



SERANGOON JUNIOR COLLEGE

JC 2 Preliminary Examination

ECONOMICS
Higher 2

9732/02

Paper 2 Essay Questions

2013

2 hours 15 minutes

Additional Materials: Writing paper

READ THESE INSTRUCTIONS FIRST

Write down your name and civics group on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

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

At the end of the examination, fasten all your work securely together.
The number of marks is given in brackets [] at the end of each question or part question.

- 1 Most people buy luxury wristwatches for their perceived excellent quality or higher status. Others can only afford cheaper brands.

Critically examine the likely impact of a large fall in cost of production in the midst of a recession on the revenue earned from the sales of different categories of wristwatches. [25]

Question requirement

- Wristwatches range from higher-end luxury brands like Rolex and TAG Hauer to cheaper brands.
- A supply (fall in cost) and a demand (incomes fall in a recession) triggers are given.
- Focus on elasticities of demand – the use of PED and YED would be sufficient, given the triggers.
- Appropriate diagrams are necessary.
- Focuses on the impact of each trigger and combined impact of both triggers on the sales revenue (PxQ) of different wristwatches.
- Answer should conclude with some generalization on the similarities and differences observed in the revenue earned.

Suggested Answer

Introduction

- Wristwatches have different brands, ranging from the higher-end luxury brands like Rolex or TAG Hauer to the mid-range Citizen or Rado and cheaper unknown brands.
- There is a wide variety to cater to the different consumer wants based on their ability & willingness to pay.
- A supply (cost) and a demand (incomes) triggers are given.
- The elasticities of demand – namely price-elasticity of demand (PED) & income-elasticity of demand (YED) – would affect the equilibrium prices and quantities of different brands of wristwatches when there is a large fall in cost of wristwatch manufacture and a fall in incomes.

Body

When there is a large fall in the cost of wristwatch manufacture, ceteris paribus, the equilibrium quantity would increase while the equilibrium price would fall in the market.

The large fall in the cost of wristwatch manufacture could arise from decreases in prices of inputs like labour or metals used in their manufacture. Due to the lower production costs, there would be a rise in supply/ output by manufacturers.

However, given the same rise in supply, the extent of the effect on the revenue would differ for different wristwatch brands, depending on whether they are the luxury, normal or inferior brands.

- Luxury and normal wristwatches are likely to have price-elastic demand where Qdd would rise more than proportionately due to a fall in their prices from the fall in production costs, ceteris paribus.
- In comparison, luxury brands would have a more price-elastic demand than other brands because consumers perceive them to be of excellent quality or of higher status.

A fall in prices means consumers will be more likely to be able to afford them. A fall in their prices would mean a higher real purchasing power (income effect) and consumers would switch from a cheaper substitute (substitution effect), in this case, a normal or even an inferior brand. Although still price elastic, normal wristwatches would face a smaller increase in Q_{dd} compared to luxury brands.

- In the case of inferior wristwatch brands, as real purchasing power is increased by the fall in prices (income effect), Q_{dd} would rise less than proportionately, ceteris paribus as demand is price-inelastic. This is because when their prices fall due to the large fall in costs of production, there are now better substitutes available in the wristwatch market for consumers who had intended to buy inferior wristwatch brands.
- With price-elastic demand for luxury and normal wristwatches, the fall in prices from the large fall in costs of production would be less than the fall in prices in the case of inferior wristwatch brands which have more price-inelastic demand. This is because luxury and normal wristwatch production are likely to use more skilled labour or better quality materials and their costs are likely to fall less than those used in inferior wristwatch manufacture. Hence, the price fall for luxury wristwatches would be less than that for normal and inferior wristwatches.
- With price-elastic demand for luxury and normal wristwatches, the large fall in costs of production would cause increases in revenue as the price falls cause more than proportionate increases in their quantities demanded. In the case of inferior wristwatch brands which have more price-inelastic demand, the fall in price would cause a less than proportionate increase in quantity demanded, resulting in a fall in revenue.

With a recession, incomes will fall, ceteris paribus, and the equilibrium quantity and price would fall more than proportionately for the luxury brand, fall less than proportionately for the normal brand & rise more than proportionately for the inferior brand.

A fall in incomes means consumers will have a lower purchasing power to upgrade from a normal or inferior to a luxury brand or from an inferior to a normal brand. The fall in demand is shown by the leftward shift in demand curve as seen in diagram 2, resulting in a **decrease in revenue for both the luxury and normal brands.**

A luxury brand has a **positive income elasticity of demand** so that as consumers' income falls, there is a more than proportionate decrease in quantity demanded at each price, ceteris paribus. A normal brand has an income elasticity of demand of between 0 and +1 e.g. if income falls by 10%, there is a less than proportionate fall in demand by less than 10%.

The inferior brand has a **negative income elasticity of demand** i.e. demand increases as income falls. This is because it is a better substitute in times of falling real incomes if the consumer is in the market to purchase wristwatches. The inferior brand gains due to the need to cut down on luxury and even normal brands in difficult economic times, resulting in a **more than proportionate increase in demand.**

Combined impact of a large fall in costs in a period of recession when incomes are falling:

Combined impact of decreases in costs and incomes on total revenues of the different brands is indefinite if there is a fall and increase in total revenues from the 2 triggers separately. This occurs in the 3 brands when the decrease in costs and the decrease in incomes are analysed separately. **The actual result on revenue will depend on whether the impact of the fall in costs on total revenue or the fall in incomes on total revenue is greater.**

Conclusion

Different brands of wristwatches would have different price elasticities and income elasticities of demand which would cause the quantities to respond differently in either magnitude or direction or both to the changes in the market such as fall in costs or incomes. The different responses depend largely on how consumers view and value the brands and how they react to the changes in the market conditions, given their taste and preferences for the brands.

Since total revenue is made up of price x sales volume, any factor affecting either component will affect the total revenue. When the impact are in different directions, there will be uncertainties as to whether the overall impact from simultaneous changes in the market variables will increase or decrease total revenue.

Level Marking Scheme

Level	Descriptor	Marks
4	Addresses the question fully, showing good understanding of the underlying economic concepts in the analysis of the wristwatch market	21 -25
3	Understands the requirements of the question but unable to sufficiently examine the combined impact of the triggers on revenues	15 - 20
2	Able to address the requirements of the question but limited in scope or depth	9 - 14
1	Has a limited understanding of the requirements of the question shown either by the omission of/limited discussion of elasticities or revenue or different brands	1 - 8

- 2 Singapore's latest attraction, Gardens by the Bay, comprises an Outdoor Gardens with free entry and two Cooled Conservatories with entry charges. Those living in Singapore, whether Singapore citizens or foreign residents, are charged the same lower rates, compared to tourists.
- (a) Explain whether the above case is an example of price discrimination. [10]
- (b) To what extent is the practice of price discrimination beneficial? [15]

Suggested answer:

PART A

Introduction

Under certain conditions, the monopolist might be able to exploit its market position by engaging in price discrimination. A firm is able to practise price discrimination as long as it has market power.

Price discrimination takes place when a firm sells the **same product or service** at **different prices**, where such price differences **do not** result from **differences in its cost of production**. Not all price differences are examples of price discrimination because if price differences are due to cost differences, then they are non-discriminatory.

The Outdoor Gardens and the two Cooled Conservatories provide visitors rather similar enjoyment of nature and greenery but they are not an example of price discrimination.

Singapore's latest attraction, Gardens by the Bay, comprises an Outdoor Gardens with free entry and two Cooled Conservatories with entry charges. It is likely that the two Cooled Conservatories would have higher costs of production compared to the Outdoor Gardens in terms of the fixed costs for designing and building the physical structures for air-conditioning or the sourcing for different types of appropriate plants which must be from more temperate places as well as variable costs like the air-conditioning and the maintenance and upkeep of the physical structures and the plants. The Outdoor Gardens have free entry not because they have zero costs but their costs, both fixed and variable, are likely to be much lower than the Conservatories. It is possible that the company is waiving the charges for the Outdoor Gardens in order to attract visitors, especially residents, who would be less willing to pay to view greenery similar to those in the region. Hence the price difference is likely to be due to cost differences and is therefore not an example of price discrimination.

Those living in Singapore, whether Singapore citizens or foreign residents, are charged the same lower rates, compared to tourists and they are an example of third degree price discrimination.

Assuming that the enjoyment of visitors to the Conservatories is similar, the price difference is not due to cost differences but due to the nationality and residency in Singapore. Tourists who are on short term visits to Singapore are charged higher rates and are thus subjected to price discrimination. This is because they fulfill the conditions for price discrimination to be practised.

There are conditions that must be present before price discrimination can be practised in the market.

- ***There must be some imperfections in the market***

Market imperfections can be due to imperfect knowledge e.g. consumers' ignorance. Tourists on a package tour would usually pay for such entry fees as part of their travel charges and are usually unaware of the entry charges. In such a situation, the company can control its price when selling tickets to the tour agencies. Tourists who are travelling on their own, if they have not first checked the rates online, would be more willing to pay the higher rates to avoid a wasted trip there.

- ***Different price elasticity of demand for the good exists in each market***

Different visitors have different willingness and ability to pay for the same good or service. The different elasticities of demand may be due to different tastes and preferences, different income levels, different locations and ease and availability of substitutes.

The company will find it profitable to charge a higher price in markets where the demand is price inelastic and a lower price in markets where the demand is price elastic. Tourists are likely to have a more price-inelastic demand for the Conservatories as they would want to enjoy the scenic experience given the limited time they have in Singapore. Citizens and foreign residents would have a more price-elastic demand as they have more opportunities to visit in the future.

- ***The seller must be able to separate the different sub-markets so that no re-selling can take place from a low-price market to a high-price market.***

Markets must be effectively separated such that no resale can occur from a low-price market to a high-price market or from one buyer to another. If resale is possible, then prices in the different markets would tend to be equalized as consumers buy from the low-price market and sell in the high-price market in order to make profits. Thus, the company must have full control over the supply of the product in any part of the market. This condition explains why price discrimination is easier to apply to services like the Gardens by the Bay. There is no possibility of resale of tickets as visitors would need to show proof of their citizenship or residency in Singapore.

Levels Marking Scheme

Level	Descriptor	Marks
3	Able to identify and explain the example using relevant knowledge of price discrimination	7 - 10
2	Unable to explain the example adequately but has good or even excellent knowledge of price discrimination	5 - 6
1	Unable to explain the example but has some knowledge of price discrimination	1 - 4

PART B

Introduction

The practice of price discrimination is beneficial when society benefits in terms of greater welfare from satisfaction or profits. However, if the higher prices charged only increase the monopolist supernormal profits and market dominance, then consumer welfare will be reduced.

Benefits from First Degree Price Discrimination (also known as perfect price discrimination)

- This is an extreme case of price discrimination where the monopolist can negotiate individually with each buyer and sell each **individual unit** of the output at the **highest** price that the buyer is willing and able to pay.
- If the discriminating monopolist is able to discriminate perfectly between every buyer, he could extract all the consumer surplus. If the monopolist could sell the first unit of a good for \$4, the second for \$3, the third for \$2 and the fourth for \$1, this would yield total revenue of \$10, rather than a mere \$4 if all four units were sold at a uniform price of \$1. This clearly shows that if the monopolist can discriminate among the units sold, it can always earn more than when a single price is charged. Producer surplus or welfare would be increased.
- If the monopolist now spends the increased revenue on lowering costs or on developing better products or service, then consumers would also benefit in the long run. Government tax revenue could also be increased with increased profits of the firm. The tax revenue can then be spent to improve consumer welfare through spending on infrastructure, facilities or welfare grants.
- There is allocative efficiency as $P = MC$ and there are no shortages nor surpluses in the market.

Limitations of First Degree Price Discrimination

- Much depends on what the monopolist firm does with its increased revenue arising from the highest prices charged for the different units of a good or service. If the firm retains all the profits for its own use or uses the revenue to pay for its rising costs, then consumers will not be better off. The firm will maximise its producer surplus while consumer surplus becomes zero.

Benefits from Second Degree Price Discrimination

- The discriminating monopolist charges different prices for different **'blocks'** of the same good sold, according to how much they purchase. That is, the monopolist sets a uniform price for an initial specific quantity followed by a concession of a lower price for an additional batch of goods.
- For example, electricity companies in some countries charge a high price for the first so many kilowatts. Additional kilowatts are charged at a much lower rate.

Limitations of Second Degree Price Discrimination

- If lower prices are charged for subsequent units, then it is possible that low-usage consumers are actually subsidising those who are heavy users. This also means some degree of inequity in the charges levied.
- The more prices that can be charged, the greater the sellers' ability to increase its revenue at the expense of consumers.

Benefits from Third Degree Price Discrimination

- The monopolist charges different prices for the same product in different markets that have different degrees of price elasticity of demand for the product in order to increase its total revenue. A higher price charged in the market for consumers with price-inelastic demand will increase its total revenue just as a lower price charged in the market for consumers with price-elastic demand will increase its total revenue as well.
- Third degree price discrimination is the most common form of price discrimination. Price discrimination enlarges the market. For example, different MRT fares are charged to students and adults going to the same destination. In a way, the adults are helping to subsidise the fares for students. This allows certain groups of consumers, like the students, being able to enjoy the good or service at a lower cost. The monopolist, as another example, can charge the richer consumers a higher price and the poorer ones a lower price. This enables the product or service to be within the reach of poorer consumers and increases overall consumer welfare in society.
- Price discrimination is beneficial and may be necessary to help a monopoly cover all its cost when charging a uniform price can result in a loss and final exit from the industry. If the good or service is essential to society, then the exit of the firm from the industry will be detrimental as it results in welfare loss. Hence, to ensure that the monopoly continues to provide the service, price discrimination may be necessary.

Limitations of Third Degree Price Discrimination

- The more prices that can be charged, the greater the sellers' ability to increase its revenue at the expense of consumers.
- Inefficiency in resource allocation - Allocative Efficiency is attained when society produces the right amount of goods and services from society's point of view and hence society's welfare is maximised. This situation is attained when for the last unit of output produced, $P=MC$. The profit-maximising monopolist, by having a high degree of market power, restricts his output and charges a higher price for his product than socially desirable. Thus, monopoly results in an inefficient outcome for the society.

Conclusion

The extent to which the practice of price discrimination is beneficial or not depends largely on the behaviour and purpose of the firm in using its monopoly power in the market. In theory, there are reasons for and against price discrimination and in reality, it has been practised in some markets. Given the tendency of a firm's self-interest in protecting its market power and profits, consumer interests should also be protected to a certain extent. If there is greater consumer awareness of their consumer sovereignty and voice, then the firm's monopoly power can be kept in check. Otherwise, the government needs to intervene to regulate the monopoly power.

Levels Marking Scheme

Level	Descriptor	Marks
4	Able to discuss the extent of the benefits and costs of price discrimination	12 -15
3	Balanced answer which may not be of sufficient depth or scope	9 – 11
2	Has adequate analysis but not balanced in approach	6 – 8
1	Has a limited understanding of the benefits/costs of price discrimination	1 – 5

- 3 The Chinese government believes it has more information to overcome pollution oversight as well as to ensure a steady transition from low-cost manufacturing to a more service-oriented economy.
- (a) Explain how firms' missing information on costs and immobility of factors of production lead to inefficiency in resource allocation. [10]
- (b) Assess whether government intervention to address the above problems will lead to more efficient resource allocation. [15]

Introduction

Market failure refers to a situation where resource allocation concerning what, how, how much and for whom to produce based on the market mechanism fails to achieve efficiency in allocation of resources and equity among various income groups. Essentially, resources must be allocated such that the right type and amount of goods and services are produced at the lowest possible average cost. That is, production is both **allocatively** and **productively efficient** respectively.

Body

Firms' missing information can bring about allocative inefficiency when negative externalities are present like in the case of industrial pollution.

If the manufacturing of chemical products pollutes the environment, this gives rise to **external cost**. Latter include medical bills incurred by residents living near the polluting factories who fall sick due to prolonged exposure to air pollution, fishermen's loss of income due to destruction in marine life. They are the third parties who are not involved in the production/consumption of chemicals but incur cost which are not compensated for and such cost are not reflected in the firms' costs of production. Hence the **true or social cost** of production is underestimated. Resource allocation by market forces alone will result in **overproduction** of the product from society's viewpoint. A **welfare loss to society** is incurred.

The firms' private cost of production consists of cost of labour, raw materials, capital equipment etc. for producing chemicals.

When there are negative externalities in production, the full opportunity cost of production to society > firms' private cost by the amount of marginal external cost.

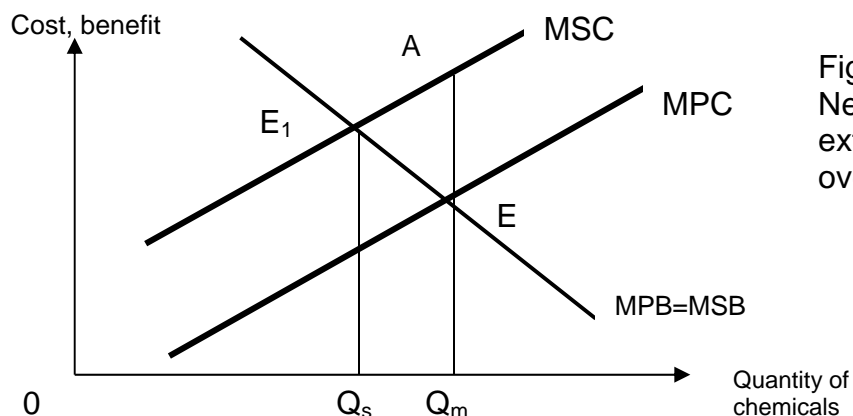


Fig 1:
Negative
externality and
overproduction

In figure 1, Q_m is the **market equilibrium output level** where $MPB=MPC$ as the chemical firms take into account only their private benefit and costs, ignoring all third party effects. In contrast, Q_s is the **socially optimum output level** where $MSB=MSC$. It is attained after taking into account social benefits and costs where society's welfare is maximized as the **benefit society gains from the last unit of this good equals the next best alternative good foregone**. The existence of MEC leads to a **divergence** between MPC and MSC , thus MSC curve is above MPC curve. Overproduction of Q_s Q_m brings about a welfare loss of $EE1A$. This is because for **each additional unit produced beyond Q_s , the costs to society > benefit**. By summing up this excess of MSC over MSB for the additional units Q_s Q_m , there is a deadweight loss to society equal to area $EE1A$. Hence firms underestimated their MPC causing overproduction via the price mechanism.

Immobility of factors of production also lead to inefficiency in resource allocation.

One assumption of the perfectly competitive model is that all factors of production are perfectly mobile where they can move easily from one type of production to another. In reality, this is not always the case. Labour may be immobile occupationally and geographically which result in economic inefficiency.

Occupational immobility of labour can lead to productive inefficiency. Labour is **occupationally immobile** if workers cannot move easily from one job to another because they lack the relevant skills demanded by sunrise, expanding industries. For eg. As consumers shift their demand from low to higher end goods & services, workers should have changed their jobs accordingly. However this may not be possible as some workers lack the necessary skills, resulting in structural unemployment due to a skills mismatch. The resultant unemployment means that the economy is functioning inside its PPC ie. productive efficiency is not achieved.

Geographical immobility of labour also lead to productive inefficiency. Besides moving between occupations, workers may need to move between locations too. But they may be **geographically immobile** due to barriers like family and social ties, huge differences in price of housing and cost of living between regions.

Level	Descriptor
L3	Detailed, accurate explanation of how the 2 sources of market failure lead to inefficiency with clear reference to either productive or allocative efficiency
L2	Generally clear explanation with some gaps in analysis.
L1	Limited content coverage. Displayed conceptual errors with gaps in analysis.

Part B

Assess whether government intervention to address the above problems will lead to more efficient resource allocation. [15]

Introduction

Free market forces of demand and supply brings about efficiency in resource allocation when there is perfect competition and no third party effects. However in reality, these assumptions seldom

exist thus the market alone will not ensure efficiency in resource allocation. There is market failure which can be brought about by externalities and factor immobility. As such, government needs to intervene to bring about higher efficiency.

Body

Due to the overproduction of goods that results in negative externality, government needs to intervene to ensure a more efficient allocation of resources.

- Government could impose a **tax equal to marginal external cost**. A tax on production has the same effect as an increase in cost of production of polluting firms. Effectively, the tax shifts the firm's marginal private cost curve vertically upwards by the full amount of the tax. If the tax is calculated accurately to reflect marginal external cost the firm inflicts on a third party, the firm is said to internalise the external cost. The resulting higher total cost now induces polluting firms to reduce production to an amount equal to OQ_s which is the socially optimum output level where $MSB = MSC$. The welfare loss arising from overproduction is thus eliminated.

Evaluation:

- Many economists favour the tax solution to correct externalities because it still **allows the market to operate**. On one hand, it forces firms to take on board the full social costs of their actions. On the other hand, consumer sovereignty is also protected as consumers who are willing and able to pay a higher price for the good can continue to get it.

Alternatively, the government can use regulation to address the market failure due to negative externalities.

Government regulation can come in various forms as seen below.

(1) Issue tradable pollution permit

- Government sets a quantitative limit on the level of carbon emissions and give carbon permits to each firm/industry.
- Firms which are better equipped to reduce carbon emissions than its allocated amount can supply/sell the credits gained to the less efficient firms so that the less efficient firms can emit over their allocated limit.
- The gradual reduction of total quantitative limit is to create a shortage and firms will react according to their profits motive.

(2) It can order the **closure** of high polluting firms;

(3) Impose heavy **fines** on factories which release carbon beyond the regulated amount;

(4) Pass laws to **regulate** their production behaviour.

For e.g. countries are empowered by Environmental Pollution Control Act to prohibit and made illegal certain types of air, water and noise pollution. Government can also impose legal limits on the emission level which firms must meet. By doing so, it is actually forcing producers to internalize.

Evaluation:

The advantage of (2) to (4) is that they are simple and clear to understand, making them relatively easy to administer. Inspectors or the police can conduct spot checks to see that the law is obeyed.

Government must also intervene to reduce geographical and occupational immobilities so as to cut down on wastage of resources.

- To reduce occupational immobility arising from a mismatch of skills, government can send workers for training, retraining and education to ensure a rise in labour productivity to reduce structural unemployment. Higher productivity will reduce production costs, raise AS, national output hence employment. This is to ensure that workers are equipped with the necessary skills for an increasingly knowledge based economy to ensure their employability.
- To reduce geographical immobility, government can give housing subsidies or rental rebates to make workers more willing to move between regions.

However because government's policies have limitations, efficiency in resource allocation may not come about despite their intervention.

- The main problem of imposing a tax which equals MEC is that there is lack of knowledge. The **damage from pollution is extremely difficult to assess**. In this respect, the government may fail to tax the right amount. An overestimation or underestimation of the size of external cost would mean either a less than or more than social optimum level of output.
- Regulation in its most extreme form ie. closure of polluting firms, is a blunt weapon. It does not incentivise firms to look for environmentally friendly ways of producing their goods. Other problems include the need for manpower to assess the tax. This poses an additional cost to the government.
- In terms of tradable pollution permit, there are high administrative costs associated with monitoring pollution emissions as the number of firms involved is large and there is a need for tough systems in each country to verify and report emissions. In addition, funding for poor countries to develop new technology is a problem.
- Moreover, government's measures to reduce both types of immobilities require considerable funding hence incur opportunity cost as funds could be used in provision of merit/public goods. Time is also needed for workers to be trained thus occupational immobility may not go away quickly.

Also, efficiency in resource allocation may not come about as government can also fail.

Government is a bureaucratic organization where the administration is characterised by excessive routine, red-tape and bureaucracy. In addition, imperfect information and political objectives of the government may create inefficiencies when they intervene in markets Government's slow decision-making can translate into higher cost of production hence consumers would end up paying a higher price for the good.

Level	Descriptor
L4	Thorough & balanced approach with regards to the strengths & limitations of govt intervention. Displayed competency in explanation and evaluation of 3 measures
L3	Had a good knowledge of role of govt intervention in terms of its strengths & limitations. Displayed good understanding of 2 measures well in terms of analysis & evaluation
L2	Inadequate coverage of measures as well as examining the role of govt intervention.
L1	Cursory explanation which lacks elaboration

- 4 Fears are growing that the UK is running the risk of a period of painful “stagflation” – the toxic cocktail of stagnating growth, high unemployment and rising prices.
- (a) Explain the possible factors that can cause stagflation in a country. [10]
- (b) Discuss whether the Singapore government should focus more on achieving low unemployment or price stability. [15]

PART A

Introduction:

- **Define stagflation:** A period of persistent rise in GPL coupled with high unemployment and stagnating or falling real national income.
- **Direction of essay:** This essay aims to explain the factors causing a simultaneous change of rising AD and falling AS leading to rising GPL and falling employment as well as falling real national income.

Body:

One possible factor of stagflation is falling AD.

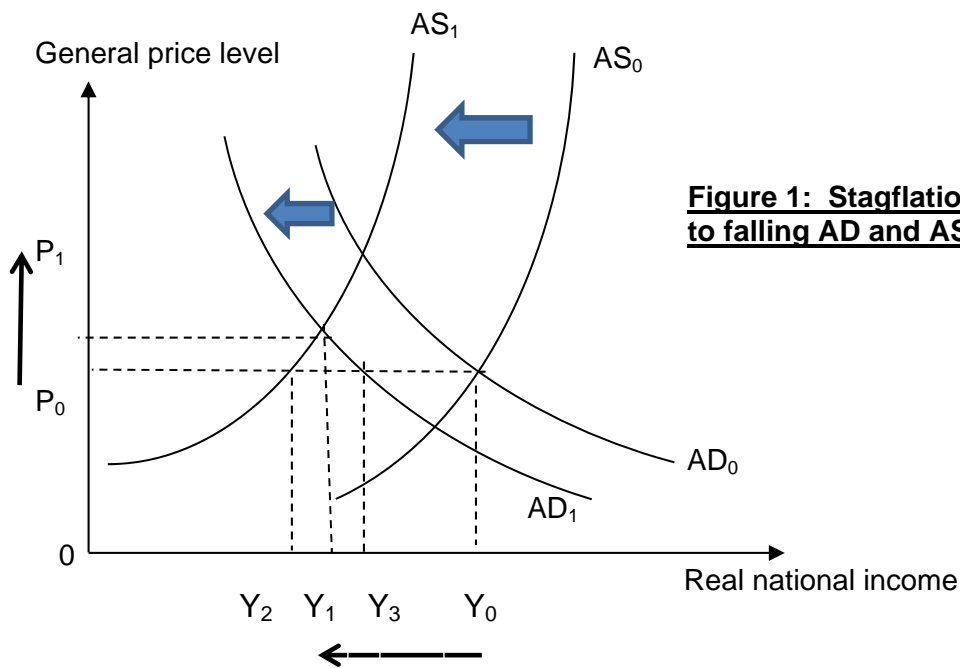
UK's trading partners such as USA may be experiencing economic recession which means there is falling national incomes in USA. This will lead to a fall in purchasing power of their residents which leads to fall in demand for their own domestically produced goods and services as well as foreign produced goods and services such as those from UK. UK will experience a fall in demand for her exports. This leads to a fall in total revenue of her exports. Assuming total expenditure on imports constant, there is a fall in $(X-M)$. Thus, there leads to a fall in aggregate demand. This is represented by a leftward shift of AD curve from AD_0 to AD_1 .

Another factor that could lead to stagflation is rising oil prices which resulted in falling SRAS.

E/E2: Oil is an important input to produce many final goods and services. Oil is traded internationally and is subjected to market conditions as well as production decision by the major oil producing countries, Organization of the Petroleum Exporting Countries (OPEC). Increase in price of oil could be due to OPEC restricting its output so as to raise price to gain higher revenue. Thus, leading to fall in supply of oil and hence, a rise in price of oil. When UK imports oil from these countries, she experiences a rise in costs and hence a fall in profits. UK firms will reduce their supply of final goods and services. There will be a fall in SRAS represented by a leftward shift of SRAS curve from $SRAS_0$ to $SRAS_1$.

Stagflation arises due to fall in AD and a larger fall in AS occurring simultaneously resulting in higher GPL.

When both AD and AS fall simultaneously, assuming the fall in AS is greater with oil prices taking up a huge proportion of total cost in many industries, there will be a shortage Y_2Y_3 at original GPL which exerts upward pressure on GPL. As GPL rises, level of AS rises and level of AD falls, ceteris paribus. GPL continues to rise until the shortage is eliminated. Thus, resulting in persistent rise in general price level of goods and services from P_0 to P_1 and falling real national income from Y_0 to Y_1 . Since there is a fall in production activities due to a relatively larger fall in SRAS compared to fall in AD, there is a fall in employment of resources such as labour because labour is a derived demand. This leads to rising unemployment as well.



Level	Descriptors
3	<ul style="list-style-type: none"> • Thorough explanation of at least <u>one</u> AD and <u>one</u> AS factors causing stagflation in UK • Usage of relevant examples to integrate into analysis to explain the main factors causing stagflation in UK
2	<ul style="list-style-type: none"> • Sufficient explanation of how AD and AS factors cause stagflation in UK • May / may not use relevant examples to support analysis. • Some gaps evident in some of the analysis. • Some conceptual error/s may be evident.
1	<ul style="list-style-type: none"> • Smattering of ideas. • Listing rather than explanation of factors leading to either rise in inflation or a fall in economic growth but <u>not</u> both. • Substantial conceptual errors. • Generally weak answer. Limited application of economic analysis.

PART B

Discuss whether the Singapore government should focus more on achieving low unemployment or price stability. [15]

Introduction

- Every government has four macroeconomic objectives that it seeks to achieve, i.e. sustained economic growth, low unemployment, low inflation and a healthy balance of payments.
- Clarify key terms:
 - (i) Price stability
 - (ii) Low unemployment

Body

Singapore government should focus more on achieving price stability compared to low unemployment rate.

- **External Benefit – Improvement in balance of payments**

Price stability will ensure Singapore's exports remain competitively priced which will generate greater external demand since Singapore's exports are relatively cheaper compared to other countries. At the same time, price of imports will be more expensive and assuming demand of imports is price elastic, quantity demanded of imports will fall more than proportionately. This leads to a $\uparrow \text{TRx} + \downarrow \text{Tem}$ and in turn a $\uparrow \text{net Xs}$ which helps to improve current account.

In addition, price stability in which there is lower inflation leads to lower costs & uncertainty in the country as future projections of costs and revenues are more accurate with price stability. This can help to improve a country's attractiveness as an FDI location. So investors will move their funds into Singapore from other countries.

- **Internal Benefit – Economic growth and low unemployment**

Price stability will maintain the purchasing power of savings if the nominal interest rate paid on savings greater than the rate of inflation. Hence, people will have more incentive to save due to higher returns from savings. This will lead to a \uparrow in the volume of savings and in turn a \uparrow funds available for productive investment. As a result, there will be a \uparrow productive capacity of the whole economy seen by a rise of the aggregate supply and hence potential economic growth is achieved.

However, on some occasions, the Singapore government has changed its priority to focus more on achieving low unemployment rate goal when high unemployment problem is more severe than inflation problem.

For example during recession in Singapore as a result of US sub-prime crisis in 2008, real national output will be contracting and the economy will be operating well below full-capacity. Hence the Singapore government chose to depreciate the currency to stimulate economic growth and achieve full unemployment.

- **Raises the level of employment & SOL**

Low unemployment means that there is a rise in the level of production in the economy. This means that there would be a rise in the demand for labour since demand for labour is a derived demand. Hence, there would be a fall in unemployment. In this sense, there is no conflict between economic growth and low unemployment. At the same time, there would be a rise in people's incomes, which means that their purchasing power has increased. Hence, they are able to buy and enjoy more goods and services, leading to a rise in their material standard of living.

- **Brings about less inequity in income distribution**

Where there is economic growth and low unemployment, there will be an increase in government tax revenues, assuming no change in the tax rates. These tax revenues can be redistributed to the poor in the form of subsidies, hence narrowing the income gap. Hence, there is less income inequity and both higher and lower income groups get to enjoy higher levels of purchasing power leading to a rise in their material SOL.

The possible conflicts in achieving these 2 goals of price stability and low unemployment should be considered as well.

However, the achievement of low unemployment may not be the main focus. This is because its attainment can come at a cost of unsatisfactory BOP. When there is low unemployment, there is a rise in national income. Hence, there is a rise in purchasing power, which would lead to a rise in demand for goods and services, including imports. As there is a high marginal propensity to import due to the lack of natural resources in Singapore, there would a large increase in import expenditure. Ceteris paribus, net exports would fall, which would lead to worsening of the current account. Ceteris paribus, BOP would worsen. However, it is worth-noting that Singapore has thus far been experiencing a current account surplus. In this light, the conflict between low unemployment and worsening BOP may not occur.

Level	Description
L4	<ul style="list-style-type: none"> • For an answer that is able to analyse clearly the extent of government concern by considering the three criteria of the severity of the problem, the characteristics of the economy as well as the existing economic conditions prevailing in the economy.
L3	<ul style="list-style-type: none"> • For an answer that is able to analyse the extent of government concern but lacking in clarity with no clear considerations of criteria to determine the extent of the concern. • Good analysis with some evaluation
L2	<ul style="list-style-type: none"> • For an answer that is able to explain clearly why the government should be concerned with either high unemployment or high inflation and make limited or no attempt to analyse the level of concern by considering at least one factor such as the severity of the problem or the characteristics of the economy. Some conceptual errors in explanation. • Good analysis but limited/no evaluation.
L1	<ul style="list-style-type: none"> • For an answer that shows some awareness of why the government should be concerned with either high inflation or high unemployment but conceptual errors are evident.

- 5 (a) Explain the links between interest rate and exchange rate. [8]
- (b) To what extent does the Eurozone debt crisis affect the Singapore government's decision to continue using the exchange rate as a tool to achieve non-inflationary economic growth? [17]

Part (A)

Intro

The interest rate is the price that borrowers of money (e.g. firms and households) must pay to those who have the money (e.g. banks) for the use of the money. Exchange rate is the price of one currency in terms of another currency. It is the amount of domestic currencies that must be paid to obtain one unit of the foreign currency.

Body

1. Increase in interest rate would lead to appreciation of domestic currency via fall in GPL in the country.

- Increase in interest rates leads to higher cost of borrowing. This in turn reduces consumption, investment and thus AD. A fall in AD leads to a surplus of goods and services, thus creating downward pressure on prices. This leads to a fall in GPL in the country.
- In turn, this translates to a fall in prices of exports and if DD for Spore's exports is price elastic due to many substitutes available, this will lead to a more than proportionate rise in quantity demanded for exports, thus increase in export revenue. Hence, there will be rise in DD for SGD in the foreign exchange market to pay for our exports.
- In addition, with the fall in GPL in the country, assuming domestic inflation of major trading partners are higher, imports are now relatively more expensive leading to a fall in demand for imports, hence fall in import expenditure. This will result in a fall in SS for SGD in the foreign exchange to purchase imports.

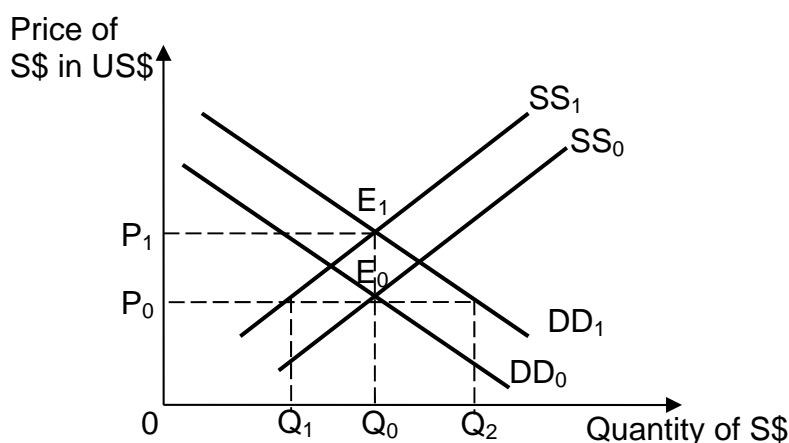


Figure 1: Change in the Exchange Rate

When DD for SGD increases from DD_0 to DD_1 and SS for SGD decreases from SS_0 to SS_1 , this leads to a shortage of SGD in the foreign exchange market at original exchange rate of P_0 , which creates an upward pressure on prices. The adjustment will continue until the shortage is eliminated at E_1 where SGD has appreciated from P_0 to P_1 .

2. Increase in interest rate would lead to appreciation of domestic currency via fall in national income of the country.

- The rise in interest rate which leads to a fall in AD as explained above also leads to a fall in national income of Singapore. This leads to a fall in purchasing power, thus fall in DD for imports from other countries, leading to fall in import expenditure. Hence, there will be a **fall in SS of SGD** in the foreign exchange market, shortage of SGD, creating upward pressure on prices, which leads to an appreciation of SGD.

3. Increase in interest rate would lead to appreciation of domestic currency via hot money flows.

- Increase in interest rates implies higher rate of returns for holders of funds. When interest rates in Singapore increase relative to US, this may attract inflow of hot money to take advantage of the higher rate of returns. This leads to **increase in DD for SGD** in the foreign exchange market.
- In addition, there is less outflow of hot money from Singapore to other countries by current investors who choose to invest more in Singapore. This leads to a **fall in SS of SGD** in the foreign exchange market.
- Both the rise in demand and fall in supply for SGD will lead to a shortage of SGD, creating upward pressure on prices, which leads to an appreciation of SGD.

Levels	Descriptors
L3	▪ Thorough analysis on how the variables are related. Links are clearly shown.
L2	▪ Some analysis on how the two variables are related. Links are not clearly shown.
L1	▪ Superficial analysis on how the two variables are related.

(b) To what extent does the Eurozone debt crisis affect the Singapore government's decision to continue using the exchange rate as a tool to achieve non-inflationary economic growth? **[17]**

Intro

- The MAS adopts the exchange rate policy by allowing a gradual **appreciation** of SGD to achieve a sustained non-inflationary economic growth.
- However, in view of the Eurozone debt crisis which has impact on our macroeconomic goals, it is necessary to assess the relevance of this tool especially when the EU countries are one of our major trading partners.

Body

1. The Eurozone debt crisis may lead to a fall in Spore's production, national income and employment.

- With the crisis, this means that there is a loss of confidence in the EU countries and thus investment falls → fall in AD → fall in national income of EU countries.
- With fall in national income in EU countries → fall in their purchasing power → fall in DD for goods and services including the exports of Spore → fall in TRx of Spore → ceteris paribus, fall in net exports of Spore → fall in AD → surplus → downward pressure on prices → firms have

less incentive to produce → fall in national income. This in turn leads to a fall in employment since labour is a derived demand.

L: Hence, the debt crisis has led to a negative impact on Spore in terms of worsening current account balance, economic growth and employment.

2. In view of the Eurozone debt crisis, we should change our existing policy of allowing the appreciation of SGD.

- The government can allow the SGD to depreciate → ↓P exports in foreign currency + ↑P imports in domestic currency → If DDx and DDm are price elastic due to many substitutes available → more than proportionate ↑Qd exports and more than proportionate ↓Qd imports → ↑TRx and ↓TE_m → ↑net exports, thereby sustaining growth and employment.

L: Hence, we should depreciate instead of continuing to appreciate the SGD.

Evaluation

- However, the effectiveness of this policy also depends on the economic outlook. If **pessimism** remains, such measure will not effectively raise net exports as people rather delay their spending during uncertain times. Hence, DD for our exports is price inelastic which leads to a less than proportionate rise in Qd for exports, thus fall in export revenue.

3. Having said this, we may not want to change the policy of appreciation of SGD.

- Although the EU countries are one of our major trading partners, it has not reached a stage whereby it has an adverse impact on our net exports. The condition in the EU countries is such that not all EU countries are in crisis. The extent of the impact of the crisis on us is still minimal.
- The characteristics of Spore is such that we are a small economy with limited resources, hence need to import final goods and services and raw materials for survival. Singapore's lack of natural resources and its dependence on international trade implies that it is **vulnerable to inflation from external sources** such as imported inflation and inflation due to rise in export demand. Appreciation of SGD allows us to control inflation in the following ways:
 - Firstly, appreciation of SGD → ↑P exports in foreign currency + ↓P imports in domestic currency → if DDx and DDm are price elastic due to many substitutes, this leads to a more than proportionate ↓Qd exports and more than proportionate ↑Qd imports → ↓TRx + ↑TE_m → ↓net exports → ↓AD → ↓GPL
 - Next, appreciation of SGD → ↓P imported final goods and services, thus reducing inflationary pressures.
 - Lastly, appreciation of SGD → ↓P imported raw materials → ↓COP → ↑AS if producers pass the cost savings to consumers → ↓GPL + ↑NY thus economic growth

4. Even with the Eurozone debt crisis and the vulnerability to imported inflation remain, inflation in recent years arose from domestic pressure. Hence, macro-prudential measures which focus on the health of the financial system as a whole, are used to complement the traditional exchange rate policy.

[Other policies like supply-side policies are also acceptable]

- Inflation in recent years arises from high rental rates and high private transport costs. Government thus need to address such inflationary pressure by using macro-prudential measure instead of continuing to use the exchange rate policy.

- For example, to tackle high private transport costs, government has reduced the car loan period from 10 to 5 years and adjusted the maximum loan of from 100% of the price of car to 60%.
- This effectively reduces DD for new cars and thus, has led to the fall in CPI inflation and prevents spillover effects on other parts of the economy such as higher business costs which may cause a fall in economic growth.

Level	Descriptors
L4	<ul style="list-style-type: none"> • Showed good understanding of how the Eurozone debt crisis can affect Singapore. • Thorough analysis on whether to continue using appreciation of SGD. • Make frequent and appropriate explained evaluative remarks during the development of an answer. • Provide an evaluative summary at the end of an answer (e.g. with an evaluative stand / judgement) •
L3	<ul style="list-style-type: none"> • Showed good understanding of how the Eurozone debt crisis can affect Singapore. • Good analysis on whether to continue using appreciation of SGD. • Some discussion on the criteria in making the decision.
L2	<ul style="list-style-type: none"> • Showed some understanding of how the Eurozone debt crisis can affect Singapore. • Some analysis on whether to continue using appreciation of SGD. Analysis may be one-sided.
L1	<ul style="list-style-type: none"> • Showed some understanding of how the Eurozone debt crisis can affect Singapore. • Superficial analysis on whether to continue using appreciation of SGD.

- 6 Discuss whether globalisation will always improve a country's economic performance and standard of living. [25]

Suggested outline

Intro

- Globalisation refers to the process of continuing integration of countries in the world where national markets become increasingly interlinked. It leads to greater interdependence between countries as there are greater flows of goods, services, labour, capital and technological know-how amongst countries. This is made possible due to advancement in technology and lowering of transport costs.
- There are benefits and costs arising from globalisation. These in turn affect the economic performance in terms of the ability to achieve the macro or microeconomic goals and SOL.

Body

1. Impact on BOP

a) Improvement in current account

- Globalisation could bring about lower price of imports due to lower costs of transport. In addition, countries become more interdependent when they sign FTAs where trade barriers such as tariffs are reduced or removed.
- Hence, there is a fall in prices of our exports to these countries. If DD for our exports is price elastic, this will lead to a more than proportionate rise in Qd for our exports, thus increase our export revenue.
- Likewise, Spore has to remove tariffs on imports which leads to a fall in prices of imports. If DDm is price elastic, this will lead to a more than proportionate rise in Qd for imports, thus increase in import expenditure.
- Overall, assuming that the rise in export revenue is greater than the rise in import expenditure, there will be a rise in net exports thus improving current account and BOP for Spore.

b) Improvement in capital account

- Globalisation not only brings about greater flow of goods and services, but also investment. Our ability to attract FDI from other countries depends on our ability to build a conducive business environment such as an attractive corporate income tax rate which stands at 17% and is the 2nd lowest in Asia after HK (16.5%).
- Ceteris paribus, such inflow of investment will lead to an improvement in our capital account and BOP.

Evaluation

- While the local conditions make it easier and cheaper for foreign firms to set up plants in Spore, the inward FDI is also affected by other factors. One of the factors affecting firms' decision is labour costs. With increasing labour costs due to tight labour market and a tightening of immigration policy (2013), our ability to remain attractive may diminish faster compared to countries such as Korea and Taiwan, which have similar capabilities but are able to offer lower wages.

2. Impact on growth and employment

a) Actual growth and employment

- With a rise in net exports as mentioned, AD would increase. This results in a shortage at the original equilibrium price and hence, an upward pressure on prices. The higher prices encourage firms to increase production. Since labour is a derived demand, there will also be increase in employment as firms need more workers to increase the production.

- If the economy is below full employment, this leads to higher income and economic growth. The resultant rise in national income would lead to a rise in induced consumption, which would bring about a further increase in national income. Extent of rise in NY depends on size of MPC. The higher the MPC, the greater the increase in NY. Eventually national income will increase by a multiple of the initial rise in exports.

b) Potential growth

- With the rise in FDI, it would lead to growth and employment in the SR.
- In addition, in LR, increase in investment on capital goods and technology transfer lead to rise in productive capacity. This increases AS which increases the full employment level of real national output and thus potential economic growth.
- Overall, such increases in AD and AS are beneficial as it allows us to enjoy sustained non-inflationary growth.

Evaluation

- The extent of rise in national income depends on the size of multiplier. The characteristics of Spore are such that we have a low size of multiplier at 1.3 due to large withdrawals arising from high savings where 20% of gross income goes into compulsory savings in CPF. In addition, people save for other purposes such as precautionary purpose. Overall, about 50% of gross income is saved. Also, due to our dependence on imports, every \$1 spent, 60cents go into imports. Hence, rise in national income is smaller than other countries such as US with larger size of multiplier.

3. Impact on inflation

- When a country trades, competition from the imports can stimulate greater efficiency in production in the country as firms must keep their costs low in order to remain competitive. This implies more efficient production and better utilisation of the country's resources. In addition, by specialising in the goods that it has comparative advantage in, the country could also enjoy lower cost of production to remain competitive. Therefore when countries trade, consumers now trade get to enjoy lower prices
- Therefore, instead of consumers having to pay higher domestic prices for domestically produced goods in which Spore has a comparative disadvantage, the goods can now be obtained more cheaply from our trading partners who have the comparative advantage.
- This helps to lower import prices and lowers the possibility of imported inflation which also allows consumers from both countries can now enjoy cheaper goods thus increase their purchasing power and increase their material standard of living.

Evaluation

- However, if the rise in net exports as explained above occurs during at a time where the economy is near or at full employment, this will lead to inflation. As exports is more than 200% of Singapore's GDP, $\uparrow(X-M) \rightarrow$ demand-pull inflation in the short-run due to supply-side constraints.

4. Impact on unemployment

- Globalisation brings about technology transfer thus other countries may catch up with us in producing the goods that we have a comparative advantage. For example, with their fast pace of growth and adoption of technology, China is also increasingly producing mid or high-end electronic products such as telecommunications equipment. Huawei is now the biggest telecommunications equipment manufacturer in the world (2012).
- Thus, globalisation results in Singapore losing her comparative advantage to these countries which are fast in catching up with us. This leads to a fall in demand for Singapore's manufactured goods, which results in a fall in production activities due to a fall

in demand for the final goods. Consequently, there is retrenchment of workers in this industry since demand for labour is a derived demand, resulting in unemployment

- However, workers retrenched from these sunset industries are unable to move over to expanding industries such as high-end manufacturing, knowledge-based and service industry (e.g. the Integrated Resorts) as they are not equipped with the relevant skills required.
- Such occupational immobility leads to structural unemployment which is not beneficial as it also implies fall in SOL.

Evaluation

- The impact on us also depends on our ability to respond fast enough to changes. Since the CA a country enjoys is dynamic as it changes over time when others catch up with us, such a potential loss of jobs could be minimised if our government has the foresight to look into new niche areas before we lose our CA to other countries.

5. Impact on income gap

- Globalisation has led to greater financial flows across national border. This has resulted in exposure to new ideas and technology. New technology creates greater demands for workers with higher skills. In Spore, the use of technology is widespread in both manufacturing and services sector, raising the skills premium in a substantial portion of the economy.
- Consequently, such technological change favours those in the sunrise sectors (eg: pharmaceutical sector) with higher skills, DD for high-skilled labour rises, thus rise in wage rate for them. At the same time, fall in DD for low-skilled workers in the sunset sectors (eg: cleaning services) as the DD for their final products fall. This leads to a fall in wage rate for low-skilled workers.
- Hence, there is a widening income gap between the skilled and the unskilled.

Evaluation

- The impact on us also depends on our ability to respond via implementation of effective policies to address the widening income gap. Despite measures taken by the government to distribute growth dividends to its people whereby the poor gets more than the rich, our Gini coefficient still increased. Hence, globalisation has not improved our economic performance and SOL.

6. Impact on SOL

- SOL refers to the material and non-material well-being of the people.
- Globalisation enhances the **material well-being** because
 - with increased employment and national incomes, it implies that people have higher purchasing power, thus increase in level of consumption which increases level of material SOL.
 - before trade, countries can only produce and consume up to the frontier of their PPC. Increased trade therefore allows countries to consume at a point outside the PPC which is a desirable but previously unattainable point.
- Globalisation enhances the **non-material well-being** because
 - with higher growth, government is now able to collect more tax revenue which they can spend on public infrastructure, improving the access and quality of health care and education.

Evaluation

- In recent years, there have been debates on how the influx of foreign labour has put pressures on our infrastructure which led to a more congestion living environment on this small island, thus reducing the non-material well-being.
- Hence, SOL of some groups does not improve even though there is EC performance.

Conclusion

To a large extent, globalisation will bring about improvement in a country's economic performance and SOL. This is especially so for Spore which is a small country with limited resources where our ability to achieve economic performance and SOL cannot be dependent on just internal factors.

L4	<ul style="list-style-type: none"> • A well-developed balance answer (positive impact and negative effects) that shows strong content knowledge. • Analysis is supported with real life examples. • Evaluation was well-supported with economic concepts.
L3	<ul style="list-style-type: none"> • An answer which is well-developed where positive impact and/or negative effects were discussed. • Real life examples may be used sparingly. • Some evaluative comments were provided.
L2	<ul style="list-style-type: none"> • An elaborated one-sided answer (or 2-sided answer but briefly explained) that focuses on either the positive or negative effects of globalisation. • Real life examples may not be used.
L1	<ul style="list-style-type: none"> • An answer that shows a brief explanation of the effects of globalisation. • Limited attempts to link the effects to economic performance and SOL.