MC and society's welfare is maximised.

Level	Descriptor	Marks
L3	A well developed answer that uses the <i>marginalist principle</i> and other indicators to explain how both producers and consumers make their consumption and production decision.	8 – 10
L2	Descriptive answer that recognises the <i>marginalist principle</i> is the basis of rational decision making but there are gaps in explanation.	5 - 7
L1	Presence of some knowledge of the workings in the market.	1 – 4

Part b: Assess the economic case for government intervention in the market when externalities are present.

Command – Assess

Content – Government intervention when externalities are present

Context – An economy

When externalities occur, market failure is present. The cause of markets failing could be due to several factors namely - externalities, imperfect markets, asymmetric information, incomplete markets, indivisibility, imperfect markets among others. Externalities are market imperfections where the market offers no price for service or disservice. These externalities lead to misallocation of resources and cause consumption or production to fall short of Pareto optimality. Externalities could be divided into - negative externalities: under-priced; over-consumption or over-production and positive externalities: over-priced; under-consumption or under-production relative to the social optimum output level.

Body 1: The case for government intervention especially when it is necessary and beneficial especially for negative externalities

- Govt intervention in the presence of negative externalities resulting in a significantly large deadweight loss is to be regained and needed to be done as well as is favourable because it:
 - raises market price and lowers equilibrium quantity in the market
 - leads to efficient resource allocation brings about welfare improvements for both consumers and producers.
- For example: To overcome market failure caused by car usage (negative externality), Singapore's govt adopts the following policies as discussed below:
 1. Electronic Road Pricing (ERP)
 2. Certificates of Entitlement (COEs)
 3. Increased parking charges
 4. Increased fines – traffic and parking fines
 5. Providing an efficient/quality public transport system
- Explain Electronic Road Pricing (ERP) [What is it & How it works]
 - It imposes a price for using a designated road that is over-used (causing congestion)
 - Works like an indirect tax per unit to equate MEC caused by the car journey (tax per unit = MEC).
 - Road users are charged according to the external cost they impose on the rest of the society, such as the congestion, noise and pollution that their journey creates. This forces them to internalise their external costs. When motorists are made to bear the

full cost of their driving, they will then cut down their consumption to the socially optimum level.

- **Illustrate with diagram how a tax is implemented to force consumers to internalize the external costs**

- (i) **Using the Demand – Supply Analysis framework**

- An indirect tax imposed → ↑ cost of car/road usage → effectively reflected as a leftward/upward shift of the supply curve of roads
 - At original price, P_0 , a shortage of road space is created. Drivers who must use the particular road will be willing to pay a higher price for the good while those unwilling to pay for the usage will reduce their quantity demand for it (& look for alternative routes) → ↓ in the number of cars using the now priced road.

- (ii) **Using the Cost-Benefit Analysis framework**

- A tax → ↑ cost of car/road usage generates negative externalities due to over-consumption.
 - The govt can impose a tax = ab per unit of mile driven to internalize the external cost. The size of the tax (ab) should be ideally equivalent to the extent of marginal external cost (MEC) at the socially optimal output so as to completely eliminate the welfare loss.
 - The tax forces the consumers to take into account (internalise) the external costs raising the MPC to be at the same level as the MSC. Faced with the new supply curve, the motorists will reduce consumption to the socially efficient level. The welfare loss to society would be eliminated.

Body 2: The case for government intervention when it is necessary but not beneficial

- (a) Government intervention may fail resulting in greater inefficiencies

- Govt intervention in the market, though may be needed, may not be favourable if government failure is present and worsens the problem instead of improving it.
 - (i) A significantly higher price than the true price or over-taxing leads to an over-priced and under-utilised road and may lead to excessive speeding and an increase in the likelihood of accidents and loss of life.
 - (ii) A marginal increase or new price lower than the ideal/true price or under-taxes may lead to an under-priced road with minimal effects on road usage and congestion.
 - The success of the government, depends on its ability to gauge when, how and to what extent it should intervene. Government actions however may fail or have its limitations. Government failure could happen in the market for motor vehicle usage due to information imperfection:
 - A lack of information about the true value of the negative externality: It is very difficult to price a negative externality such as pollution in monetary terms. It is difficult to measure the costs imposed or to trace the source of the pollution. Hence the government in trying to correct the over-consumption of motor vehicle usage to an efficient level may cause greater deadweight losses instead.
 - The over-estimation of the MEC may lead to excessive tax implementation which may cause MPC to rise to $MPC + tax$, resulting in the consumption of motor vehicles not be equal to the socially optimal level. The associated deadweight loss may lead to a worsening of allocative inefficiency and govt failure is said to have occurred.

- (b) Costs of govt intervention outweighs the deadweight loss to be regained:

- The gain from govt intervention should be weighed against its costs.

- Govt intervention may not be justified if the gain is less than the costs of eg administration or operational costs.
- Govt intervention may not be justified if it leads to consequences that adversely impact the economy, eg, anti-pollution measures may increase the unit COP which may deter FDIs thus affecting potential growth.

Body 3: The case against government intervention especially when it is unnecessary & not beneficial

- When the extent of deadweight loss is not significantly large, though it may result in relative inefficiencies with respect to the social optimum government intervention may not be necessary.
- When the property rights assigned in the market are already established & well-defined, and it allows for the parties involved to work towards a socially optimal outcome at a low negotiation costs. Hence, government involvement may just be to ensure the compliance of legislative statutes.

2. Conclusion

Though presence of externalities cause markets to fail resulting in over-consumption (-production) or under-consumption (-production), governments have many considerations or issues that may be important but may not always be necessary and/or concurrently beneficial. Characteristics of each market is unique and government's intervention, capacity and efficiency in the respective markets may vary. Hence, the relevant regulatory agencies of the government need to exercise wisdom.

L 3	Well-developed explanation of government intervention when externalities are present with adequate use of examples.	8 - 10
L 2	Developed discussion of government intervention for either positive or negative externalities are present with limited use of examples.	5 - 7
L1	Mere listing of the measures that can use to correct the over-consumption (-production) or under-consumption (-production) problem when externalities are present.	1 - 4
E3	Judgment on the issue that is well elaborated of supporting reasons for stand.	4 - 5
E2	Judgment on the issue with adequate elaboration of supporting reasons for stand.	2 - 3
E1	Judgment on the issue without elaboration on the reasons for stand.	1

Question 4

- 4 Germany took in 1.1 million migrants in year 2015. The government will spend 12 billion euros on accommodating and integrating them in year 2016 in the midst of a decline in exports hit by global economic weakness. Furthermore, Germany's inflation rate may reach the European Central Bank 2 percent price stability ceiling in year 2016. It is unlikely to stay there for long as there are price pressures far weaker elsewhere in the European region.

Source: various

- (a) Explain how the combination of a decline in export revenue and an increase in government expenditure could affect the circular flow of income in Germany. [10]
- (b) Discuss whether an economy's inflation rate is more likely to be determined by domestic or external factors. [15]

Suggested Essay Outline

Part (a)

Question requirements:

- Identify that **export revenue** and **government expenditure** are **injections**.
- Using circular flow of income, explain the underlying **process** (including multiplier process) of how the 2 injections result in the **change** in the national income in terms of **direction** and **magnitude**.
- Explain the **net** effect on national income due to the opposing direction of change in the injections (i.e. **decline** in export revenue and an **increase** in government expenditure).

Suggested Introduction

What is circular flow of income?

The **4-sector** model of the circular flow of income consists of (1) domestic households and firms, (2) financial intermediaries e.g. banks, (3) government and (4) foreign sector for which Germany engages in both the import and export of goods and services.

Identify the **injections** and **withdrawals** in the circular flow of income.

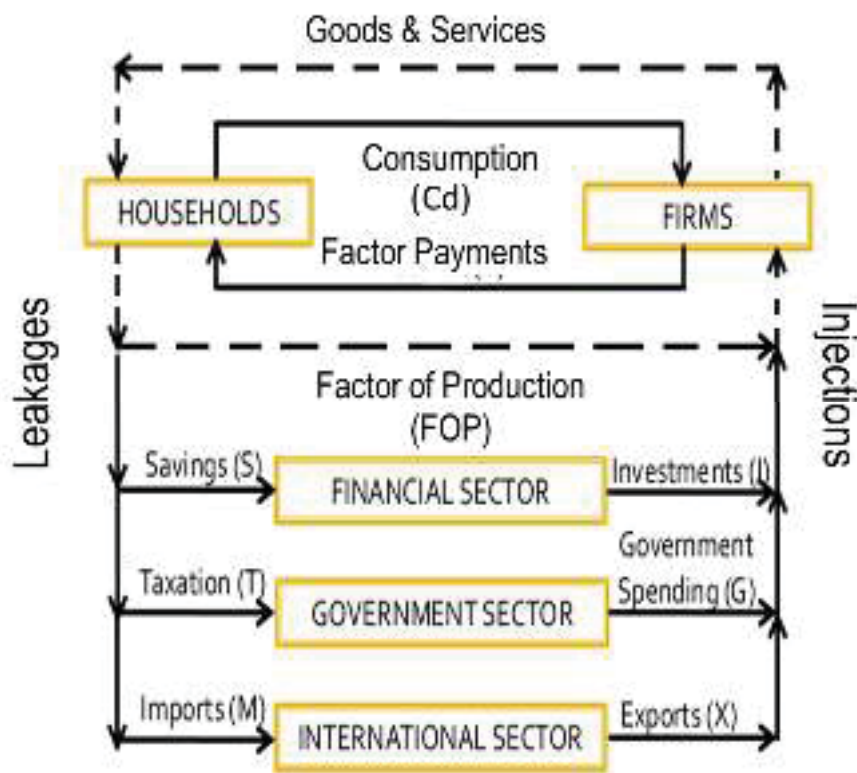


Figure 1: Circular Flow of Income

Suggested Body

Suggested Body 1: With the aid of **circular flow of income** as the tool of analysis, explain how a **decline in export revenue** results in a **multiplied decrease** in national income in Germany.

When there is a decline in the export revenue in the circular flow of income, firms demand less labour and other resources from households to produce output such as Cars. The households in Germany would receive lesser factor payments from firms and experience a decrease in income. With decreased income, households tend to save less, purchase less imports as well as pay less taxes to the government. These are withdrawals from the circular flow of income since this part of household income is not spent on firm's output produced in Germany.

In addition, households in Germany would also purchase less output from firms in Germany due to the fall in income. The decreased expenditure by households in Germany decreases the production level of firms in Germany. To produce less output, firms will hence use less factors of production. Hence, the households in Germany experiences another wave of declining income. As before, with decreased income, households tend to save less, purchase less imports as well as pay less taxes to the government. Thus, this reduces the withdrawals from the circular flow. Similarly, the declining income will reduce households' expenditure on output from firms. The cycle then repeats itself.

However, the magnitude of the decrease in consumption/production is smaller at each successive round. This is because when household income decreases, part of it is saved, paid as taxes and paid for imports. In other words, part of the decrease in household income is withdrawn from the circular flow of income at each cycle. This process continues on until the original amount of the decrease in injections have leaked away as withdrawals. At this point,

the multiplier process stops. The result of a decline of export revenue is a **multiplied decrease** in the national income in Germany.

Suggested Body 2: With the aid of **circular flow of income** as the tool of analysis, explain how an **increase in government expenditure** results in a **multiplied increase** in national income in Germany.

Other than households, expenditure on the firm’s output produced by Germany may also come from government. This is known as injection.

When there is an increase in injection of **12 billion euros of government expenditure** on output to integrate and accommodate 1.1 million of migrants (as seen from preamble), firms would demand more labour and other resources from households to produce output. The households in Germany would receive more factor payments from firms and experience an increase in income. Households in Germany would also purchase more output from firms in Germany due to the increase in income. *Similar to the effects of a decline in export revenue on the national income*, this would result in a **multiplied increase** in the national income in Germany due to an increase in government expenditure.

[Students are expected to provide detailed explanation of the (reverse) multiplier process for ONE of the 2 given injections.]

Suggested Body 3: Explain the **net** effect on national income in Germany due to the opposing direction of change in the injections (i.e. **decline** in export revenue and an **increase** in government expenditure).

The extent of the decline in export revenue due to global economic weakness is unlikely to be so huge as compared to an increase in government spending of 12 **billion** euros in year 2016 given that Germany’s inflation rate would be approaching 2% price stability ceiling in 2016 (as seen from preamble). This could be an indication that Germany is approaching the full employment level of national income when there is a net increase in injections due to the increase in government expenditure outweighs the decline in export revenue.

In view of this, this would result in a **multiplied increase** in national income in Germany.

Suggested Conclusion

Assuming that there is no change in investment expenditure in 2016, it is likely that there would be a **multiplied increase** in national income in Germany given that the decline in export revenue is likely to be lesser than the increase in government expenditure.

Marking Scheme: Part (a)

Knowledge, Application, Understanding, and Analysis		
L3	Well developed explanation and illustration of the underlying process (including multiplier process) of how decline in export revenue and increase in government expenditure result in multiplied change in national income in Germany with relevant use of <i>well explained</i> examples and circular flow of income . AND Well developed explanation of the net effect on national income in Germany due to the opposing direction of change in the injections.	8 – 10 m

<p>L2</p>	<p>Undeveloped explanation and illustration of the underlying process of how decline in export revenue and increase in government expenditure result in multiplied change in national income in Germany with relevant use of circular flow of income. Include explanation of the net effect on national income in Germany due to the opposing direction of change in the injections.</p> <p>OR</p> <p>Well developed explanation and illustration of the underlying process (including the multiplier process) of how either decline in export revenue or increase in government expenditure result in multiplied change in national income in Germany with relevant use of circular flow of income. Did not explain the net effect on national income in Germany due to the opposing direction of change in the injections.</p>	<p>5 – 7 m</p>
<p>L1</p>	<p>For an answer that use AD – AS framework instead of circular flow of income</p> <p>For an answer that shows a descriptive knowledge of the circular flow of income.</p>	<p>1 – 4 m</p>

Part (b)

Question requirements:

- **Identify** and **explain how** the domestic and external factors can cause inflation in an economy.
- **Identify** and **explain how** the domestic and external factors determine the inflation **rate** in an economy.
- **Compare** whether inflation rate is **more** likely to be determined by **domestic** or external factors.

Suggested Introduction

Briefly state how inflation rate is measured.

Identify the possible **domestic** and **external** factors that could determine inflation rate.

Suggested Body

Suggested Body 1: Using **AD - AS graph** (as a tool of analysis), explain how **domestic** factors cause inflation in an economy.

Possible examples:

- Unintended consequences of demand pull inflation due to 12 billion euros of Government expenditure of goods and services (i.e. Increase in G) is spent on integrating the migrants in the short run OR/AND
- Any other **domestic** factors that affect C, I (i.e. demand pull inflation): Optimism of the Chinese economy in the early 2010 due to its strong economic growth rates, Investor's confidence.

- Any other **domestic** factors that affect X (i.e. demand pull inflation): Central Bank depreciates its currency to boost export revenue

Suggested Body 2: Using **AD - AS graph** (as a tool of analysis), explain how **external** factors cause inflation in an economy.

Examples:

- **Weaker price pressures in the European region** could increase relative inflation rates in Germany and thus erode Germany's export price competitiveness. This would reduce demand for Germany's exports and Germany's export revenue. → Demand pull inflation
- **Rising global oil prices** during the early 2010s results in an increase in the price of imported oil and thus causes imported cost push inflation which in turn affect the inflation rate of open economies that heavily imports oil for factor inputs (i.e. Singapore)

Suggested Body 3: Using **AD - AS graph** (as a tool of analysis) and real world examples, explain how **domestic, external** factors result in the interaction of AD and AS to determine the inflation **rate** (i.e. **EXTENT** of increase in GPL) in an economy.

Possible examples:

- 12 billion euros of Government spending that are intended to increase quantity of labour (i.e. 1.1 million migrants) in Germany and thus shift LRAS to the right coupled with an increase in AD (i.e. an increase in government expenditure on goods and services) in Germany → Domestic factor determines the extent of increase in GPL in Germany → Determine Germany's inflation rate.
- Strong bargaining power of trade unions would determine the possibility of **wage price spiral** → Determine the extent of increase in GPL → Determine the inflation rate.

[Students are expected to use examples from various economies to illustrate when domestic or external factors determine inflation rate.]

Evaluation: Compare whether inflation rate is **more** likely to be determined by **domestic** or external factors.

Possible Considerations:

- **State** of the economy - i.e. increase in AD at classical range which determines the magnitude of inflation rate.
- **Characteristics** of the economy – Small and Open economy is more likely to be determined by **external factors** as compared to large economy
- **Type** of the inflation issue (i.e. inflation or deflation) – E.g. Japan's negative inflation rate for the past two decades is **mainly caused by domestic factors** due to sustained pessimistic outlook of the economy and expectations of future prices to fall.
- **Cause** of the inflation issue (i.e. Persistent rising global oil prices during the 2010s result in most economies in the world to suffer from mild to high inflation rate.)

Suggested Conclusion

An economy's inflation rate like Germany is more likely to be determined by **domestic** factors as it is generally a large economy in terms of its domestic demand. This explains why the Germany's government is willing to spend a hefty sum of 12 billion euros to integrate migrants as the benefits of spending on integrating the migrants are likely to outweigh the opportunity

cost of incurring such large sum of government expenditure. This is especially so as Germany currently lacks labour to increase the productive capacity of the economy which could inhibit Germany from achieving the price stability goal of 2%.

However, for small and open economies like Singapore, her inflation rate is more likely to be determined by external factors given her high dependence on trade of goods and services in most situations. For instance, Singapore's inflation rate is largely attributed by the sharp rise in property prices from year 2011 to 2012 due to the quantitative easing implemented by the United States which encourages hot money to flow to the property market in Singapore. In view of this, Singapore government implemented targeted microeconomic policies such as property cooling measures to prevent these hot money inflows from eroding Singapore's export price competitiveness which is an important driver of Singapore's economic growth.

Marking Scheme: Part (b)

Knowledge, Application, Understanding, and Analysis		
L3	<p>Well developed explanation (i.e. at least 3 factors) and illustration of how BOTH domestic and external factors determine inflation rate (i.e. address the question requirement of inflation rate) in an economy.</p> <p>Analysis is consistently supported with AD- AS framework and examples from different economies.</p>	8 – 10 m
L2	<p>Undeveloped explanation (i.e. at least 2 factors) and illustration of how BOTH domestic and external factors determine inflation rate in an economy.</p> <p>Analysis is supported with AD- AS framework.</p> <p>OR</p> <p>Well developed explanation (i.e. at least 3 factors) and illustration of how EITHER domestic or external factors can cause inflation in an economy.</p> <p>Analysis is consistently supported with AD- AS framework.</p>	5 – 7 m
L1	For an answer that shows a descriptive knowledge of the causes of inflation without clear distinction between domestic and external causes.	1 – 4 m

Evaluation		
E3	For an answer that arrives at an analytically well – reasoned judgment supported by economic analysis (i.e. Decision Making Model Considerations or Cost Benefit Analysis namely contextual benefits over the costs) and clear specific examples to illustrate how various considerations (i.e. state of the economy) determine whether domestic and external factors determine the inflation rate of various economies.	4 – 5

E2	An <u>unexplained judgment</u> (i.e. sum up with respect to the various possible considerations to determine whether domestic and external factors determine the inflation rate of an economy) that is <u>not supported by economic analysis</u> .	2 – 3
E1	For an answer that takes a stand on whether domestic and external factors determine the inflation rate of an economy.	1

Question 5

- 5 It is the economy-wide productivity consequences of technological improvement, not technological improvement per se, that lifts standard of living.

Assess the extent to which higher labour productivity are likely to improve standard of living in Singapore. [25]

Rephrasing the Question (i.e. Unpacking the **ISSUE** of the question)

How far does rising labour productivity **affect** the SOL in Singapore?

Question Requirements:

- Explain the 2 different types of SOL namely material and non-material SOL.
- Explain what is meant by labour productivity.
- Explain how higher labour productivity could lead to higher material and non-material SOL in Singapore. [i.e. the **effects** of higher labour productivity on SOL in Singapore]
- Explain how higher labour productivity may not lead to higher material and non-material SOL in Singapore.
- Explain how **other factors** could be responsible for improving SOL in Singapore.
- **Evaluate** how far higher labour productivity would affect the SOL.

Suggested Introduction

What is labour productivity?

- Labour productivity is measured as output per unit of labour input in a given time period.
- Higher labour productivity could be achieved through either
 - (1) a decrease in the quantity of labour to produce the same amount of output or
 - (2) an increase in output through increasing the quantity and quality of capital, land and entrepreneur as well as the quality of labour while ensuring that the number of labour employed remains unchanged or
 - (3) a combination of both.

Definition of SOL

- The standard of living refers to both the **material** and **non-material** aspects of life.
 - The **material** SOL measures the **quantity** and **quality** of goods and services accruing to each person in the country. Real GDPpc is usually use as a statistic.
 - The **non-material** SOL measures the **intangibles** and focuses on the **quality of life**. This includes the environment, literacy rates etc

Suggested Body

THESIS: Higher labour productivity can help to improve SOL

Suggested Body 1: Using **AD – AS diagram**, explain how higher labour productivity could increase real national income through an increase in SRAS, LRAS and AD which in turn increases in material SOL.

Effects of higher labour productivity on **material SOL**

Higher **economy – wide** labour productivity through an increase in the efficiency of labour (e.g. Singapore’s electronic manufacturing firm Feinmetall trained its workers are also trained to do more than one task, for instance, in both soldering and needle bending¹.) and increase the quantity of capital to complement its labour (e.g. In 2015, Feinmetall designed and introduced a machine that slashed the time taken by more than half to bend needles used in the manufacturing of probe cards.)

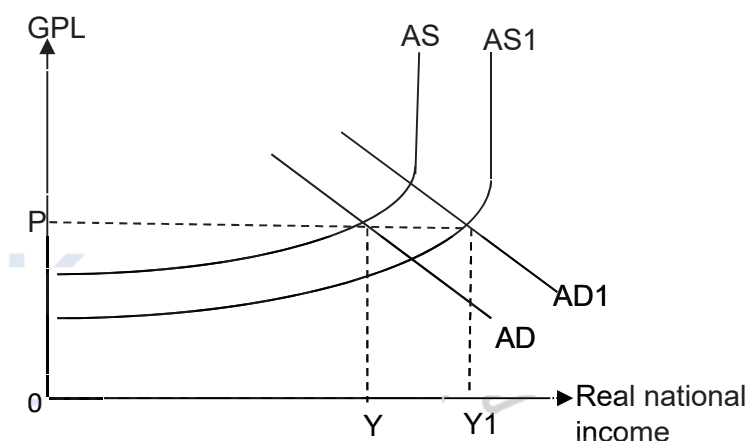
This **economy-wide** labour productivity consequences of technological improvement (as seen from the preamble) results in a more efficient work force in Singapore where the labour productivity could be higher than the corresponding increase in wages. In turn, the short-run AS curve shifts to the right, because the average cost of production is lower as the same level of output can be produced with less resources.

At the same time, higher labour productivity also enables more output to be produced with the same amount of labour. Thus, this increases the Singapore’s productive capacity. The long-run AS curve shifts to the right and thus result in higher potential economic growth.

With higher labour productivity, foreign investors will be more willing to invest in Singapore as they are able to produce more output with a given amount of resources, given that labour is now more skilled and efficient. This increases the expected profitability from investment which increases FDI inflow which constitutes large component of Singapore’s investment expenditure. The increase in AD due to FDI inflow will lead to a multiplied rise in real national income, promoting actual economic growth of Singapore.

The subsequent increase in capital stock and foreign direct investments attracted due to improvement in labour productivity will further improve the AS in the long run as there are more spending on capital goods.

With simultaneous shifts in both AD and AS curves, this would result in the increase in real national income. This can improve material SOL because higher real national incomes improve households’ ability to purchase more goods and services, improve housing and education. A rise in real income over time indicates presumably higher material SOL because of the greater output of goods and services available for consumption.



Effects of higher labour productivity on **narrowing income inequality**

Higher labour productivity through productivity improvement schemes that are accessible to lower-skilled groups (SPUR and Skills Future Scheme), this can also help to improve income mobility of lower income groups where they could move to higher skilled jobs that are paid with

¹ <http://www.todayonline.com/singapore/automation-helps-manufacturing-firm-improve-productivity-10-cent>

higher wages and thus narrow income disparity (**Use labour market diagram to explain and illustrate these effects**) → improve material SOL of lower skilled workers
Suggested Body 2: Explain how higher labour productivity could increase real national income which in turn increases in **non – material SOL**.

Higher labour productivity may also increase the work-life balance of workers in Singapore. If more output can be produced with the same amount of labour hours, workers in Singapore may be able to work less hours and have more leisure time to spend with their family, increasing their non-material SOL.

[Students could discuss other positive effects of higher labour productivity on non-material SOL such as higher expectancy due to higher quality of healthcare, etc]

ANTI-THESIS: Higher labour productivity may not help to improve SOL

Suggested Body 3: Explain how higher labour productivity may not lead to higher material and non-material SOL in Singapore.

Effects of higher labour productivity on widening income inequality

Higher labour productivity may not accrue to all types of labour equally. As the Singapore economy restructure and transform to become a more knowledge-based economy, there will be a segment of workers that may not be as well-trained. These unskilled and semi-skilled workers may also not be able to command high wages and hence may widen the income inequality in society, as shown by the rising Gini coefficient in Spore from 2009 to 2012 (See Figure 1 in Annex A).

Effects of higher labour productivity on structural unemployment in the SR

Higher labour productivity could prompt firms to adopt labour-saving technologies or more capital-intensive production methods for innovation or forced to utilise less labour so as to “economise” on the use of labour which is now relatively more expensive than capital. Higher wages and lack of workers may cause labour intensive firms, especially firms in the retail and construction sectors, to shut down. Technological and structural unemployment will rise as the economy restructure to a more productivity-based economy.

All the above may lead to a fall in real incomes due to the rise in structural unemployment. Hence, the material SOL of the various segments of Singaporeans may be adversely affected.

Effects of higher labour productivity on negative externality in production

If higher labour productivity is achieved by greater use of physical capital that emit negative externalities in production, there could be more noise and air pollution.

Health of the workers may also deteriorate due to rise in stress levels as they could be working harder in the same amount of time in order to be efficient. All these can contribute to a fall in non-material SOL.

Suggested Body 4: Other considerations :

- Government’s commitment to correct negative externalities in production (i.e. carbon tax in Singapore). Although this could improve the non material SOL, it may worsen the material SOL as COP rises with the imposition of taxes
- The methods/policy adopted by the government to achieve higher productivity may have short term pains.
- 1. The Singapore government has been actively implementing policies that are intended to boost economic wide labour productivity like increases in foreign labour levy since 2011 to encourage firms to innovate instead of relying on low wage foreign labour. This would

initially lead to rising COP and hence falling Material SOL. It could have also led to higher price as cost increased. This would lower the real GDPpc. Although it may have helped Singaporeans to have better employment opportunities.

2. Productivity Innovation Credit in year 2014 to promote automation of firms may have led to the rising unemployment as machines replaced labour. This may lead to greater income inequality as well as falling disposable income for labour whose job have been lost to machines.
3. Skills Future Scheme in year 2015 to improve the skills and qualifications of workers through training can help workers obtain better jobs as well as improve their employability. However, most employees would have to take up these courses while working. This may reduce their leisure time as well as add stress and hence worsen their non material SOL.

Suggested Conclusion

In conclusion, higher labour productivity plays an important role in improving SOL in Singapore in the **long run** given the characteristics of the Singapore economy where labour resource is scarce and FDI takes up a large proportion of investment expenditure.

Whether higher labour productivity is able to improve SOL in Singapore depends on a number of factors. If the increase in labour productivity largely come from the use of more machines and technology, there may be rise in structural unemployment as seen in today's context which can hurt SOL of some segments of the population. In addition, SOL in Singapore may also not increase as much if other economies are able to attract FDIs away from Singapore when their productivity rates are relatively higher.

In addition the impact on SOL is difficult to measure as SOL comprise of both material and non-material components. It is important to use a statistic like the Happiness Index that measures the holistic change in SOL to come to a better conclusion of the impact of higher labour productivity on SOL.

Marking Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> For a comprehensive and well-balanced answer that clearly explains how and analyses whether higher labour productivity can help Singapore to improve its SOL, and Excellent rigour in economic analysis and development. Excellent diagrams drawn which are well explained. Excellent attempts at contextualisation. 	15 – 20m
L2	<p>For an answer that explains how higher labour productivity may help to improve SOL in Singapore without either</p> <ul style="list-style-type: none"> discussing how labour productivity may not raise SOL or sketchy explanation of both lines of arguments but with limited application to Singapore context. 	9 – 14m
L1	<p>For a one-sided answer that briefly explains how higher labour productivity can or cannot help Singapore to raise SOL</p> <p>OR A sketchy two sided answer.</p>	1 – 8m

Evaluation	
For an answer that arrives at an <u>analytically well – reasoned judgment</u> from various perspectives (i.e. firms, government) supported by economic analysis (i.e. Decision Making Model Considerations or Cost Benefit Analysis) on the extent to which higher labour productivity is able to improve SOL in Singapore.	4 – 5
An <u>unexplained judgment</u> (i.e. list out all the possible factors that could determine the extent to which higher labour productivity is able to improve SOL in Singapore) that is <u>not supported by economic analysis.</u>	2 – 3
For an answer that takes a stand on whether higher labour productivity is able to improve SOL in Singapore.	1

The United States has run a large deficit on the current account of its balance of payments for several years.

Explain what might cause a persistent and large deficit on the current account of a country's balance of payments. [10]

Discuss the view that policies to deal with such a deficit can be ineffective and potentially damaging. [15]

(a)

Synopsis:

The answer would look into the different causes of current account deficit which include both **price and non-price factors**.

Introduction:

- Define Current Account:
Records receipts from the export of goods and services as well as payments for the import of goods and services during the current period.
- Explain that Current Account consists of visible trade, invisible trade, unilateral transfers and income flows.
- Explain that Current Account deficit implies export earnings of goods & services < import expenditure on goods & services

Body:

Explain 3 factors (at least 1 price and 1 non-price factor) that can cause a Current Account deficit:

(i) **Higher price of domestic goods relative to imports** – could be due to:

- Loss of price competitiveness of goods produced as a result of higher cost of production compared to other producers in countries like China or India (due to loss of comparative advantage leading to the shift of many manufacturing industries to other countries/slower growth in productivity compared to trading partners).

⇒ Impact on the US's exports and imports:

-With a loss in export competitiveness, US might find that their trading partners who used to import from them would switch to buying relatively cheaper China or India made goods. Furthermore, Americans might also stop buying relatively more expensive domestic goods and switch to buying the cheaper imports instead. With the drop in export revenue and increase in import expenditure, the visible balance in the current account will worsen.

- Undervalued Yuan

⇒ Loss of price competitiveness of US exports and a fall in domestic price of imports from China.

⇒ US consumers may thus substitute domestic goods with cheaper China goods. If the demand for imports is price elastic, US's import expenditure will rise significantly.

⇒ China consumers may also reduce their quantity demanded of US's goods as it seems relatively more expensive in Yuan. If the China's consumers' demand for exports is price elastic, US's export revenue will fall significantly.

⇒ Thus, with the fall in export revenue and the rise in import expenditure, US may face a Current Account deficit, ceteris paribus.

- Higher rate of inflation in the U.S.
 ⇒ US's exports become more expensive. Hence, the quantity demanded of US's exports will fall and export revenue fall significantly if the demand is price elastic. US consumers may then substitute domestic goods with cheaper imports. This will raise import expenditure and it will rise significantly as well if demand is price elastic. Therefore, with a fall in export revenue and a rise in import expenditure, US may face a Current Account deficit, ceteris paribus.

(ii) **Changes in taste and preferences** of Americans in favour of foreign goods – could be due to loss of non-price competitiveness.

(iii) **Increase in income** due to continuous rate of growth in the country

⇒ Americans have higher disposable income → higher purchasing power → imports more
 OR

⇒ Americans have higher disposable income → higher purchasing power → Americans would travel more and adversely affect the invisible balance of the current account.

(iv) Other logical reasons such as the presence of FTAs (e.g. United States–Republic of Korea Free Trade Agreement, United States–Colombia Free Trade Agreement) signed between countries which in turn results in more imports (removal of tariffs – cheaper imports), fear of terrorism attacks that affects tourism (fall in exports earning from services), presence of unfair trade practices by other countries (e.g. China's government giving subsidies to the solar manufacturers) etc.

***A combination of both price and non-price factors for Current account deficit over an extended period will result in a persistent and large Current account deficit, ceteris paribus.**

Conclusion:

- There are many causes of a persistent and large current account deficit.
- Government intervention to solve the problem (should find out the root cause of the problem) is important as a persistent and large current account deficit may have undesired effects on other macro goals.

Level	Knowledge, Understanding, Application, Analysis
L3 (8 – 10)	Clear explanation of price and non-price factors causing large and persistent Current Account deficit using examples .
L2 (5 – 7)	Some attempt to explain the causes of Current Account deficit with some examples, but tends to be superficial.
L1 (1 – 4)	Smattering of points and weak in explanation.

(b) Discuss the view that government policies to deal with such a deficit can be potentially damaging and ineffective. [15]

Synopsis:

Students are required to have a two-sided argument in their answers in which the thesis will touch on how government policies to solve CA deficit can be damaging and ineffective while the anti-thesis will look at how government policies that solves CA deficit may in fact be effective. Lastly, students should make a clear and sound judgment on whether they agree or disagree with the view or that their decision depends on certain factors.

Introduction

- Briefly explain why a government should be concerned with a CA deficit and state the policies that a government can implement to solve the problem.

→ The \uparrow in trade deficit will translate into a \downarrow in AD, ceteris paribus. This will result in a fall in RNI through the multiplier effect; might cause other macro problems such as structural unemployment.

→ Policies to solve CA deficit → e.g. Expenditure-reducing measures (contractionary FP and MP), Expenditure-switching measures (Tariffs, Subsidies), SS-side policies

→ However, not all the policies mentioned above are effective to a large extent. It may be potentially damaging and ineffective.

Body:

Thesis: Government policies to deal with CA deficit can be potentially damaging and ineffective

1) Expenditure-Reducing Measures

- Explain how contractionary FP and MP work to reduce CA deficit. Illustrate with diagrams.
- AD falls → GPL falls (assuming the economy is operating at the intermediate range of AS)
- This will result in reducing the domestic inflation rate relative to those in other countries hence increasing the price competitiveness and quantity demanded for exports. Increase in export earnings assuming $PED > 1$.
- Demand for imports is also dampened as incomes are reduced. As demand for domestic goods also fall, producers are free to export more.
- Hence, export revenue rise and import expenditure falls → Improving the CA position.

However,

- The problem arises when the demand for exports and imports is price and income inelastic. The effect will be minimal and will not reduce import expenditure or raise export earnings. This will deem the policy to be ineffective.

- Furthermore, when AD falls (intermediate range of AS), RNI falls as well (conflicting macro goals). If CA deficit continues to rise, it will lead to a further fall in AD and hence RNI which is potentially damaging to the economic growth of the country. Unemployment may also rise in the country (labour being a derived demand).

Evaluation: However, if the country is operating at the classical range of the AS curve, contractionary policies may not necessarily reduce RNI. Instead, it will only reduce GPL and hence lower the domestic inflation rate. This will increase the country's price competitiveness without conflicting with the other macro goals of achieving sustainable economic growth and low unemployment.

2) Expenditure-Switching Measures

- This involves measures to switch domestic expenditures from foreign imports to domestic goods and foreign expenditures towards the country's exports. This can be achieved by making imports relatively expensive and exports relatively cheaper.
- E.g. Tariffs, Subsidies, Quotas, Devaluation (Choose one to explain how it can solve CA deficit)

Devaluation:

→ This is the deliberate lowering of the exchange rate of the home currency in terms of other countries' currencies. Exports will be encouraged and this leads to an increase in export revenue. Meanwhile imports will be discouraged, which leads to a fall in import expenditure. Assuming Marshall Lerner condition holds, $(X - M)$ will ↑.

However,

- It can be potentially damaging and ineffective if there is retaliation from other countries. The country devaluing its currency gains at the expense of trading partners. The latter's exports earnings fall and import expenditure rise. They may retaliate by implementing various protectionist measures e.g. tariffs and quotas and may even counter-devalue their currency.
- Also, if exports contain a large proportion of imported raw materials, the price advantage of devaluation over other foreign goods would be eliminated i.e. the price of exports will not fall due to the more costly import content.
- While devaluation can be effective in correcting a CA deficit, it may be interpreted as a sign of a weakening economy, causing foreign investors to lose confidence in the economy. Devaluation leads to a fall in price of exports and a rise in price of imports and this may cause a serious deterioration in the terms of trade as more exports have to be exchanged for the same amount of imports.
- The burden of overseas indebtedness also increases as more local currency has to be exchanged to obtain foreign currency to repay foreign loans.

Evaluation: May not necessarily be damaging if the country chooses to implement it only for a short period of time and if the country's exports do not contain a large proportion of imported raw materials.

Anti-thesis: Government policies to deal with CA deficit may not be damaging and ineffective

1) Supply-side Policies (To increase both SRAS and LRAS)

- Businesses need to be more competitive in domestic and overseas markets by reducing costs (increasing SRAS). Investment in new growth sectors or in industries with large exporting potential should be encouraged and research and development promoted to increase productivity as this will reduce the productivity gap with other countries (increasing LRAS). Illustrate with diagrams.
- Increase in both SRAS and LRAS will reduce GPL or lower the rate of increase in GPL which will raise the country's price competitiveness (Does not conflict with other macro goals. Both RNI and employment will rise) → Raise export earnings
- Investing in R&D may also lead to improvement in quality of the goods produced → Increase in demand for exports and domestic consumers may also prefer the better quality domestically produced goods than imported goods → Raise export earnings and decrease in import expenditure → Reducing CA deficit

Limitations:

- Governments may not have sufficient funds to subsidize investments in R&D due to a large budget deficit.
- Opportunity costs incurred → Funds used for subsidizing R&D can be used for other areas such as the health and education sectors.
- Time period → For long-run supply-side policies, the effects can only be seen in the LR. CA deficit may continue to rise in the short-run.
- Effects are not guaranteed as R&D may fail.

2) Signing FTAs with other countries

- FTA is a legally binding agreement between two or more countries to liberalise trade and bring about closer economic integration.
- FTAs aim to remove the barriers to trade and investment. They create a freer flow of goods, services, investment and people. FTAs allow the partners to give each other preferential market access.
- With removal of trade barriers, exports may now seem cheaper and there will be an increase in quantity demanded of exports, raising export earnings. Assuming import expenditure remains constant or the rise in import expenditure is less than the rise in export revenue, $(X-M)$ will increase and hence CA deficit will be reduced.
- No retaliation by other countries and this may also seek to achieve other macro goals such as increasing in RNI and employment.

Limitations:

- This policy will only be effective if there is no dumping by participating countries.
- As imports may also be cheaper as a result of the FTA, the rise in import expenditure may exceed the rise in export revenue which may not necessary reduce the CA deficit to a large extent.

Conclusion

- Government policies to deal with CA deficit can be potentially damaging and ineffective but this will depend on several factors.
- These factors include:
 - Which policy the government is implementing?
 - Where is the economy operating at on the LRAS?
 - Does the government have sufficient funds to encourage and subsidize R&D?
 - Time period (Short-run → may not be damaging)
 - Does the government have plans to implement both short run and long run policies?
 - Is the government addressing the root causes of why the country is facing such a large and persistent CA deficit?
- Important for a government to find out the root cause/s before implementing any policy. The government also has to ensure that there will be no conflicting macro goals when implementing these policies and that they should have short-run, long-run, demand and supply-side policies in place.

Level	Knowledge, Understanding, Application, Analysis
L3 (8 – 10)	For a good analytical assessment of how some policies to solve CA deficit can be potentially damaging and ineffective while other policies may be effective and not conflict with other macro goals.
L2 (5 – 7)	For a correct but underdeveloped explanation. Adequate explanation on how some policies to solve CA deficit can be potentially damaging and ineffective while other policies may be effective and not conflict with other macro goals.
L1 (1 – 4)	Ability to identify one or two policies that seek to solve Current Account deficit. Answer lacks depth and content.
E3 (4 - 5)	Clear and sound justification on whether the view holds or does it depend on other factors.
E2 (2 – 3)	Some justification on whether the view holds or does it depend on other factors.
E1 (1)	Mainly unexplained judgments.

