



**JURONG JUNIOR COLLEGE**

**2014 JC2 ECONOMICS 9732 (H2)**

**PRELIMINARY EXAMINATION**

**ANSWER BOOKLET**

## **Suggested Answers for 2014 J2 H2 (9732) Economics Prelim Case Study Questions**

### **Question 1**

- (a) **Compare the change in obesity rates of the males with that of the females between 1992 and 2010 in Singapore.** [2]

Obesity rates increased for both gender [1]. The obesity rate of the males increased more rapidly than that of the females between 1992 and 2010 [1].

- (b) **Using the evidence in the data, explain two reasons that cause the change in obesity rates in many countries.** [4]

- ❖ A rise in income increases purchasing power and the ability to purchase goods and services. This has led to an increase in consumption of various kinds of food and a change in diet towards foods that are high in fat and sugar, resulting in a rise in obesity rates.
- ❖ The types of food produced by food manufacturers also contribute towards increasing obesity rates in many countries. Foods that are heavily processed to suit the tastes and preferences of consumers such as finely milled grains, can be easily digested so the body gains more calories from consuming such foods.
- ❖ The aggressive marketing strategies such as serving bigger portions of meals have influenced the tastes and preferences of consumers towards the consumption of more unhealthy foods and beverages. The growing business and prevalence of fast-food chains in many countries have resulted in the increasing obesity rates.

Any 2 of the above reasons, or others, that are explained.

- (c) **Discuss whether the growth in the size of the fast food industry is desirable.** [8]

The fast food industry has increased in size in terms of sales revenue and market share. This has resulted in both desirable and undesirable effects on different parties in an economy.

#### **Growth in size of fast food industry is desirable**

- ❖ External economies of scale refer to the lower average costs that a firm gains from the expansion of the industry as a whole. External economies of scale accrue to all firms in the industry and are independent of the firm's own output. As a result, the LRAC curve shifts downwards (diagram).
- ❖ As the fast food industry grows, external economies of scale can be realised as a result of the geographical concentration of fast food restaurants in a location. All fast-food chains located in the same area of a certain city could benefit from the creation of a better transportation network. This will facilitate the movement of raw materials from suppliers of factor inputs to the restaurants, resulting in a decrease in the average cost of transportation for all fast food restaurants within the industry.
- ❖ Similarly, when several fast food restaurants are located in one place, all of them derive advantage through the training of skilled labour required for the industry, thus reducing the average cost of training skilled labour for the industry.
- ❖ Moreover, support industries may also begin to develop, such as suppliers of raw materials such as styrofoam boxes and serviettes to the fast food industry, dedicated

fast food potato and/or cattle breeding farms, therefore reducing the average cost of all fast food restaurants within the industry.

- ❖ In addition, external economies of scale can also be reaped if the industry reduces the burden of costly inputs by sharing technology or managerial expertise. This spillover effect can lead to the creation of standards within an industry.
- ❖ As indicated in Extracts 2 and 3, the growing fast food industry penetrates the markets of the developing countries and is a lucrative business. In US, US\$184 billion of revenue was generated in 2010 and 3.9 million people were employed. The industry will also hire workers and creates jobs for the supporting industries like transportation and logistics. This will help to lower unemployment rate in an economy.

#### Growth in size of fast food industry is undesirable

- ❖ However, external diseconomies of scale can also occur. They could stem from inefficient managerial or labour policies and over-hiring by the growing industry. The increase in the demand for factor inputs by the industry will raise the prices of factor inputs such as wages and rental costs, so each fast food restaurant in the industry will experience an increased unit cost. In addition, the growth of the industry in a location may lead to congestion and deteriorating transportation networks. The LRAC curve will shift upwards.
- ❖ (Extract 3) The growth in the size of the fast food industry implies that it is more convenient for people to have meals at the restaurants instead of cooking at homes. The consumption of food and soft drinks that are high in fat, salt and sugar has contributed to the rising obesity rates in many countries, which reduce the productivity of workforce and increase the healthcare costs incurred by the government in treating ailments like diabetes and heart disease.

#### Conclusion

- ❖ The growth of the fast food industry tends to be desirable to the economy as the industry is labour-intensive and many jobs are created. The cost-savings of external economies of scale also tend to outweigh the external diseconomies of scale as there is much potential for growth of the industry in the developing countries (Extract 2). However, over-consumption of fast food is not desirable to the individuals.
- ❖ As indicated by Extract 4, governments need to educate the public on healthy diet and raise awareness of the consequences of fast food intake. The fast food restaurants should also provide healthier menu to consumers.

L2	<p>7 – 8 M: Will explain whether it is desirable with relevant analysis and due reference to the data.</p> <p>Max 6 M for an under-developed two-sided explanation with some reference to the data.</p> <p>Max 4 M for a well-developed one-sided explanation.</p> <p>Max 4 M for an answer without relevant reference to the data.</p>	4 – 8
L1	Will show understanding of the desirability with limited economic concepts or no relevant reference to the data.	1 – 3

- (d) Using a diagram, explain why the consumption of unhealthy food and beverages might lead to market failure. [6]

Over-consumption due to the presence of negative externalities

- ❖ The private costs of consumption of unhealthy food and beverages refer to the harmful effects on the health of the person in the long term, such as risk of having diabetes and heart disease (Extract 1). The private benefits refer to the enjoyment derived from the consumption.
- ❖ The consumption of unhealthy food and beverages generates negative externalities and external costs are incurred by the third parties. As the consumption leads to rising obesity rates, this reduces the productivity of the workforce (Extract 1), thus affecting economic growth adversely.
- ❖ Therefore, there is a divergence between social costs and private costs due to the presence of external costs, so social costs are higher than private costs.

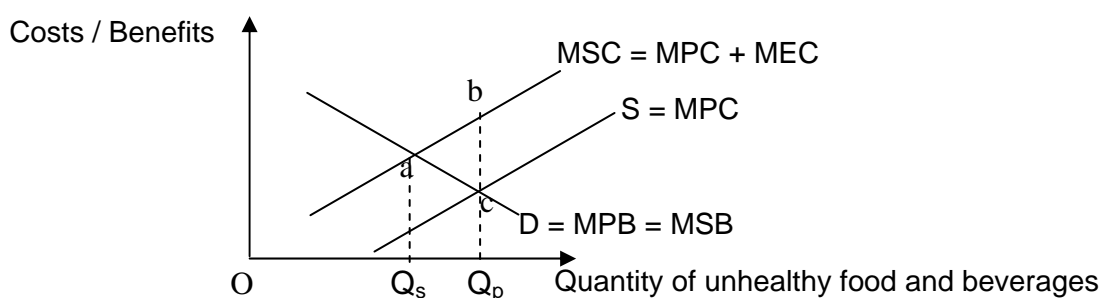


Figure 1

- ❖ Assuming that marginal private benefit (MPB) is equal to marginal social benefit (MSB). Individuals only consider their private costs and private benefits, ignoring the external costs incurred by the third parties. Left to the free market, individuals will consume until  $OQ_p$  level where  $MPB = MPC$  as shown in figure 1.
- ❖ However, the socially optimum level of consumption should be at  $OQ_s$  where  $MSB = MSC$ .
- ❖ The over-consumption of unhealthy food and beverages results in welfare loss as shown by the area  $abc$ , thus leading to market failure.

Over-consumption due to imperfect information

- ❖ Consumers have imperfect information of the external costs. They are not totally aware of how consumption of unhealthy food and beverages would affect the economy adversely. The lack of information leads to over-consumption and allocative inefficiency. Hence, market failure results.
- ❖ In addition, consumers, especially children, may be influenced and misled by advertisement (Extract 4). They do not have perfect knowledge of the nutritional value and benefits derived from the consumption of unhealthy food and beverages. This results in over-consumption of unhealthy food and beverages, thus leading to inefficient allocation of resources and market failure.

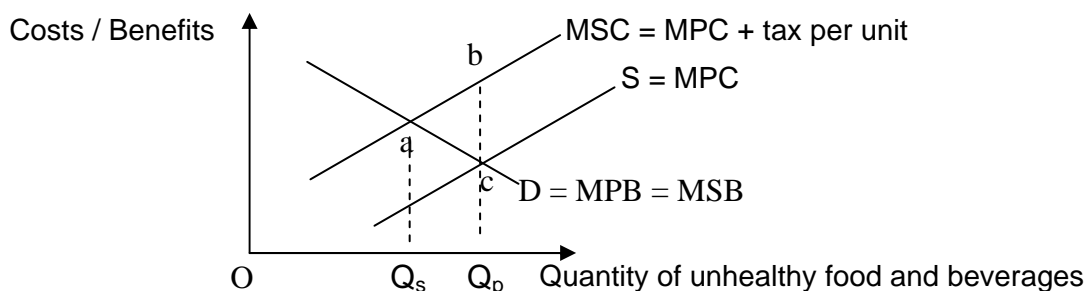
Max 5 M for an answer without using a diagram.

- (e) With reference to the data where appropriate, discuss whether you would recommend the introduction of a tax on unhealthy food and beverages to address the obesity problem. [10]

As mentioned in Extract 4, several OECD countries introduced taxes on unhealthy food and beverages in 2011 as part of their efforts to address the obesity problem.

#### Tax on unhealthy food and beverages

- ❖ The imposition of a tax on unhealthy food and beverages will make consumers internalise the external costs.



**Figure 2**

- ❖ Referring to figure 2, the government can charge a tax per unit that is equal to MEC. This will shift the MPC curve towards the MSC curve. If the MEC is calculated accurately, it will shift the MPC curve to where the MSC curve is and hence attaining an efficient allocation of resources at OQs where  $MSB = MSC$ .
- ❖ The imposition of a tax on unhealthy food and beverages will increase the cost of production and reduce the profit margin, so the incentive to produce will decrease, resulting in a fall in supply. This method may also provide incentives for the firms to produce healthy food and beverages as they would want to reduce their tax payment. In addition, the tax revenue collected by the government could be used to subsidise the production of healthy food and beverages. During the time of Euro Zone debt crisis, a tax on unhealthy food and beverages also provides a source of revenue for the government (Extract 4).
- ❖ However, it is difficult to measure the monetary value of external costs accurately and hence the amount of tax imposed may not be able to attain an efficient allocation of resources. This is because external costs are difficult to define in monetary terms due to the existence of both tangible and intangible costs – for example, the harmful effects of the consumption of unhealthy food and beverages on the economy in the long term are difficult to quantify. If MEC is underestimated, the government is only moving the equilibrium nearer to the socially optimum level, but not fully eliminating the market failure. If MEC is overestimated, there would be over-correction in the market and resource allocation would still not be efficient. In reality, it is not easy to measure the value of external costs incurred by the third parties.
- ❖ Moreover, the tax could cause a fall in production from major industries and force them to retrench workers leading to unemployment. If the higher cost due to the tax is passed on to consumers, this will cause an increase in the price of their products and inflate food prices, raising inflation rate in the economy. As the price affects all consumers, the lower-income group will be hit more heavily by a tax, so a tax on unhealthy food and beverages tends to be regressive (Extract 4).

### Public Education

- ❖ Public education through healthy lifestyle campaign will raise awareness of the nutritional value of the food consumed. This helps consumers to reduce the consumption of unhealthy food and beverages and opt for the healthier alternatives (Extract 4).
- ❖ However, public education incurs high cost in implementation. It is also difficult to monitor whether consumers have changed their consumption pattern (Extract 4). The tastes and preferences of consumers may not be easily changed in the short term.

### Regulations

- ❖ The government may impose regulations on the food companies to avoid unhealthy ingredients used, and to encourage the companies to produce more healthier products. This will reduce the negative externalities generated. In addition, there could be limitations on advertising, so consumers, especially children, will be not easily influenced on the consumption of unhealthy food and beverage (Extracts 2 and 4).
- ❖ This requires the firms to act in a responsible way as their profit margins are affected if consumers are not in favour of the more healthier choices. The costs of monitoring and enforcement are also incurred.

### Conclusion

- ❖ The introduction of a tax on unhealthy food and beverages makes consumers internalise the external costs but it has its limitations. Therefore, the use of tax is recommended provided it is complemented by other measures to change eating habits and address the obesity problem, so as to improve health (Extract 4), so a combination of measures is required to address the obesity problem. In particular, public education should target the males (Table 1).
- ❖ The imposition of a tax is a short-term measure as the long-term measure to address the root causes of obesity problem includes a change in consumption by individuals towards a more healthy and balanced diet. There should be moderate intake of unhealthy food and beverages. It is also essential to promote physical exercise and have a healthy lifestyle in order to address the obesity problem in many countries (Extracts 2 and 4).

L2	Will provide a balanced argument and include the use of tax and other measures. There are relevant economic concepts and due reference to the data.	4 – 6
L1	Will be one-sided argument with limited economic concepts.	1 – 3

E2	Will apply relevant economic concepts to make a judgement based upon a combination of measures, root causes of the obesity problem and measures required etc.	3 - 4
E1	Will make a judgement but the application of economic concepts will be superficial.	1 – 2

## **Question 2**

- (a) (i) **Compare the change in fiscal balances of the UK, US and Euro area between 2007 and 2012.** [2]

In general, all UK, US and Euro area are having fiscal deficits (negative values) throughout 2007 to 2012. (1m)

The proportion of fiscal deficit to GDP has increased the least in Euro area. OR

The proportion of fiscal deficit to GDP has increased the most in the US. (1m)

- (ii) **With reference to the data, discuss whether austerity measures are the most appropriate for Europe's recovery.** [8]

Europe's recovery is to achieve economic growth and higher employment.

- Thesis: Austerity measures more appropriate for Europe

Austerity measures are a combination of direct tax rates increase and reductions in government expenditure in the European economies to cut budget deficits and restore confidence (Extract 5). With higher confidence (higher MEC and expected returns), investment would increase therefore stimulating the level of aggregate demand (AD), increasing national income multiple and increasing the overall level of economic activity and employment in the European economies. In addition, in the long run, a higher level of investment brings about potential growth since quantity of capital increases. Thus leading Europe to recover from the current problems of negative growth and unemployment.

*Limitations:*

However, the use of austerity measures (decreasing G and increasing T) can result in a short run fall in AD and decreases NY multiple times, hindering actual growth. Moreover, the contraction of national income is worsened with the multiplier size being larger than assumed (Extract 5). This is due to the prolonged unemployment, causing savings in most of the European economies to deplete, resulting in a relatively lower marginal propensity to save. Therefore with smaller leakages and a bigger k, the impact of austerity measures on NY, production and hence unemployment will be larger, making it difficult for the government to restore confidence to achieve economic growth and recovery.

- Anti-Thesis: Stimulus measures or other policies more recommended for Europe

On the other hand, the European governments could adopt stimulus (EFP or supply-side policies) instead of austerity measures.

The government can use expansionary fiscal policy by increasing government expenditure (G) on infrastructure or reducing taxes like personal income tax or corporate tax. The reduction in personal income tax results in an increase in disposable income, purchasing power and ability to afford goods and services, hence leading to an increase in consumption (C). Next, the fall in corporate tax increases after-tax profits, thus giving firms a greater incentive to invest so investment (I) is encouraged. The increase in C, I and G would increase aggregate demand (AD), and thus national income will increase by a multiple via the multiplier process, resulting in actual economic growth. The increase in AD and production will create jobs and reduce cyclical unemployment. Additionally, if the government spent on areas such as skills training and upgrading its workforce or

improving the efficiency of infrastructure in the economy (Extract 8), it will help increase productivity and hence increase the productive capacity of the economy, achieving potential economic growth, bringing recovery.

*Limitations:*

According to a(i), the European economies have increasing high fiscal deficits which needed the high tax revenue to pay for those public debts. As such they might not be willing to lower the tax rates. Additionally, Extract 1 stated that further spending will accumulate the debt and it is only a short term measure. Moreover, the business confidence will be low due to the 'flat lined' growth (Extract 5) thus lowering tax rates may not increase I as business outlook is poor. Hence the increase in G and I might be limited, restricting the recovery process.

• Anti-Thesis (II) Any other policy (besides G & T) more recommended for Europe

In addition, Europe could adopt

- exchange rate policy - depreciates Euro dollars, (Extract 6) competitive devaluation but must note that all 17EU countries must agree to a depreciation. A country itself cannot depreciate the Euro dollar.
- trade policy – embrace globalization and strengthen comparative advantage (Extract 8)

*\*monetary policy is not acceptable as it is not mentioned in data*

• Conclusion

In conclusion, the use of austerity measures might be the most appropriate for the European economies currently to recover their growth and employment. This is due to the existing economic situation in which there is a lack of other policies to promote growth. This is primarily because the government has no ability to implement or complement this with other policies. In addition, external demand is very weak due to the weak global economy (Extract 6). There is thus no scope for devaluation to restore competitiveness too.

Lastly, austerity measures short run impact of dampening growth could be reduced if the government could practice reducing expenditure only on selective unproductive industries such as agricultural subsidies and spend on increasing productivity instead (Extract 8). This could decrease their fiscal debts without much compromising on growth.

L2	Top L2 awarded to a reasoned assessment (evaluation) on the policies that European governments should pursue.	7 - 8
	Well-developed explanations and limitations of 2 policies that the European governments can use to achieve growth and employment with reference to the case study evidence.	4 – 6
	Max 4m for answers without reference to case study evidence.	
L1	Smattering of valid points.	1 – 3



- (b) **Explain one possible effect on the capital account of the US when its currency weakened.** [2]

ST Capital

When the US currency weakened, it led to an outflow of hot money as speculators anticipate a further depreciation of the currency, as seen in Extract 6. Similarly, it will also lead to a decrease in short term capital inflow. The increase in short term capital outflow and decrease in short term capital inflow will worsen the KA balance. (2m)

Or

LT Capital

(Extract 6) A weaker USD might encourage foreign investment due to lower costs as it would be cheaper in the eyes of the foreigners to invest in US. This increase in FDIs would result in an increase in long term capital inflow, improving the KA balance. (2m)

- (c) **Explain how competitive devaluations can lead to a stagflation in an economy.** [2]

According to Extract 2, competitive devaluations is a situation when several countries compete against each other to achieve a relatively low exchange rate for their own currency. When an economy devalues its currency, the price of the exports will be lower in foreign currencies and the price of imports will be higher in domestic currency.

Theoretically, since the demand for exports is price elastic due to close global substitutes, quantity demanded for exports will increase more than proportionately, increasing export revenue and promoting growth. However, such gain is only temporary as other trading partners will compete to devalue as well. As such, export growth might not be gained and thus economic growth might be stagnated. (1m)

In addition, devaluation leads to prices of imports being higher in domestic currency. This will invite imported inflation to the country. (1m)

The economy experiences a fall in national income and inflation at the same time; such a situation is called stagflation.

**Comment on how a low productivity growth in UK will affect its economy.**

- (d) [6]

From Extract 7, UK's poor productivity growth could be a result of poor labour or capital productivity.

Internal

Poor labour productivity could result in higher costs of production, higher per unit cost, since longer hours (more wages to be paid) are needed to produce the same output. As such, wage growth increases faster than productivity growth, UK firms will suffer higher average cost; they might pass on the increased cost to consumers in terms of higher prices, thereby discouraging consumption. The increase in the cost of production for firms also results in lower profit margins and less incentives for firms to produce. Short run aggregate supply thus falls resulted in higher general price level (price instability) and lower output level, dampening UK's economic growth. The decrease in production will then cause UK firms to retrench labour, therefore resulting in a decrease in employment.

Poor labour productivity will also lead to the lag in wage increment as firms cannot afford higher wages when their labour is inefficient. As such, consumers who already suffer increased in cost of living will suffer a lower standard of living with stagnating wages.

Poor capital productivity would mean capital equipment (machineries) become less efficient, hence stagnate UK's economic growth as  $I$  is a component of  $AD$ , and  $I$  (in terms of capital efficiency) could also dampen the growth of productive capacity,  $LRAS$ .

### External

The higher cost of production due to low productivity growth will also mean UK exported goods and services are less price-competitive in comparison to its trading partners, especially the G7. Given that demand for UK's exports are price elastic due to the availability of substitutes, the relative more expensive exports will cause a more than proportionate decrease in the quantity demanded. This will result in a decrease in UK's export revenue. Similarly with higher prices domestically due to higher cost being passed on, UK consumers might switch from domestic goods to relatively less expensive imports. The demand for imports will thus increase, resulting in an increase in import expenditure in UK. The decrease in export revenue and increase in import expenditure will cause the current account balance to worsen.

The fall in export earnings and rise in import expenditure will also lead to a decrease in demand for Pound and an increase in supply of Pound, causing the external value of the Pound to depreciate. Depreciation in the Pound has serious repercussions on the UK economy as it will invite imported inflation; further increase the costs of production.

In addition, since UK firms earn lesser profits, they will not have the ability to have excess funding for R&D (research & development), innovation and technological advances (Extract 7). Therefore, not only will UK exports become less price-competitive, its quality will not improve too.

The higher cost of production also deters FDI or causing an outflow of long term capital. This will cause a worsening of KA balances. With both CA and KA balances worsening, BOP might suffer a deficit.

### Conclusion / Extent

The poor productivity growth is likely to have significant negative impacts on the macroeconomic goals. Moreover, the relative lower labour productivity when compared to other countries, ranked way below (Extract 7) implies that the fall in  $I$ , FDI and therefore real  $NY$  may be significantly much more.

However, the extent of the above impact eventually also depends on other factors such as strength of UK's exchange rate, prevailing economic outlook and existence of effective government policies that may be more important in determining the impact of macroeconomic objectives.

Lastly, there might be difficulties when measuring and comparing productivity accurately. There is a continuous change in the price of inputs and outputs creating challenges in measuring productivity. Also, it is very difficult to measure the productivity of service sectors because the output of the service sector is intangible.

L2	Well-developed explanation of both the effects on internal and external economy with extent and strong use of case study evidence.	5 – 6
	Under-developed explanation of the effects on internal and external with some use of case study evidence.  Or Well-developed explanation of the effects on either internal or external economy	3 – 4
L1	Smattering of valid points.	1 – 2

**(e) Extract 4 suggests that ‘globalisation should be embraced and not feared.’ Assess the validity of countries practising protectionism in view of this. [10]**

Protectionist measures are policies which distort market forces in order to give a competitive advantage to the domestic industry of an economy. Globalisation is defined as the process through which an increasingly free flow of labour, goods and services, and capital leading to the integration of economies.

Thesis: US practises protectionism is valid in view of globalisation

Globalisation has led to rising competition for both the US domestic firms and exporters resulting in a loss of their comparative advantage. The lower opportunity cost of production due to cheap labour and land costs in developing countries cause US exporters to face falling export-price competitiveness in low-cost manufactured goods, while domestic firms suffer falling demand of goods and services since consumers switch to cheap foreign imports from emerging countries. Net exports will thus fall, causing AD to fall, signaling to domestic firms to cut production, increasing unemployment and worsening its trade deficit (Extract 8).

In view of such cost, it is valid for US to practise protectionism to reduce imports and thus improve the balance of payments and protect domestic production and employment.

*Limitation*

Nonetheless, protectionism is a short term measure to correct a trade deficit as protectionism does not address the root cause of the deficit which may be a lack of export competitiveness according to WTO (Extract 8). US should instead restructure its economy to improve its international competitiveness. Furthermore, protectionism might invite retaliation from trading partners in the long run hence becoming economically self-defeating (Extract 8). Therefore, protectionism may only be valid in the short-run for the US to buy time to restructure its economy.

Thesis: EU practises protectionism is valid in view of globalisation

Globalisation gives rise to greater opportunities for dumping to occur. Dumping occurs when overseas firm sells its product in another country below its marginal cost of production. This causes domestic industries in EU to face unfair competition from China that results in a reduction in domestic output and employment (Extract 8). Furthermore, if China firms are practicing predatory dumping to gain monopoly power and then raise

prices later, it will exploit the EU consumers. Hence the EU government practises of protectionism to protect their local industries from such unfair competition is valid.

#### *Limitation*

However, in the real world, it is difficult to assess dumping. According to WTO, the EU criteria on dumping might be too strict (Extract 8). In fact, China may have the comparative advantage in labour-intensive products due to their abundant supply of cheap unskilled labour and resources, and extensive economies of scale enjoyed from mass production; and hence are able to enjoy lower costs of production, that can be passed on to EU consumers in terms of lower prices, hence increasing their welfare.

#### Anti-Thesis: The practice of protectionism is invalid in view of globalisation

On the other hand, embracing globalisation instead of protectionism brings about many benefits that an economy, such as Germany (Extract 8) enjoys as it integrates into the international economy due to the freer flows of trade, capital, labour migration and spread of technology.

As Germany rode on the wave of globalization, it benefitted from an increase in exports revenue with a larger world market as it specializes in producing their quality goods in which it incurs a lower opportunity cost and has comparative advantage over. Additionally, more foreign direct investment (FDI) will inflow into Germany and thus enjoy an increase in economic growth, employment and living standards. Hence protectionism in the EU and US will deprive these economies to enjoy such gains.

Lastly, the costs of globalisation could be minimized with other policy instead of protectionism such as supply side policy. In Extract 8, WTO recommended the adoption of supply side policy (both interventionist and market oriented) to improve on EU and US productivity and efficiency so as to regain their comparative advantages. Hence, supply side policy allows the benefits of globalisation to be gained while minimize the costs of globalisation, unlike protectionism that blocks off costs as well as gains.

#### Conclusion / Evaluation

All in all, to a large extent, countries practise protectionism in view of globalisation is not valid as it is just a short-run measure with doubtful gains and high costs.

Although with the increasing degree of interconnectedness of countries, protectionism may be valid should unfair trade practices occur, or adjustment of time needed, it cannot be sustained in the long run due to the inefficiency that it can bring and the overall lower welfare for all countries.

More importantly, as EU and US are major economic powerhouse in the global economy, it is important for these governments to work together to embrace globalisation as protectionism will only hold back economic growth for all countries.

L2	Well-developed explanation of both protectionism can be valid and invalid in view of globalization for the EU, US and Germany, with strong use of reference to case study data.	4 – 6
L1	Under-developed explanation of both protectionism can be valid and invalid in view of globalization for the EU, US and Germany, with some	1 – 3

	<p>use of case study evidence.</p> <p>Or</p> <p>Well-developed explanation of either protectionism can be valid or invalid in view of globalization for the EU, US and Germany, with some use of case study evidence.</p>	
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E2	Substantiated judgment on the degree of validity of protectionism in view of globalisation for the different economies, supported by evidence from case.	3 – 4
E1	Overall judgment not well-supported by evidence from case.	1 – 2

## **Suggested Answers for 2014 J2 H2 (9732) Economics Prelim Essay Questions**

### **Essay Q1**

**Globalisation has resulted in rising incomes and technological advancement in many countries.**

**Discuss how the combination of these recent developments might affect the revenue earned from the sales of different types of goods and services. [25]**

<b>Knowledge, Application, Understanding, and Analysis</b>		
L3	For a well-developed explanation of how the combined effect of demand and supply forces (different extents of shifts in demand and supply) affect sales revenue of different types of goods and services. With consideration of elasticity concepts (i.e. PED and YED), and their relevance in influencing market equilibrium. Analysis is supported with examples.	15 – 21
L2	For an under-developed answer that gives an explanation of how rising incomes and technological advancement affect the demand and supply of different types of goods and services. With consideration of 1-2 elasticity concepts (PED and/or YED) and their relevance in influencing market equilibrium.	9 – 14
L1	For an answer that shows descriptive knowledge of how rising incomes and technological advancement affect the demand and supply of different types of goods and services.	1 – 8
<b>Allow up to 4 additional marks for evaluation</b>		
E2	For an evaluative assessment based on economic analysis.	3 – 4
E1	For an unexplained evaluative assessment, or one that is not supported by economic analysis.	1 – 2

## Introduction

Sales revenue is calculated as the product of price and quantity. The combination of the effects of rising incomes and technological advancement will affect the demand and supply of different types of goods and services, and hence the sales revenue earned.

### Direction and magnitude of impact due to change in S (use PED)

Technological advancement leads to an increase in efficiency and productivity, leading to a decrease in cost of production, and an increase in supply for goods and services, shown by a rightward shift in the supply curve from  $S_0$  to  $S_1$  in Figure 1.

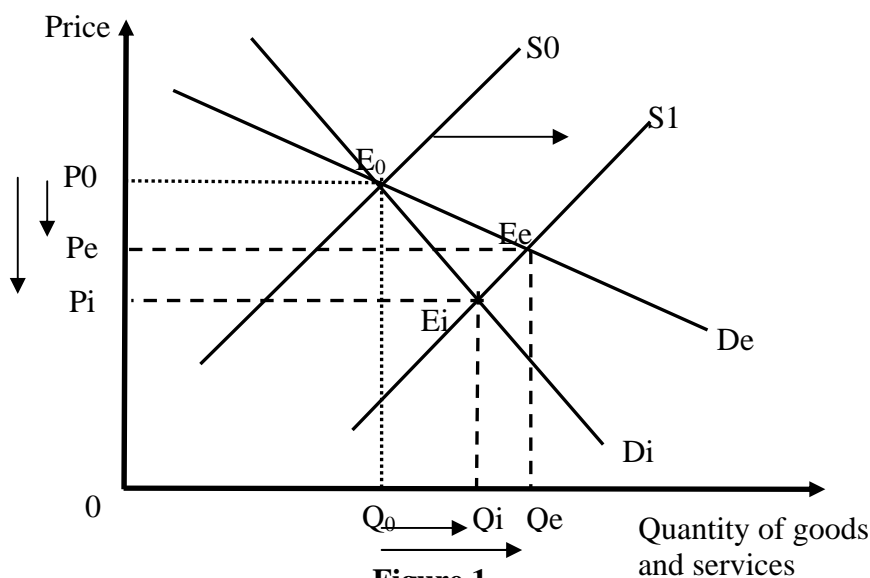


Figure 1

#### Consider goods and services with $PED > 1$

Sales revenue for goods and services with price elastic demand will increase. Such goods and services have availability of close substitutes. For example, goods such as high-end model Mercedes cars, and services such as first-class SIA flight services, have many other close substitutes, and are also considered as luxury goods and services.

From Figure 1, equilibrium quantity of goods and services with  $PED > 1$  increases more than proportionately from  $Q_0$  to  $Q_e$ , and equilibrium price decreases less significantly from  $P_0$  to  $P_e$ , resulting in an **increase in sales revenue from  $0P_0E_0Q_0$  to  $0P_eE_eQ_e$** .

#### Consider goods and services with $PED < 1$

Sales revenue for goods and services with price inelastic demand will decrease. Goods such as agricultural produce, and services such as basic hair salon services, have few close substitutes, and are also considered necessities.

From Figure 1, equilibrium quantity of goods and services with  $PED < 1$  to increase less than proportionately from  $Q_0$  to  $Q_i$ , and equilibrium price decreases more significantly from  $P_0$  to  $P_i$ , resulting in a **decrease in sales revenue from  $0P_0E_0Q_0$  to  $0P_iE_iQ_i$** .

### Direction and magnitude of impact due to change in D (use YED)

The increase in income will increase consumers' purchasing power and their ability to spend, thus increasing the demand for normal goods and services. The demand for normal goods and services has a positive relationship with income.

#### Consider goods and services with $0 < YED < 1$

For necessity goods and services such as agricultural produce and basic hair salon services, the demand is income inelastic ( $0 < YED < 1$ ) and the increase in demand from  $D_0$  to  $D_1$  due to the increase in level of income is less than proportionate. This leads to an increase in price from  $P_0$  to

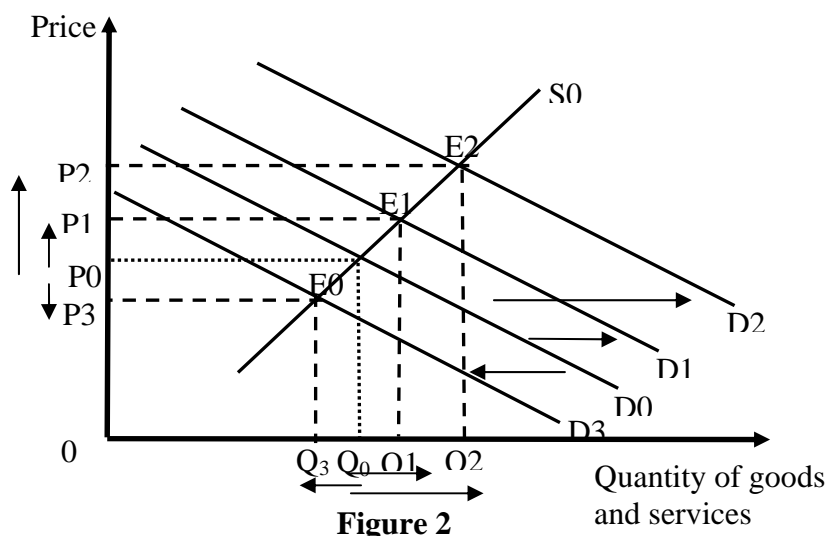
$P_1$  and increase in quantity from  $Q_0$  to  $Q_1$ . Hence, sales revenue **increases from  $OP_0E_0Q_0$  to  $OP_1E_1Q_1$** .

Consider goods and services with  $YED > 1$

For luxury goods and services, such as high-end model Mercedes cars, and first-class SIA flight services, the demand is income elastic ( $YED > 1$ ). The increase in demand from  $D_0$  to  $D_2$  due to the increase in level of income will likely be more than proportionate. This leads to an increase in price from  $P_0$  to  $P_2$  and increase in quantity from  $Q_0$  to  $Q_2$ . Hence, sales revenue **increases from  $OP_0E_0Q_0$  to  $OP_2E_2Q_2$** .

Consider goods and services with  $YED < 0$

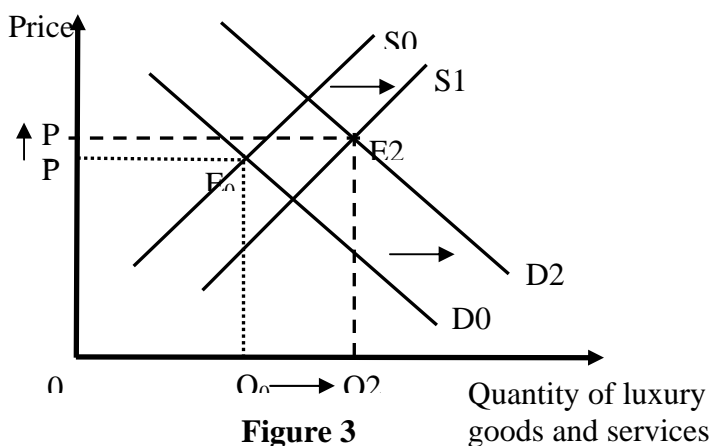
For inferior goods and services, such as black-and-white televisions and low-end hair salon services, with negative income elasticity ( $YED < 0$ ), the increase in level of income will cause demand to decrease from  $D_0$  to  $D_3$ . This leads to a decrease in price from  $P_0$  to  $P_3$  and increase in quantity from  $Q_0$  to  $Q_3$ . Hence, sales revenue **decreases from  $OP_0E_0Q_0$  to  $OP_3E_3Q_3$** .



**Figure 2**

### Likely combined impact of recent developments

Luxury goods and services that have availability of close substitutes are price elastic in demand, thus there is an increase in sales revenue when cost of production decreases due to technological advancements. They are income elastic in demand, thus a large increase in sales revenue when income level increases. From Figure 3, assuming increase in demand is more than increase in supply, the likely combined impact is an **increase in sales revenue from  $OP_0E_0Q_0$  to  $OP_2E_2Q_2$** .

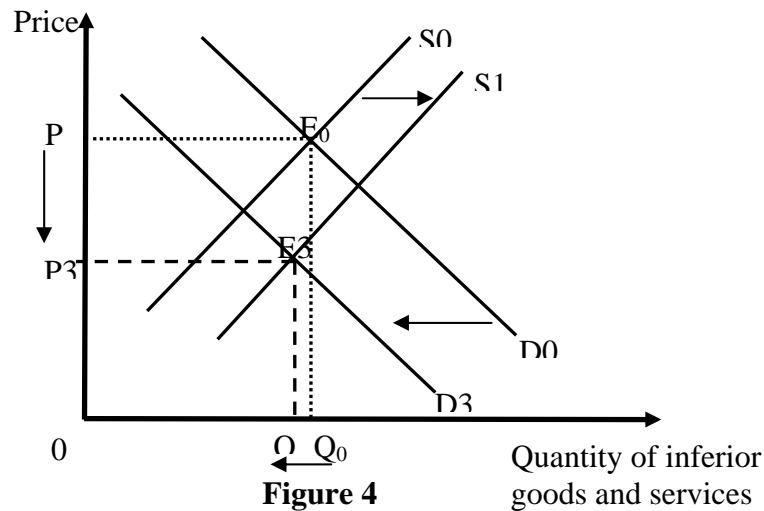


**Figure 3**

Inferior goods and services that have availability of few substitutes are price inelastic in demand, thus there is a decrease in sales revenue when cost of production decreases due to technological advancements. They have negative income elasticity, thus a decrease in sales revenue when income level increases. From Figure 4, assuming decrease in demand is more than increase in



supply from  $S_0$  to  $S_1$ , the likely combined impact is a **decrease in sales revenue from  $OP_0EQ_0$  to  $OP_3EQ_3$** .



Necessity goods and services that have availability of few substitutes are price inelastic in demand, thus a decrease in sales revenue when cost of production decreases due to technological advancements. They are income inelastic in demand, thus an increase in sales revenue when income level increases. Hence the likely combined impact on sales revenue is **indeterminate**.

#### **Evaluation/Conclusion**

The above analyses are based on the assumption of *ceteris paribus*. However, in reality, there are other factors that take place simultaneously. In addition, data collected may not be accurate as they may be outdated and unreliable.

## Essay Q2

- 2a) Explain why some markets tend towards oligopoly. [10]  
 b) Discuss the strategies used by oligopolistic firms to increase profits and the effects of these strategies on society. [15]

### Part (a)

Knowledge, Application, Understanding and Analysis		
<b>L3</b>	Well-developed explanation of the various reasons why some markets tend towards oligopoly.	<b>7 – 10</b>
<b>L2</b>	Under-developed explanation of the various reasons why some markets tend towards oligopoly.	<b>4 – 6</b>
<b>L1</b>	For an answer that shows a descriptive knowledge of the reasons why some markets tend towards oligopoly.	<b>1 – 3</b>

### Part (b)

Knowledge, Application, Understanding and Analysis		
<b>L3</b>	For a well-developed answer that shows the strategies for oligopolies to increase profits and the effects of these strategies on society.	<b>9 – 11</b>
<b>L2</b>	For an under-developed answer that shows the strategies for oligopolies to increase profits and the effects of these strategies on society.	<b>6 – 8</b>
<b>L1</b>	For an answer that shows a descriptive knowledge of the strategies to increase profits and its effects on society.	<b>1 – 5</b>
Evaluation		
<b>E1</b>	For an unexplained judgement that is not supported by economic analysis	<b>1 - 2</b>
<b>E2</b>	For an evaluative judgement that is supported by economic analysis	<b>3 - 4</b>

## **2a) Explain why some markets tend towards oligopoly.**

**[10]**

### Introduction

Oligopoly is a prevalent market especially in such industries like the aircraft manufacturing industry, petrochemical industry, paint industry, supermarket chains, pharmaceutical industry, telecommunications etc.

Body: Explain why the production of goods and services in some markets tend towards oligopolistic in nature.

### **High entry barriers**

Some firms tend to have high barriers to entry. This leads to the presence of few large oligopolistic firms. An effective barrier for new firms to enter the industry is substantial economies of scale. The production of some goods involves very high initial fixed costs. Examples are the telecommunications industry and the manufacturing of aircrafts. For the production of such goods, the larger the output the greater is the economies of scale enjoyed by the firm. Since a handful of firms are sufficient to supply the entire market demand, quite naturally, there will only be a few firms in such industries.

The high entry barriers allow such firms to earn supernormal profits in the long run. Having the financial strength would make it easier to block the entry of new firms. Such firms can also adopt limit pricing or predatory pricing to further keep out competitors. Their huge profits allow them to cut prices drastically to drive out competitors. Besides, huge profits allow such firms to spend generously on R&D. Hence the presence of high entry barriers results in some firms becoming oligopolies.

### **Globalisation**

With increased globalisation, many domestic firms are threatened by the entry of big foreign firms or MNCs. Bigger firms have a competitive advantage in terms of pricing. In order to compete with foreign firms, domestic firms have to merge. A merger would safeguard their survival as well as to allow them to compete more effectively. Hence globalisation has increased the tendency for mergers and the formation of oligopolies.

### **Changing nature of demand**

Consumers still yield considerable power over what types of goods to be produced. With high purchasing power, firms cannot ignore what are their tastes and preferences, which very often are ever changing. So firms that have the superior financial resources could constantly launch new and better products. Product cycles become shorter and firms too have to spend increasing amount on advertising to lure the customers. Big firms thus have an advantage. Hence some firms tend towards oligopolies as they are able to thrive better in the face of changing nature of demand.

### **Existence of network goods**

In a knowledge-based economy, the existence of network goods may shift firms towards the oligopoly model. A network good is a good whose value increases as the expected number of units sold increases. Examples of such goods are telephones and software. Owning a telephone is useful only if many others own one as well. An example of a network service is WhatsApp network.

### **Government Policies**

Lastly, changes in the government's economic policies may sometimes result in firms tending towards oligopolies. Most governments tend to favour oligopolies instead of monopolies as it is believed that firms faced with competition will be more innovative and cost efficient. This has thus resulted in previous monopolies now becoming oligopolistic markets, supporting the point that oligopolies are appropriate to explain the firms in these industries.

### **Conclusion:**

There are a number of industries which are oligopolistic in nature. Many reasons attribute to the tendency for firms to become oligopoly and these are related to their characteristics of having high barriers to entry and the nature of demand for products in such markets.

**2b) Discuss the strategies used by oligopolistic firms to increase profits and the effects of these strategies on society. [15]**

Discuss the strategies used by oligopolistic firms to increase profits

Oligopolistic firms try to increase their profits and market share by using different strategies to compete with each other. This is generally divided into pricing and non-pricing strategies. The use of such strategies have both positive and negative effects on society, which comprises of producers, consumers and the government.

Pricing strategies involves the use of variations in prices to capture customers from rival firms. One such strategy used is for a firm to lower the price of its product. By doing so, it hopes to attract more customers and capture a larger market share. However, many oligopolistic firms tend not to engage in such pricing competition due to strong mutual interdependence of firms which leads them to lose out when they do so. This can be explained using the case of a competitive oligopolistic firm with the kinked demand curve model. Such a firm prefers not to use pricing strategy. Draw diagram and explain.

Another strategy used by oligopolistic firms to increase profits is to engage in explicit collusion (formal) which is also known as cartel; or tacit collusion (informal).

When the firms in the same industry established a cartel, they are effectively acting like a monopoly. Collectively, they profit maximize when marginal revenue is equal to rising marginal cost. This yield an output  $OQ_0$  and price  $OP_0$  in the following diagram. The members of the cartel will then decide on the allocation of the total market output  $OQ_0$  among them. This is usually based on each firm's current market share.

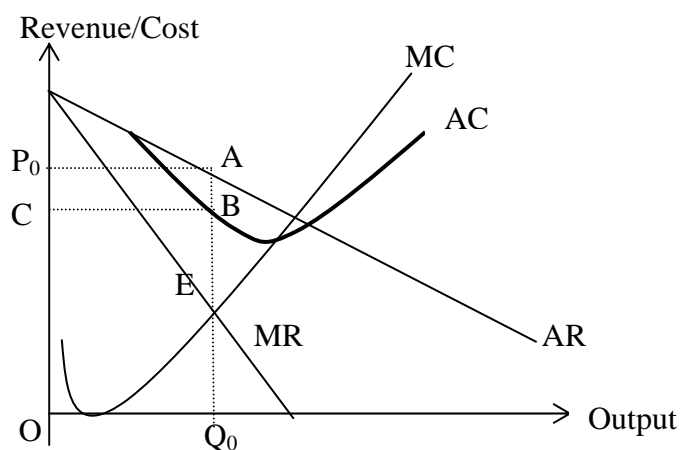


Figure 1: A monopolist making Supernormal Profit

By doing so, firms reduce the uncertainty in terms of competitive price cutting, which will decrease total revenue and therefore profits. However, if one member of the cartel were to cheat by increasing output above its allocated quota, other members of the cartel would follow suit and this pushes the market price down. The cartel will then collapse. In view of this, collusion may not work to increase profits if members tend to cheat.

To increase profits, oligopolistic firms can also engage in non-pricing strategies through greater product differentiation by using either product promotion and/or product development. With product differentiation, the product's differences, be they real or perceived are accentuated when compared with rivals' products. This will not only increase demand and shift the demand curve to the right for the firm, but also make the demand curve less price elastic, as consumers

perceive a lack of substitutes for the product. Product differentiation therefore allows an oligopolistic firm to have greater degree of market power, and to raise prices without losing all its customers.

#### Discuss the possible effects of different strategies on society

The possible effects of different strategies to compete on society are varied. Price competition, if carried out, usually benefits consumers as it normally results in lower product prices. Consumer surplus hence increases. Producers, however, can be disadvantaged, as they may see lower total revenue, and hence probably lower profit levels. Much depends on the price elasticity of demand for the product. If demand for the good is price inelastic, decreasing price will lead to a less than proportionate increase in quantity demanded causing total revenue to fall. Also, if firms see falling profitability, they might lose the incentive to upgrade their services or innovate, which then disadvantage consumers in the long run.

Collusion generally benefits producers, as it usually results in higher product prices and lower output levels if firms seek to maximise the profits of the group as a whole. Hence, consumer welfare is lessened, but producers earn higher levels of profit.

Oligopolistic firms do not achieve allocative efficiency as price is greater than marginal cost at equilibrium. This means that society's valuation of the last unit of the good is greater than the opportunity cost of producing that unit of good. There is misallocation of resources and society's welfare is not maximized. However a lower price will reduce the allocative inefficiency in society resulting in a more efficient use of resources.

Non-pricing strategies such as product development are generally beneficial for all. Consumers benefit from a wider variety of products or better quality goods, while producers benefit from increasing sales due to such products. This increase in revenue can then be channeled for further research and development, to provide further benefits.

However, while informative advertising can be beneficial to producers, excessive persuasive advertising usually leads to wastage of resources when substantial amounts of resources are spent. Furthermore, persuasive advertising can lead to the exploitation of consumers, who might not have complete information about the market. In addition, excessive competition usually results in a substantial increase in the cost of production, which either decreases the profitability of firms, or disadvantage consumers if these costs are passed on in the form of higher product prices.

Non-pricing strategies among firms often result in greater product promotion and marketing. More jobs in marketing and advertisement are hence generated contributing to greater employment and higher national income for the economy. In addition, such competition helps to raise service standards and product range allowing firms to compete with the best global players in the long run. Thus jobs and employment in the long run are safeguarded.

In conclusion, oligopolistic firms use mainly non-pricing strategies to increase profits due to price-rigidities. These strategies have varied effects on society. Whether there are more benefits than costs depends on the nature of the products and the extent in which costs is passed on to consumers. Much also depends on whether government intervention occurs in minimizing the adverse effects that strategies have on society.

### Question 3

3. In 2012, the Singapore government announced the provision of a subsidy of \$1.1 billion to increase bus capacity and bus service levels under the Bus Service Enhancement Programme. Public Utilities Board has also recently announced its plans to work on about 170 drainage improvement projects island-wide using government allocated funds. Discuss whether the use of government funds in the above cases is justified. [25]

#### Marking Scheme

Knowledge, Application, Understanding and Analysis		
L3	Well-developed explanation of reasons to support as well as not supporting the use of government funds in both cases.	15-21
L2	Under-developed explanation of reasons to support as well as not supporting the use of government funds in both cases.	9-14
L1	For an answer that shows a descriptive knowledge of the reasons to support as well as not supporting the use of government funds in both cases.	1-8
Evaluation		
E2	For an evaluative assessment based on economic analysis that provide justifications for a stand.	3-4
E1	For an unexplained assessment that is not supported by economic analysis.	1-2

### 3.

#### Introduction

- Explain that in the free market, forces of demand and supply interact to achieve an equilibrium level of output that allocates resources efficiently.
- However, sometimes market failure occurs which justify government intervention such as through the use of subsidies.

#### Body

#### Explain why use of government funds for improvement in bus services is justified

- One reason for the use of government funds under the Bus Service Enhancement Programme is due to the existence of positive externalities in the provision of bus services.
- Explain that the MPC of producing one more unit of bus service includes operational cost and cost of purchase of buses.
- Explain that the MPB is the gain in additional revenue from providing one more unit of bus service.
- Explain that MPB exist and this includes getting workers to work on time and this helps to contribute to a highly productive workforce which is able to attract investment.
- Due to the existence of positive externalities in providing a good bus transport system, it leads to the divergence between marginal private benefit and marginal social benefit. This is shown in diagram 1 below:

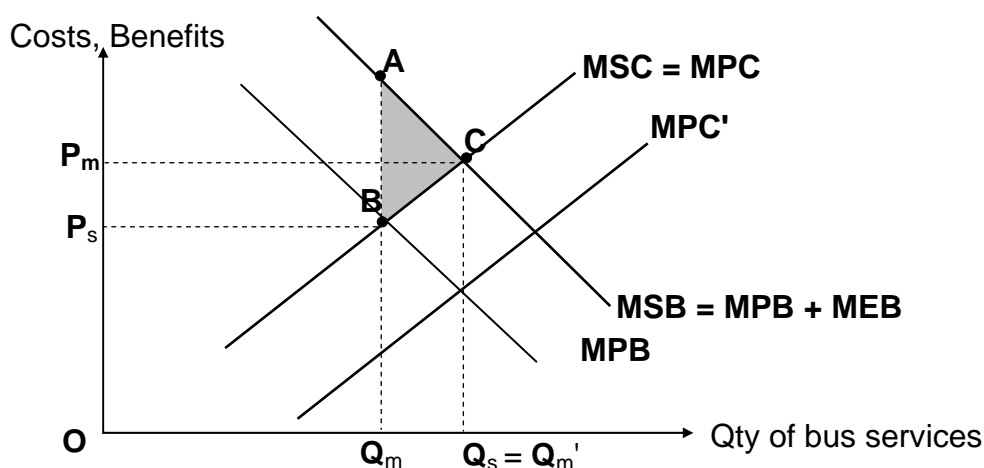


Figure 1: Market Failure due to Positive Externalities

- Explain how under-provision of bus services occurs, leading to an inefficient allocation of resources for bus services and thus the use of subsidy to address this problem.
- Another justification is that in recent years, there have been much complaints about overcrowded buses and MRT stations and MRT breakdowns. These breakdowns cause thousands of workers to be late for work and appointments and a loss in national income. Thus a good alternative and reliable bus transport system could reduce the seriousness of the problem.
- In addition, as bus services is a basic essential service for most working people, for equity reasons and with the government wanting to reduce traffic congestion by discouraging car ownership, bus fares are regulated by the government to ensure that bus fares are capped at affordable prices. This resulted in financial difficulties for bus companies if they were to increase the frequency of bus services and introduce new routes substantially. Thus government is justified to provide the subsidy.

- A one-time subsidy is also justified instead of providing bus services free as the latter can lead to over-consumption and it will also become a heavy burden to the finances of the government. Opportunity cost of government funds would then be too high.

#### Explain why the use of government funds for improvement in bus services is not justified

- However, the use of government funds may not be justified as such expenditure may be deemed to benefit the shareholders of public bus companies. The subsidy lowers the cost of production for the bus companies allowing them to gain more profits.
- The government can also explore other alternatives such as subsidizing private bus companies to provide alternative routes or allowing more competition to improve standards of bus services without incurring government funds.
- Generally, the use of government funds would incur opportunity cost in terms of projects forgone elsewhere in the economy. Worse still, taxes may be raised to provide funds for the government.
- The use of such funds may also not be justified as measuring MEB accurately in monetary terms is difficult and there may be an overestimation resulting in an over-supply of buses which can worsen traffic congestion and cause greater inconvenience to other road users.

#### Explain how the use of government funds is justified for anti-flood drainage improvement projects

- In the case of anti-flood drainage improvement projects, it is a public good as it has the characteristics of non-rivalry and non-excludability in consumption. Using the example of drainage improvement system, explain how it fits into the above characteristics. As a result explain how market failure occurs and hence the use of government subsidies for the projects.
- Another reason is that the construction of anti-flood drainage projects requires huge capital outlay. The private sector may find it difficult to raise such a large sum of money to construct and build them and they may not make profits from such an investment. Thus private firms may not be willing to take the risks of building such facilities.

#### Explain how the use of government funds may not be justified for the use of anti-flooding projects

- However, there is always the question of how far government funding should be used to improve such systems as government funds are limited and flash floods are difficult to avoid in many countries unless one is willing to spend extensively on such projects. Therefore there is a need to weigh the additional benefits of improving existing system with the additional cost that is being incurred.

#### Conclusion

Whether the use of government funds is justified depends on whether benefits outweigh costs in the use of such funds. Much also depends on the budget position that the Singapore government faces and the seriousness of the problems encountered.

Generally, a reliable and efficient bus transport system not only provides a better travelling experience, it would also ensure that Singapore's workforce remains higher productive. In the long run, it would also encourage people to switch to public transport which would not only reduce traffic congestion but also air pollution. Thus it is felt that the use of government funds is justified.

In the case of drainage improvements projects, the decision to use government funds will depend on whether the government has sufficient funds in their budget and the priority accorded to such projects. Singapore's government generally has a budget surplus in most years and there is much fiscal reserves. Flooding problems have also become worse in recent years and floods have caused disruptions for the economy. To maintain Singapore's reputation



as a country that has a conducive environment for business, it is justifiable for the government to spend on such projects to improve the infrastructure of the country.

#### Question 4

- 4 As the world economies recover from the economic slowdown in recent years, it is expected that central banks are likely to raise interest rates soon.
- (a) Explain the possible consequences of a high growth rate on an economy. [10]
- (b) Discuss the extent to which a rise in worldwide interest rate would impact the economic growth of the Singapore economy. [15]

#### Marking Scheme Part (a)

<b>Knowledge, Application, Understanding and Analysis</b>		
<b>L3</b>	Well-developed explanation of the various positive and negative consequences of a high growth rate on an economy.	<b>7 – 10</b>
<b>L2</b>	Under-developed explanation of the various positive and negative consequences of a high growth rate on an economy.	<b>4 – 6</b>
<b>L1</b>	For an answer that shows a descriptive knowledge of the positive and negative consequences of a high growth rate on an economy.	<b>1 – 3</b>

#### Marking Scheme Part (b)

<b>Knowledge, Application, Understanding and Analysis</b>		
<b>L3</b>	For a well-developed answer that shows the extent in which a worldwide rise in interest rate would impact the economic growth of an economy.	<b>9 – 11</b>
<b>L2</b>	For an under-developed answer that shows the extent in which a worldwide rise in interest rate would impact the economic growth of an economy. Some evaluation of the extent of impact is given.	<b>6 – 8</b>
<b>L1</b>	For an answer that shows a descriptive knowledge of the extent in which a worldwide rise in interest rate would impact the economic growth of an economy.	<b>1 – 5</b>
<b>Evaluation</b>		
<b>E1</b>	For an unexplained judgement that is not supported by economic analysis	<b>1 – 2</b>
<b>E2</b>	For an evaluative judgement that is supported by economic analysis	<b>3 – 4</b>

#### **4 (a) Explain the possible consequences of a high growth rate on an economy. [10]**

##### **Introduction**

Economic growth rate is an indicator of the economic health of the country. A rising and positive growth rate shows that the GDP is increasing and this brings about many benefits to the economy. However, when the growth rate becomes too high, depending on the state of economy, it can also bring about adverse consequences on the economy.

##### **1.Explain how a high growth rate leads to a higher standard of living**

- A high and positive growth means a large increase in national income (NY). This will lead to greater purchasing power for its citizens, thus generating a higher consumption level. The increase in their ability to afford means that the people can now enjoy more and better goods and services which leads to higher quantitative aspect of standard of living.

##### **2.Explain how a high growth rate encourages consumption and investment**

- High economic growth increases firms' confidence level. Firms would feel more assured of higher expected profits. This encourages them to expand their businesses and increase their investments. The increase in investments level in an economy would lead to further economic growth as higher production would generate more employment opportunities and hence higher national income. Increase in investment can also help increase the potential growth of the economy and increase its productive capacity.

##### **3.Explain how a high EG leads to a more equitable income distribution**

- Economic growth enables the government to collect a larger amount of direct tax. Elaborate.
- With higher tax revenue and appropriate government intervention, more funds can be channelled to help the low income families and low wage earners. The government can also subsidise public housing, education and healthcare services, making it more affordable for lower income people.

**However when the growth rate is too high, it can also bring adverse consequences in some countries.**

##### **1.Explain the opportunity cost of EG on current consumption**

- Firstly, a high growth rate can arise due to a constant **channelling of resources from the** consumption goods industries into investments in the capital goods industries. Thus, current consumption of goods and services is sacrificed. The forgone current consumption in return for more consumption in the future is the main opportunity cost of growth. There is a trade-off. In addition, too high a growth rate can sometimes result in excess capacity in the country. This results in wastage of resources as resources are not fully utilized.

##### **2.Explain the social and personal costs as a result of EG**

- A high rate of growth through rapid industrialization causes deterioration of the natural environment. Negative externalities such as air and water pollution cause market failure, inefficient resource allocation and society welfare loss. This is made worse if government policies on environmental control are not in place.
- A high growth rate may also come with high personal costs such as increasing the level of stress and anxiety.

##### **3.Explain how a rapid growth may lead to greater income inequality**

- A high level of growth can come at the expense of greater income inequality. Elaborate. This can reduce the quality of life for its people.

##### **4.Explain how a rapid growth may lead to inflation**

When an economy experiences high growth rates and the productive capacity of the country cannot increase as fast, this can lead to demand-pull inflation. Inflation can cause investment to fall and worsen the current account.

- **Overall, a high growth rate can be beneficial or harmful to the government depending on the current economic situation in the country and the type of policies in place to minimize its negative impact.**

**(b) Discuss the extent to which a rise in worldwide interest rate would impact the economic growth of the Singapore economy. [15]**

When there is a rise in worldwide interest rate, especially that in US, interest rate in Singapore is likely to rise too. Explain.

**1a. Explain how interest rates affect investment and national income**

- With a rise in interest rate in Singapore, the level of investment will rise as some of the marginal projects whose returns were unprofitable at higher interest rate now become profitable. This increases aggregate demand.

**Evaluation on the extent**

- However, the extent in which the level of investment may increase is dependent on the interest elasticity of the MEI schedule. Elaborate.
- However, a rise in interest rates may not have a significant impact on investment in Singapore because the majority of the investments are from MNCs which are seldom short of funds. Thus they do not need to borrow locally. Instead the MEI schedule depends on the confidence of foreign investors and their expected rate of return (MEC) from their investment.

**2. Explain how a rise in interest rate affects consumption**

- A rise in interest rate increases the opportunity cost of consumption and encourages savings. It also increases the cost of borrowing and hence discourages consumers from borrowing from banks for big-ticket consumer durables. This reduces aggregate demand.

**Evaluation on the extent**

- *In Singapore, consumption expenditure which constitutes about 40% of our GDP is the largest component of our GDP. Hence any rise in interest rate can bring about a substantial fall in consumption especially if the increase in interest rate is substantial. Thus the impact on aggregate demand can also be substantial.*
- Consumption is also dependent on other factors like expectation of future income, wealth and job security. Even if interest rate were to rise, consumption may not decrease if consumers are optimistic about their future income and wealth and the economy is booming.

**3. Explain how a rise interest rate affects net exports**

- A rise in interest rate relative to that of the world can encourage capital inflow into Singapore as funds move in to seek higher returns. This short term capital inflow could bring about an appreciation of the Singapore currency.
- This appreciation of the currency, assuming Marshall-Lerner condition holds, will cause net exports to fall. This decreases aggregate demand in the economy.

**Evaluation on the extent**

- *In Singapore, due to her import dependence, an appreciation of the currency will help to reduce imported inflation and reduces inflation in the country. To some extent, this will help to stimulate exports as inflation falls.*
- Singapore's economy is very dependent on trade and its exports to drive its economy. Most recessions in Singapore however are caused by a fall in exports which is due to a fall in income level of our major trading partners. Thus a rise in world income level can be a more important factor affecting export growth in Singapore rather than interest rate changes.

**4. Explain how a rise in interest rate affects government expenditure programs**

- A rise in interest rate results in an increase in the cost of borrowing. This will not be beneficial to a government who lack funds for economic and social developmental purposes. As a result, government expenditure may fall which in turn reduces aggregate demand.
- In the longer term, such a measure could reduce infrastructural development, education and training hence reducing potential growth too.

**Evaluation on the extent**

- *In Singapore, however, the existence of a prudent government with fiscal surpluses means that government expenditure is less dependent on interest rates changes.*
- Government expenditure in Singapore also does not depend solely on interest rate - the economic situation takes priority in the level and type of government expenditure.

- From the above, it can be seen that a rise in interest rate generally will cause a decrease in the component of AD resulting in a fall in AD. However, the extent of such a fall depends on other factors that affect these components.
- As AD falls, this will reduce national income through the multiplier process leading to a fall in growth in Singapore. Explain how the multiplier works.

### **Evaluation**

#### **Size of multiplier in Singapore.**

In the Singapore economy, the relatively high values of marginal propensity to import (MPM) and marginal propensity to save (MPS) result in a small multiplier ( $k$ ). Thus the small  $k$  implies that any decrease in aggregate demand will not lead to a significant fall in national income.

In addition, when interest rate increases causing investment and government expenditure to fall, this will also lead to a fall in potential growth as the productive capacity falls.

The above explanation is based on an assumption that the Singapore economy is below full employment. However, if the economy of Singapore is suffering from demand-pull inflation, the rise in interest can help to reduce the excessive aggregate demand and hence reduce inflation instead.

### **Conclusion**

When interest rate rises, when economy is below full employment, this adversely affects actual and potential growth.

However, the extent of this impact depends on:

- the characteristics of the economy,- the magnitude of increase in AD, which in turn depends on other factors that affect the components of AD - government intervention policies

**Question 5**

- (a) Explain the causes of a current account deficit in an economy. [10]
- (b) Discuss the extent to which trade-offs between macroeconomic objectives may arise as a result of policies used to reduce a current account deficit in an economy. [15]

**Part (a)**

Knowledge, Application, Understanding and Analysis		
<b>L3</b>	Well-developed analysis of causes of current account deficit supported by real life examples.	<b>7 - 10</b>
<b>L2</b>	Under-developed explanation of causes of current account deficit supported by some real life examples.	<b>4 - 6</b>
<b>L1</b>	For a descriptive knowledge of causes of current account deficit.	<b>1 - 3</b>

**Part (b)**

Knowledge, Application, Understanding and Analysis		
<b>L3</b>	Well-developed analysis of policies used to reduce a current account deficit and the extent to which trade-offs between macroeconomic objectives may arise, supported by real life examples.  <u>Max 9m</u> without addressing extent of trade-offs	<b>9 - 11</b>
<b>L2</b>	Under-developed explanation of policies used to reduce a current account deficit and the extent of trade-offs between macroeconomic objectives.	<b>6 - 8</b>
<b>L1</b>	For a descriptive knowledge of policies used to reduce a current account deficit.	<b>1 - 5</b>
Evaluation		
<b>E2</b>	For an evaluative assessment based on economic analysis	<b>3 - 4</b>
<b>E1</b>	For an unexplained assessment or one that is not supported by economic analysis.	<b>1 - 2</b>

## Part (a)

A current account (CA) deficit occurs when a country's value of import of goods and services outweighs the value of export of goods and services. As such, export earnings are less than import expenditure. There are many reasons that can cause export earnings to fall and import expenditure to rise resulting in a CA deficit.

One main reason for the fall in export earnings is the relatively higher export prices in the economy compared to those from other countries. For example, if the US economy has a higher inflation rate than its trading partners, exports of goods and services become relatively more expensive and therefore less competitive. Assuming an elastic demand for its exports of goods and services, when price of exports of goods and services becomes more expensive, quantity demanded for exports of goods and services falls more than proportionately. This will result in a fall in export revenue of goods and services.

On the other hand, US's imports of goods and services will be relatively cheaper than home-produced goods and thus demand for imports of goods and services increases and her import expenditure of goods and services will rise. The fall in export earnings and rise in import expenditure might lead to a CA deficit.

Inefficiency in production, structural rigidities and labour productivity growth lagging behind wage increment can cause the unit cost of production to increase, causing US's exports of goods and services to be more expensive and hence losing its competitiveness against the goods and services from another country. This can lead to a fall in export earnings of goods and services and thus a CA deficit.

US's CA deficit can be attributed to an undervalued currency of their trading partners. For example, an undervalued Chinese Yuan makes US exports of goods and services to China more expensive in Yuan. If the demand for US's exports of goods and services by China is price elastic, there will be a more than proportionate fall in quantity demanded for US exports of goods and services. This will result in a fall in US export revenue of goods and services.

An undervalued Chinese Yuan makes China's exports of goods and services relatively cheaper in US\$. Similarly, if US demand for China's exports of goods and services is price elastic, it will result in a more than proportionate increase in the quantity demand for China's exports of goods and services by US. Hence, increases in US import expenditure of goods and services. This result in US's CA deficit with China.

Import expenditure can also increase due to rising demand for imports due to changing tastes and preferences for foreign goods or rising national income. Higher national income will increase the willingness and ability of consumers to afford more imported goods and services.

Developing economies which are starting to industrialize will need to import a large amount of raw materials and machinery. Import expenditure will increase for these economies.

Poor quality, design or marketing techniques of exports can cause a fall in demand for exports of a country which will lead to a fall in export earnings.

All of the above factors will lead to a CA deficit.

## **Part (b)**

### **1. Devaluation**

Devaluation refers to the deliberate attempt by a government to reduce the external value of its currency. For example, assume that the US has a CA deficit and its government decides to devalue its currency to solve the deficit problem.

Devaluation of US\$ makes US exports of goods and services cheaper in foreign currency and its imports more expensive in domestic currency (US\$). If the demand for US exports of goods and services is price elastic, the fall in export prices in foreign currency will result in a more than proportionate increase in quantity demanded for exports of goods and services, *ceteris paribus*. Hence, there would be an increase in its export earnings.

At the same time, if the demand for imports of goods and services is price elastic, the higher import prices will lead to a more than proportionate fall in quantity demanded for imports of goods and services, *ceteris paribus*. Hence, there would be a fall in import expenditure.

Therefore, net exports earnings of goods and services would rise, leading to an improvement in the current account balance, *ceteris paribus*.

#### Trade-off and Extent of the Trade-off

Devaluation of US\$ will result in imported inflation and spill over to a cost push inflation if imports are factor inputs. The extent to which trade-off between macroeconomic objectives may arise as a result of the use of devaluation to reduce US CA deficit would be high if US is dependent on foreign imports as raw materials and intermediate goods to aid further production of goods in the domestic economy.

In the long run, the lack of price competitiveness in US will erode their export competitiveness and will hurt their export earnings. This in turn will cause a CA deficit, which is the original macroeconomic problem which US was trying to address in the first place. The falling export earnings will also affect US's economic growth and increase her current unemployment problem.

A devaluation of the domestic currency will also result in hot money outflow leading to a worsening of the capital account and hence balance of payments. If an economy is an international financial hub it will most likely suffer from capital flight. When the economy's international receipt is lesser than international earnings, it will suffer from a BOP deficit.

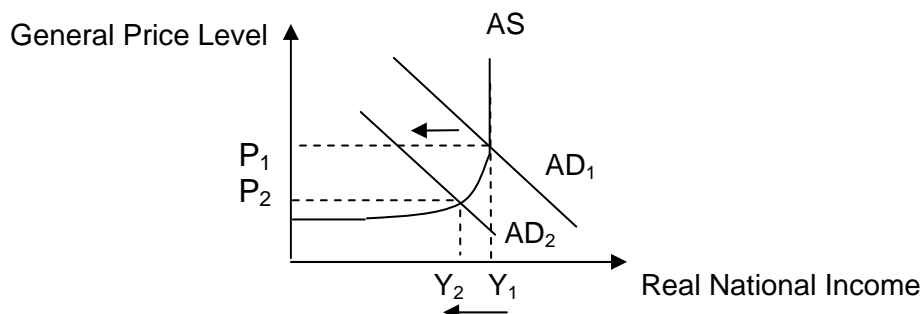
### **2. Expenditure-Reducing Policies**

The US government can also consider using expenditure-reducing or contractionary demand management policies such as fiscal and/or monetary policies.

A contractionary fiscal policy involves an increase in taxes and reduction in government expenditure. An increase in personal income taxes will lead to a fall in disposable income. This will lead to a fall in consumption expenditure. An increase in corporate taxes will lead to a fall in post-tax profits which results in a fall in investment expenditure.

A contractionary monetary policy involves an increase in interest rates. Due to rising cost of borrowing, consumers tend to spend lesser on consumer durables such as cars and firms cut back on investment as marginal projects become less profitable. Further, due to rising interest rate, opportunity cost of consumption is higher, hence consumers save more and spend less.

The fall in government expenditure, consumption expenditure and investment expenditure will reduce the level of AD from  $AD_1$  to  $AD_2$ , resulting in a fall in national income from  $Y_1$  to  $Y_2$  and lower the general price level from  $P_1$  to  $P_2$ .



This will induce a fall in demand for imports of goods and services due to lower purchasing power, hence leading to a fall in total import expenditure thus correcting the CA deficit.

#### Trade-off and Extent of the Trade-off

If the root cause of the CA deficit is due to higher inflation, then expenditure-reducing policies can help to ease the inflationary pressures of an overheated economy without incurring a trade-off between macroeconomic objectives.

However, for an economy that is operating near full employment, the use of these contractionary demand management policies may conflict with other macroeconomic aims of the governments. An excessive fall AD may lead to a recession given the state of economy. Falling national income and production will lead to cut back on need for workers and cyclical unemployment. Given US's large multiplier, the adverse impact on US economy will be huge.

However, for an economy with a weak multiplier, it will not be affected as much. In fact, domestic firms will have more incentive to sell their exports overseas given a shrinking domestic demand.

### **3. Supply-side policies**

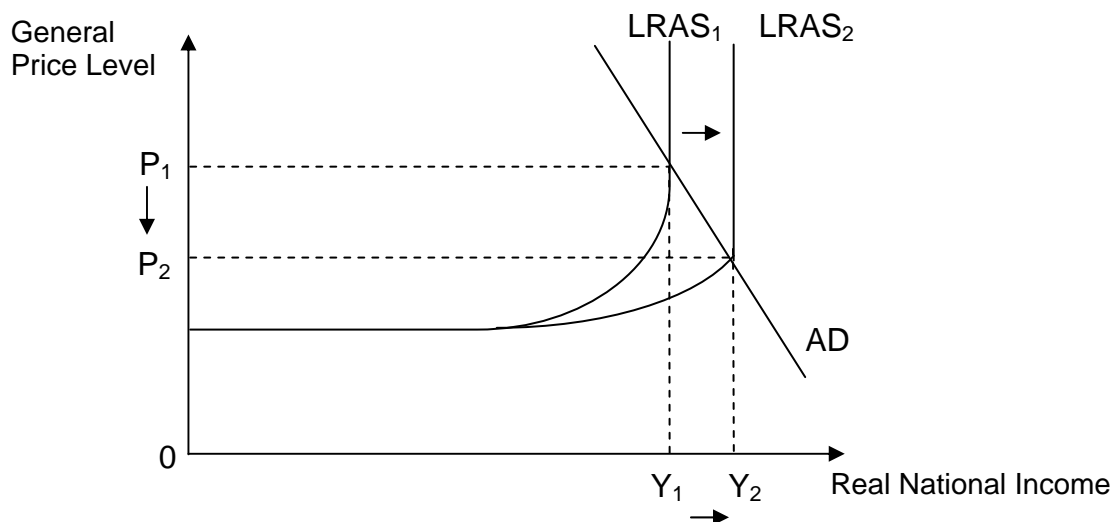
To reduce the CA deficit, the government can introduce short term and long term measures to lower the costs of production and boost the productivity of the factors of production.

Short-run supply side policies primarily target at reducing business costs. Some of the examples will be price and income policies such as price controls, wage freeze, flexible wage system and temporary cut in the Central Provident Fund (CPF) in the case of Singapore. For instance, employer's CPF contribution rate was reduced from 16% to 13% in 2003 during SARS period. This effectively lowered labour costs. Also, other cost cutting measures like corporate tax rebates, utilities rebates and rent rebates were adopted in 1999 to help firms lower cost of production and stay in the black. This will increase firm's profits and give them greater incentive to increase supply. The increase in SRAS will result in actual growth and lower the general price level.

A lower cost of production can also be achieved with a higher expenditure on training of labour. For example, firms could tap on the Skills Development Fund (SDF), as well as the Skills Programme for Upgrading and Resilience (SPUR) which was implemented during the 2009 Budget. These initiatives provide subsidies to firms who sent their workers for re-training or upgrading courses so as to raise labour productivity. The government can design the education system to meet to the requirements of economic development. For example, more vocational schools and technical colleges should be set up to train more mechanics, foremen and technicians



so as to overcome the problem of a shortage of skilled labour. This will increase labour productivity and increase the productive capacity of the economy. The increase in LRAS from  $LRAS_1$  to  $LRAS_2$  will result in potential growth and lower the general price level from  $P_1$  to  $P_2$ .



When the country's exports become more competitive, exports of goods and services become relatively cheaper. Assuming an elastic demand for its exports of goods and services, when price of exports of goods and services becomes cheaper, quantity demanded for exports of goods and services increase more than proportionately. This will result in a rise in export revenue of goods and services.

On the other hand, imports of goods and services will be relatively more expensive than home-produced goods and thus demand for imports of goods and services fall and her import expenditure of goods and services will fall. The CA deficit can thus be reduced.

#### Trade-off and Extent of the Trade-off

The use of supply-side policies does not create a policy trade-off per se. However, if in the case of a budget constraint, especially for a government that is experiencing a fiscal deficit, the implementation of supply-side policy will be limited in its ability to correct CA deficit.

Furthermore, opportunity cost will occur as lesser funds will be available for other purposes which will limit the government's ability to achieve other macroeconomic aims.

#### **Conclusion / Evaluation**

In reality, there are many causes of a CA deficit. As such, a combination of policies is needed to counter these root causes. The extent to which trade-offs between macroeconomic objectives may arise is also dependent on the degree of government intervention, the state of economy and nature of economy as explained in the earlier analysis.

The extent to which trade-offs between macroeconomic objectives may arise as a result of policies used to reduce a current account deficit depends on the government's ability to adopt complementary policies to address the policy conflicts. A government that is already experiencing a fiscal deficit will have difficulty adopting expansionary fiscal-supply side policies.

## Question 6

**Discuss whether globalisation would help a country achieve its macroeconomic goals and a higher standard of living. [25]**

Knowledge, Application, Understanding, and Analysis		
L3	For a well-developed answer that gives an explanation of both positive and negative effects of globalisation on macroeconomic goals and SOL. Analysis is supported with real life examples.	15 – 21
L2	For an under-developed answer that gives an explanation of both positive and negative effects of globalisation on macroeconomic goals and SOL.	9 – 14
L1	For an answer that shows descriptive knowledge of the effects of globalisation with limited attempts to link them to macroeconomic goals and SOL	1 – 8
Allow up to 4 additional marks for evaluation		
E2	For an evaluative assessment based on economic analysis.	3 – 4
E1	For an unexplained evaluative assessment, or one that is not supported by economic analysis.	1 – 2

### Introduction

Globalisation refers to the increased integration of national economies into the international economy through trade, foreign direct investment, capital flows, migration, and the spread of technology. There are four main macroeconomic goals of the government, namely internal price stability, sustained growth, full employment, and healthy balance of payments (BOP). Standard of living (SOL) includes the quantitative and qualitative aspects of living.

### Thesis: Globalisation would help a country achieve its macroeconomic goals and a higher SOL

#### Impact on BOP

Globalisation enhances the ease of flow of goods and services between countries through the exploitation of comparative advantage. Different countries have different opportunity costs in production of different types of goods and services due to differences in factor endowments. For example, China has an abundance of labour, hence a comparative advantage in labour-intensive goods such as textiles. Singapore has an abundance of skilled labour, and capital, hence a comparative advantage in capital-intensive goods such as pharmaceuticals. As such, Singapore exports high value-added goods and services, and imports low-value added goods and services.

Due to the increased trade from expansion of export market, internal economies of scale are reaped by domestic producers in a country, resulting in a lower unit cost of production, improving price competitiveness of exports. Assuming demand is price elastic due to availability of close substitutes, this will lead to a more than proportionate increase in quantity demanded and hence an increase in export revenue. With higher export revenue, *ceteris paribus*, net exports increase, and current account improves.

Globalisation encourages capital flows, leading to an increase in long-term FDI inflow into a country. In addition, globalisation allows international financial integration which leads to greater ease of short-term capital inflows into a country. With both increase in ST and LT capital, capital account improves. With both current and capital accounts improving, BOP improves.

### **Impact on growth and employment**

With the increase in net exports and investment (FDI) in a country, AD increases. Assuming the country is below full employment level, the increase in AD leads to a multiple increase in national income via the multiplier effect, resulting in actual growth. The increase in production will lead to an increase in demand for labour, hence a decrease in cyclical unemployment.

The increase in inflow of FDI and technology transfer leads to capital accumulation. In addition, due to higher occupational and geographical labour mobility, there is an increase in number of foreign talents (with advanced management and marketing skills, together with knowledge and expertise) and foreign workers (to fill up vacancies requiring lower level of skills). These lead to an increase in quantity and quality of capital and labour, resulting in an increase in productive capacity. Hence there is an increase in LRAS, achieving potential growth.

### **Impact on internal price stability**

Globalisation provides more opportunities for sourcing cheaper and better quality imports from other imports. In addition, it entails the removal or reduction of trade barriers, such as tariffs on imports due to signing of FTAs, which lead to a fall in prices of imports, curbing imported inflation.

Also with greater competition from imports, domestic firms in a country will place greater emphasis on improving efficiency as they must keep their costs low in order to remain competitive. The increase in foreign workers inflow also helps to keep labour costs low. Together with the cheaper imported raw materials and intermediate goods, these decrease cost of production that leads to an increase in profits hence giving profit-maximising producers more incentive to supply, increasing SRAS (actual growth), and decreasing GPL (curb cost-push inflation).

### **Impact on SOL**

Globalisation increases the quantitative SOL in a country because increased trade based on the theory of CA allows the country to consume at a point outside the PPC, which means a greater quantity of goods and services can be consumed by its people. With increased employment and national incomes, it implies that people have higher purchasing power. Hence the amount of goods and services available for consumption has increased.

Globalisation also increases qualitative SOL due to wider variety and better quality products consumed. Also due to higher growth, government of the country is now able to collect more tax revenue which they can spend on developing public infrastructure, improving the access and quality of healthcare and education etc.

### **Anti-Thesis: Globalisation would not help a country achieve its macroeconomic goals and a higher SOL**

#### **Impact on BOP**

With globalisation, due to more opportunities for sourcing cheaper imports, there is a decrease in price of imports. Assuming demand for imports is price elastic, there will be a more than proportionate increase in quantity demanded, hence increase in import expenditure of a country. This results in current account worsening. Moreover, loss of CA resulting in relocation of industries also means an outward FDI to other countries, hence capital account worsens. As such, BOP may worsen.

### **Impact on growth and employment**

With globalisation, there can be a loss of CA, and industries in a country will relocate to another one with lower opportunity cost of production. For example, manufacturing firms in Singapore have relocated and outsourced production to low-countries such as Cambodia and China that have

abundance of labour. Retrenched workers then do not have the relevant skills to work in capital-intensive sunrise industries such as biotechnology, resulting in structural unemployment.

Globalisation increases the vulnerability of a small country to external shocks. For example, during the 2008 Global Financial Crisis, Singapore's major trading partner US experiences a recession and a decrease in income level, hence the demand for Singapore's exports decrease, hence export revenue and net exports decrease, *ceteris paribus*. This resulted in a decrease in GDP, leading to negative actual growth and increase in cyclical unemployment.

#### **Impact on internal price stability**

When a country lacks spare capacity and is near or at full employment level, especially for small and open economies, like Singapore, the increase in net exports and investment, and hence AD will lead to demand-pull inflation.

Small economies, such as Singapore, are highly dependent on imported raw materials due to the lack of natural resources. External shocks such as droughts in US and Middle-East Crisis have led to increase in food and oil prices respectively. These led to Singapore suffering from imported inflation.

#### **Impact on SOL**

As labour becomes more mobile, the lower skilled workers in a country have to compete with the abundant supply of cheap foreign workers, leading to a decrease in wages. Whereas, skilled workers are limited in supply, hence wages increase with the relatively higher demand for them. This results in worsening of income inequality, leading to a decrease in SOL of the low-income workers.

The increase in production of output and consumption and greater use of resources can lead to negative externalities such as greater pollution, increased global warming and degradation of the environment. Hence qualitative SOL deteriorates.

#### **Evaluation/Conclusion**

Globalisation would help a country achieve its macroeconomic goals and a higher standard of living to a large extent. It is especially so for small and open countries such as Singapore that has limited resources and is trade dependent. Such achievements depend on the government's ability to implement policies to maximise the benefits of globalisation and minimise its costs.