

National Junior College Economics Department

Preliminary Examination 2015 Answer Booklet

**Senior High 2
H2 Economics
(9732/02)**

Case Study 1 Suggested Answers:

(a)	(i)	<p>Describe the trend in Revenue Passenger Kilometers from 2008 to 2013. [2]</p> <p>Revenue Passenger Kilometers shows an increasing trend [1m], with the exception of year 2009 where RPK fell. [1m]</p>	[2]
	(ii)	<p>Suggest 2 reasons to account for the trend in Revenue Passenger Kilometers in (ai). [2]</p> <p>Demand factor: Increasing world income → Demand increases → Volume of air travel increases [1m]</p> <p>Supply factor: In Extract 1—More carriers entering the market—Increase in supply of carriers → Volume of air travel increases [1m]</p>	[2]
(b)		<p>Compare the likely price elasticity of demand values for short haul and long haul flights. Explain your answer. [2]</p> <p>Compare: Demand for short haul's flights are relatively price elastic ($PED > 1$) while demand for long haul's is relatively price inelastic ($PED < 1$) [1m] Reasons: Short haul flights have more substitutes available such as rail/sea while long haul flights have few/no substitutes. [1m]</p> <p>OR</p> <p>Compare: Demand for short haul's flights are relatively price inelastic ($PED < 1$) while demand for long haul's is relatively price elastic ($PED > 1$) [1m] Reasons: Short haul take up a relatively low proportion of income while long haul flights take up a large proportion of income. [1m]</p>	[2]
(c)		<p>Explain how liberalisation of the EU aviation market has affected the survival of traditional carriers. [4]</p> <p>Traditional carriers and low cost carriers are substitutes in consumption [1m]</p> <p>Due to increasing competition from low cost carriers → Led to falling demand/AR for traditional airlines as consumers are switching to low cost carriers. [1m]</p> <p>As revenue falls, assuming costs constant/increases, there is a possible <u>erosion of profits or a traditional airline makes losses</u> and hence, will not survive/ will shut down. [1m]</p> <p>If its total revenue is unable to cover total variable cost (or $AR < AVC$), the airlines will shut-down in the SR to minimize loss. [1m] OR</p> <p>Of its total revenue is unable to cover total cost ($AR < AC$), the airline will exit the industry in the LR. [1m]</p>	[4]
(d)		<p>Given the information in Table 1, identify the market structure of the US Airline industry. Justify your answer. [2]</p> <p>Oligopoly [1m] Few dominant firms <u>holding 80% of the market share</u> [1m]</p>	[2]
(e)		<p>Discuss the view that the merger between US Airways and American Airways is undesirable. [8]</p> <p>Introduction: The merger may bring about desirable and undesirable on different groups:</p>	[8]

consumers, producers and society.

Thesis: The merger between US Airways and American Airways is undesirable

Impact on Producers

Cost Disadvantage to American Airlines

When the airline firm expands beyond a certain size, costs per unit of output may start to increase despite the continued presence of sources of economies of scale. This is due to the increasing significance of sources of diseconomies of scales which are primarily managerial in nature. The sources of internal diseconomies of scale are identified as follows:

(Any one of the Dis-EOS below)

Loss of control

The problem of monitoring work performance of different sections in the airlines business such as pilots, cabin crew, maintenance of aircrafts, engineers, cleaners, customer service officers is a difficult task. It will also mean that staff who once worked for Amerian/US airways will now be absorbed into one airlines-American Airlines. Extract 2 mentioned that challenges remain for the new airline as previous mergers have been hampered by difficulties in merging staff and technology that have taken years to iron out These large number of workers may feel lost in the large new organisation and it may result in lower motivation → lower productivity and thus higher average costs → Decrease in profits

Lack of coordination and communication

As the airlines grow bigger, restructuring is bound to take place and there will be streamlining of job scopes resulting in a retrenchment of staff. The staff will need to take care of administrative matters of both institutions and thus might face difficulties with coordination and communication of new directives and policies between departments. This could potentially increase the average costs.

Revenue Disadvantage to American Airlines:

American Airlines had to give up the major gate slots and take-offs at major US airports. Hence there could be a fall in demand for their service since consumers may would prefer to use such major airports and gateslots. A fall in demand will mean a fall in total revenue for American Airlines.

Other rival airlines in the aviation industry:

The merger of 2 airlines to form the world largest airlines could result in Amercian Airlines having great monopoly power or even dominated the US aviation industry. American airlines may be able to earn higher profits due to cost savings earned from IEOS and use it to innovate and do branding to attract large customers. As mentioned in Extract 2, the Justice Department gave the \$11bn merger the go-ahead only after the 2 airlines agreed to address the market dominance issue. In order to address anti-trust concerns, the 2 airlines gave up gate slots and take-offs at major US airports including Washington DC's Reagan national, New York's LaGuardia, Boston's Logan and LAX in Los Angeles . This showed that 2 airlines that merged had a huge consumer base that they had to give up slots so as not to take away the customer pie from other airlines the industry.

However, we may not be sure if these antitrust laws will hold in the future and

other airlines with smaller market share such as Delta, United may end up with lower revenues and profit ceteris paribus.

Impact on consumers

Extract 2 wrote that the merger may result in prices being driven up. Consumers may end up paying higher prices as American Airlines have the monopoly power after merger. They may exert market dominance and charge higher prices for flight tickets, lowering consumer surplus.

Poor service could result as mentioned in extract 2 as they are able to have the monopoly power, lacking incentive to be different from their rival airlines.

Impact on Society

American Airlines may end up dominating the aviation after the merger as the extract said that consumer, rival groups and travel agents were against such a merger that may will create "irreparable injury" to the domestic airline industry. Thus, American Airlines may end up with the largest market share faces a relatively more price inelastic demand curve, is able to restrict output and charge a higher price. Thus the difference between Price and Marginal Cost would be widened, resulting in an outcome further away from the allocatively efficient output, increasing deadweight loss.

If market power is exploited, there could also be greater inequity if American Airlines reap excessive profits at the expense of consumers and other firms. The income of shareholders or top management of the airlines increases and thus results in greater income inequality.

Anti-Thesis: The merger between US Airways and American Airways is desirable

Impact on Producers

Cost Advantage for American Airlines

Reduction in costs and increase in profits:

As mentioned in Extract 2, the merger was vital for the 2 airlines to cut costs and it allowed the biggest airline in the world to be formed. The merger may allow for Internal Economies of scale (EOS) to be achieved. The significant average costs savings that can be reaped will allow American airlines to have an increase in profits, assuming total revenue increases/remains constant.

(Any one of the EOS below will be acceptable)

Indivisibilities

The aircrafts which are considered capital equipment come in a fixed productive capacity. With the merger, it will mean that the airlines can optimally utilize such indivisible capital equipment which they have ordered - 600 new aircrafts, and thus will be able to spread their cost over the large number of customers, thereby lowering average costs.

Organizational Economies

With a larger airlines company, individual administrative departments can specialize in particular functions. There can also be centralized administration of the merged airlines; one human resources department could administer all the wages. Also when the 2 airlines merged, only one finance department and one human resource department is now needed instead of two. Hence, cost savings can be reaped when such rationalisation takes place.

Risk-bearing economies

The merged airlines can diversify its risks more efficiently due to its large scale operations and is more likely to have enough resources to deal with a potential contingency. The merger allowed for the American Airlines to operate in several routes and destinations as Extract 2 mentioned that there are 6,700 daily flights to more than 330 destinations in more than 50 countries. Hence losses in one market can be offset by gains in other markets. This reduces the average costs associated with uncertainty. For example, if Greece is facing a crisis and flights are reduced to this destination, losses can be offset by gains in other destinations such as UK, Germany.

Managerial Economies
Specialisation and division of labour

Revenue Advantage for American Airlines

Branding

From Extract 2, it mentioned that the merger created the largest airline in the world. This will improve their branding as an even more established and recognised airline that surpasses other smaller airlines such as United Airlines or Delta Airlines (Table 1). This will result in an increase in number of customers → Increasing demand for air travel with American airlines → Increasing total revenue → Increase in profits (assuming costs constant/decreases)

Increase in Market Share

The 2 airlines will face less competition and will therefore gain greater market share after the merger. The customers who once took US airways or American airways will probably be now under American Airlines. It may encourage American airlines to continue to keep these customers through product innovation, or better airlines promotions. This will result in an increase in number of customers → Increasing demand for air travel with American airlines → Increasing total revenue → Increase in profits (assuming costs constant/decreases)

Other rival airlines in the aviation industry:

Due to the antitrust laws put in place by the US Justice Department, American airlines may not have that strong monopoly power. Instead they have to adhere to certain laws such as not fighting with other rivals at the airport for gate slots as mentioned in extract 2. This will still allow rival firms like Delta, United to gain market share to increase revenue and profits ceteris paribus.

Impact on consumers

More variety and accessibility: Consumers will have easier and more access to destinations due to more frequency of flights as well as more destinations available. This is supported in Extract 2 where merger will a global network of nearly 6,700 daily flights to more than 330 destinations in more than 50 countries.

Higher profits earned by American airlines could be used for innovation to provide better quality products such as in flight entertainment, flight chairs, towels, better services, products etc.

Lowered prices due to cost savings being passed down by the producers, hence higher consumer surplus.

Impact on Society

	<p>Antitrust laws stipulated by the US Justice Department such as taxing American airlines if they have excessive profits could reduce the equity issue.</p> <p>Evaluative Conclusion:</p> <p>The merger of US and American Airways has both positive and negative impacts on consumers, various producers and society.</p> <p>Whether the entry is desirable or not depends on the level of competition in the market after merger and the market share of each firm.</p> <p>It also depends on whether the anti trust laws put in place by the US Government will have an effect of mitigating or minimising the negative effects of the merger e.g: Taxation in order to redistribute the excessive profits.</p> <p>It should also be noted that without the merger, US Airways and American Airways may not be able to survive and should they eventually close down, it could also have adverse impact on society such as less competition, loss of jobs and increase in prices.</p> <p>Mark Scheme</p> <table border="1" data-bbox="355 869 1289 1861"> <thead> <tr> <th data-bbox="355 869 491 898">Level</th> <th data-bbox="491 869 1289 898">Descriptors</th> </tr> </thead> <tbody> <tr> <td data-bbox="355 898 491 1066"> L3 5-6 </td> <td data-bbox="491 898 1289 1066"> <ul style="list-style-type: none"> • Well explained impact on all 3 groups, both thesis and antithesis. • Consistent use of case materials to support answer. </td> </tr> <tr> <td data-bbox="355 1066 491 1261"> L2 3 – 4 </td> <td data-bbox="491 1066 1289 1261"> <ul style="list-style-type: none"> • Balanced argument on at least 2 groups which considers both positive and negative effects. However, gaps in analysis. • Some use of case material to support answer </td> </tr> <tr> <td data-bbox="355 1261 491 1547"> L1 1 – 2 </td> <td data-bbox="491 1261 1289 1547"> <ul style="list-style-type: none"> • A few valid points made incidentally in an irrelevant context OR • Well-explained impact on only 1 group (consumers, producers or society) OR • Briefly explained impact on 2 groups. • Argument may be one-sided (i.e. either positive or negative impact) • Little or no use of case material. </td> </tr> <tr> <td data-bbox="355 1547 491 1731"> E2 (2m) </td> <td data-bbox="491 1547 1289 1731"> <ul style="list-style-type: none"> • Judgment based on analysis on the impact of merger between the 2 airlines. i.e: Good discussion of either which group benefits more or whether there are more positive or negative effects using appropriate criteria. For e.g. if the level of competition in the industry and the market share of each firm. </td> </tr> <tr> <td data-bbox="355 1731 491 1861"> E1 (1m) </td> <td data-bbox="491 1731 1289 1861"> <ul style="list-style-type: none"> • Mainly unexplained judgment on the impact of merger between the 2 airlines i.e: Attempts to consider which group benefits more or whether there are more positive or negative effects. </td> </tr> </tbody> </table>	Level	Descriptors	L3 5-6	<ul style="list-style-type: none"> • Well explained impact on all 3 groups, both thesis and antithesis. • Consistent use of case materials to support answer. 	L2 3 – 4	<ul style="list-style-type: none"> • Balanced argument on at least 2 groups which considers both positive and negative effects. However, gaps in analysis. • Some use of case material to support answer 	L1 1 – 2	<ul style="list-style-type: none"> • A few valid points made incidentally in an irrelevant context OR • Well-explained impact on only 1 group (consumers, producers or society) OR • Briefly explained impact on 2 groups. • Argument may be one-sided (i.e. either positive or negative impact) • Little or no use of case material. 	E2 (2m)	<ul style="list-style-type: none"> • Judgment based on analysis on the impact of merger between the 2 airlines. i.e: Good discussion of either which group benefits more or whether there are more positive or negative effects using appropriate criteria. For e.g. if the level of competition in the industry and the market share of each firm. 	E1 (1m)	<ul style="list-style-type: none"> • Mainly unexplained judgment on the impact of merger between the 2 airlines i.e: Attempts to consider which group benefits more or whether there are more positive or negative effects. 	
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(f)	<p>Discuss the extent to which the market based mechanisms in Extract 3 are appropriate in addressing the problem of pollution in the airlines industry.</p>	<p>[10]</p>												

Identify the market failure in the airlines industry:

Negative externalities from carbon emissions: some of the costs associated with the production or consumption of airline service 'spills over' onto third parties, that is, to parties other than the immediate seller or buyer, for which no compensation was paid.

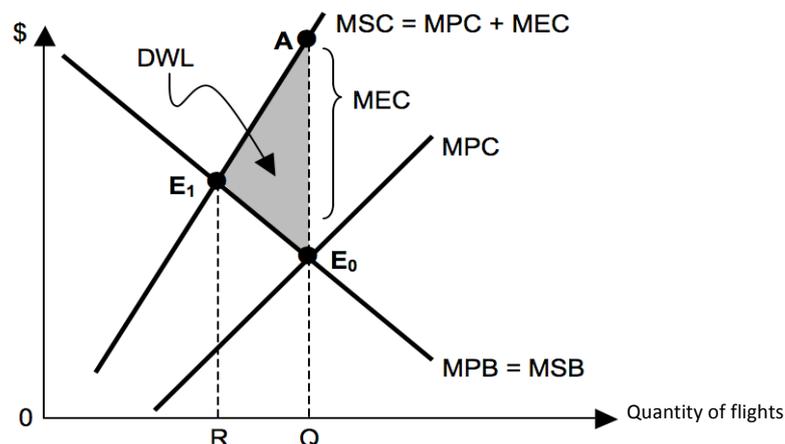
Explain the market failure in the airline industry in detail:

Negative externalities from Production occur when private production creates an external cost to society that affects third parties as a 'spill-over effect' that is not internalised by private households and/ or firms. This results in a divergence between marginal private cost and marginal social cost.

Explain how 3rd parties are affected as a result:

Air travel may release harmful carbon and greenhouse gas emissions, which pollutes the air and cause global warming. For instance, 3rd parties not involved in the production nor consumption of airtravel such as farmers living near coastal areas may suffer from rising sea levels as a result of global warming and experience loss of agricultural output.

Identify the MPB and MPC of producing air flights.



Producers maximise their profits by producing at the point where their marginal private benefit is equal to their marginal private cost. With reference to figure 1 above, the free market equilibrium would be 0Q units of flights where $MPB=MPC$.

0Q units of flights however is not the socially optimal level of output. This is because the firm only considers the marginal private cost that it incurs such as the cost of the petrol, the cost of employing pilots and air stewardess as well as the cost of the aircraft required to produce the air travel.

The firm has not considered the external costs such as the release of carbon and greenhouse gases into the air as it produces the air travel. These costs are however incurred by the general public and hence there is a divergence between the marginal private cost and the marginal social cost. The full opportunity cost to society is represented by the MSC, which lies above the MPC curve by the amount of the additional external cost. (i.e. $MSC=MPC+MEC$).

Assuming that the external benefit (MEB) in the private exchange of air travel is negligible, then $MSB=MPB+MEB$ and $MEB=0$; $MSB=MPB$.

The socially optimal level of air travel production would actually be where $MSB=MSC$ at the level of OR units.

The free market has actually resulted in an **overproduction** of air travel by RQ units. Society would actually be better off if these units of air travel were not produced & consumed. At the free market equilibrium, the marginal social cost of producing $0Q$ units of air travel is given by point A but the marginal social benefit to society is lower at E_0 . This means that society actually values the production of the $0Q^{th}$ unit of air travel less than what it costs society to produce it. This is true for all units of air travel from $R-Q$ where the value that society places on the air travel is less than the costs to society.

The welfare loss to society due to the overproduction is thus represented by area E_1AE_0 in figure 1 above. The firm has failed to internalise the external costs, hence there is an overproduction, which results in allocative inefficiency causing a dead-weight loss to society. (i.e. total welfare to society is less than it should be). To achieve allocative efficiency, output should be reduced to OR units.

Discuss the extent to which the market based mechanisms in Extract 3 is appropriate in addressing the market failure in the airlines industry

The market based mechanisms mentioned in Extract 3 refer to “carbon credits” and “placing a price on carbon dioxide and other greenhouse gases” through taxation.

Explain how the market based mechanism (carbon credits) is appropriate in addressing the market failure in the airlines industry.

The system of tradable permits is a combination of command-and-control and market-based system of resolving externalities. Each firm is given a permit to produce a given level of pollution. If the firm produces less pollution than what they are legally permitted to produce, the firm is given a credit. This credit can then be sold to another firm, allowing the other firm to exceed its original limit. Similar to Pigovian taxes, polluting firms internalise the externality of pollution as there is an opportunity cost of polluting (i.e. what they could receive by selling their permits).

The overall level of emissions is determined by a command-and-control method, whereas their distribution is determined by the market.

This mechanism is appropriate in addressing the market failure in the airline industry because the principle of tradable permits can be used as the basis of international agreements on pollution reduction. Each airline could be required to achieve a certain percentage reduction in a pollutant (e.g. CO_2 or SO_2), but any airline exceeding its reduction could sell its right to these emissions to other (presumably richer) airlines.

This mechanism would offset growth in airlines’ greenhouse gases to tackle pollution from the industry, which is responsible for about 2 percent of greenhouse gases globally.

Limitation of carbon credits:

As mentioned in Extract 3, airline companies can top up their permit quota with carbon credits – awarded by the UN to projects that cut emissions in developing countries, such as solar panels or windfarms. As such, this allow airlines simply to buy cheap carbon credits to offset their emissions, instead of making real reductions in the aviation sector itself, resulting in a greater amount of greenhouse gases emitted by airlines than what they are emitting currently.

There seems to be an oversupply of carbon permits, causing them to be sold at rock bottom prices. This does not give producers the incentive to find new ways to cut down on their emissions.

The market-based mechanism of carbon credits is mainly supported by the EU and its inability to get the needed support from all airlines and countries to collectively reduce carbon emissions as an industry poses a challenge to the extent to which the market failure can be addressed. For instance, countries like China and India voiced concerns about implementing “a resolution in favour of a market-based mechanism to help address airlines’ emissions.”

Explain how the market based mechanism (taxation) is appropriate in addressing the market failure in the airlines industry.

The government can levy a **specific tax at the socially optimal level of output** that approximates the value of external costs (MEC) generated per unit of output. Through this tax, the government attempts to make the offending firm(s) *internalise the external costs*.

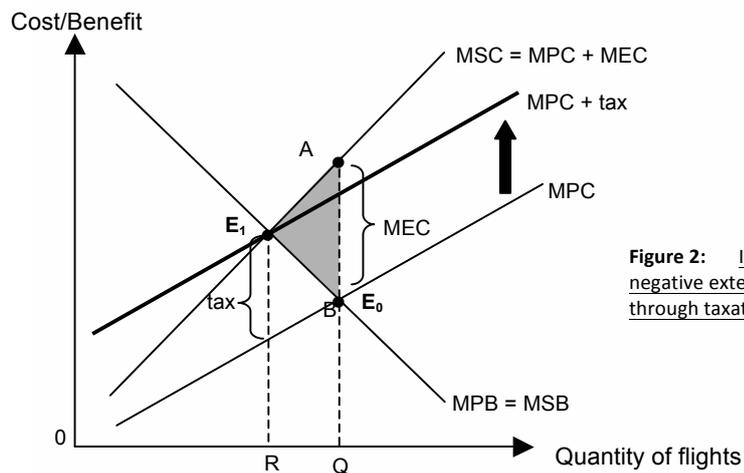


Figure 2: Internalising negative externality through taxation

In Figure 2, a specific tax that is equal to BE_1 per unit will increase the firm's unit cost, shifting the MPC curve upwards to $(MPC + tax)$, which coincides with the socially optimal equilibrium of E_1 . The result is that the private equilibrium output will decline so that it corresponds with the socially optimum level of output of OR units. There would therefore be no over-production of the good as $MSB = MSC$ and allocative efficiency is attained.

The reduction in production and consumption results in the removal of the dead-weight loss to society represented by area AE_0E_1 – the gain due to the reduction in production (area E_1AQR) offsets the loss due to the reduction in consumption represented by area E_1E_0QR .

Taxation is appropriate in addressing the market failure in the airline industry because it gives incentives to firms to find cleaner ways of production. The tax acts as an incentive over the longer run to reduce pollution.

Limitation of taxation:

Firstly, there is a problem of assessing the exact monetary value of external costs at the socially optimal level of output (e.g. measuring the external costs generated by negative externalities like air pollution), which in turn implies that the appropriate level of tax is difficult to determine. Too high a tax amount

would lead to a less than optimal level of output, while too low a tax amount would still result in over-production. For instance, a tax imposed at output OQ (where tax amount = AE_0) will result in over taxation and underproduction.

Secondly, the administrative costs of collecting the tax may be very high. Firms may also have the incentive to evade such taxes.

Thirdly, a tax may have a regressive effect on lower income groups. Long-haul air travel that have a price-inelastic demand would lead to the lower income groups having to pay more due to the tax.

Conclusion

These market based mechanisms aim to achieve a socially optimum level of output by making producers internalise the external cost of the pollution. However, there are limitations which may make the actual implementation and enforcement of these measures difficult. Whether these market based mechanisms are appropriate in addressing the market failure depends on whether there can be agreed details as to how governments should implement a market-based mechanism to cover all airlines, and not just within EU itself and agreeing on a global limit on greenhouse gas emissions from air travel. It also depends on the enforcement of these measures which may differ from country to country.

These market based mechanisms should also be complemented with non-market based measures such as legislations to curb emissions of carbon dioxide into the air.

Mark Scheme

L3	6-8 marks	<ul style="list-style-type: none"> • Excellent explanation of negative externality of production as the source of market failure in the airline industry. • Excellent rigour of elaboration (e.g. inclusion of -ve externalities diagram) • Excellent balance in elaboration of the market based mechanism in addressing the market failure and its limitations. • Depth of content and rigour of analysis are excellent. • Excellent reference to case material in explanation.
L2	4-5 marks	<ul style="list-style-type: none"> • Good explanation of negative externality of production as the source of market failure in the airline industry. • Good rigour of elaboration (e.g. inclusion of -ve externalities diagram) • Good balance in elaboration of 1 market based mechanism in addressing the market failure and its limitations. • Some rigour of analysis. • Some reference to case material in explanation.
L1	1-3 marks	<ul style="list-style-type: none"> • Limited knowledge on the source of market failure in the airline industry with either mere listing or limited explanation. • Limited scope of discussion in market based mechanism in addressing the market failure and its limitations. • Weak rigour of elaboration

				<ul style="list-style-type: none">No or minimal reference to case material in explanation.	
		E2	2 marks	<ul style="list-style-type: none">Well-reasoned overall assessment of whether the market-based mechanisms are appropriate supported by analysis	
		E1	1 mark	<ul style="list-style-type: none">Some attempt at assessing whether the market-based mechanisms are appropriate	

Case Study 2 Suggested Answers:

- (a) Compare the change in China's current account balance with that of the United Kingdom between 2009 and 2013. [2]**

China's current account balance shows a decrease in its surplus [1 mark] over the period whereas the UK's current account balance shows an increase in its deficit [1 mark] over the same period.

Marking tip:

No marks if student states that the current account balance has "decreased/declined" without mentioning surplus/deficit.

Can accept if students state that China's CA balance is in surplus while UK's CA balance is in deficit throughout the period and both worsened.

Examiner comments:

- Use the term "increase/decrease surplus/deficit rather than improve/worsen.
-

- (b) Explain one example of how a government's tackling of an immediate economic problem could lead to a challenge in the longer term. [2]**

Several possible answers:

- Using expansionary fiscal policy to tackle the immediate problem of recession could lead to excessively high government debt. By increasing government spending and reducing taxes to stimulate the economy, the government may end up with a large budget deficit which has to be financed by borrowing. This leads to an increase in the government debt. This could pose a challenge in the future as the government might have difficulty repaying the debt and thus trigger a debt crisis.
- Using expansionary monetary policy such as quantitative easing to tackle a current recession could lead to an excessive increase in money supply. This could lead to high inflation in the longer term when the economy has recovered and there are supply constraints, resulting in "too much money chasing too few goods", thus causing prices of goods and services to increase rapidly. If inflation becomes too high in the future (eg. hyperinflation), it can be difficult to control. (Can also explain in terms of increase in AD reaching full employment resulting in DD-pull inflation eventually)
- Government encouraging investment in high skill and high technology industries to tackle an economic slowdown could lead to structural unemployment in the longer term, as unemployed workers do not have the right skills to be redeployed to the growth sectors and become structurally unemployed in the long term.
- Government adopting protectionistic policies eg tariff barriers to correct a current trade deficit or protect domestic industries to save jobs could

lead to uncompetitiveness of domestic industries, greater inefficiency and wastage of resources in the longer term.

Any reasonable example and explanation which has the following:

1. A government action/policy to tackle a current economic issue
2. A problem in the future caused by the government action/policy. The problem in the longer term should be fairly serious and long term in nature (hence a “challenge”) and not just a short term cyclical movement that can be easily tackled by stabilisation policies.

1 mark for giving a correct example. 1 mark for the explanation.

- (c) With reference to Extract 3, explain a possible reason why despite a massive devaluation of the pound, UK’s current account deficit rose further. [2]**

One possible reason for the increasing current account deficit is that UK’s expenditure on imports continued to rise despite the devaluation of the pound. This could be due to UK’s demand for imports being price-inelastic which causes the fall in quantity demanded to be less than proportionate to the increase in price of imports, resulting in an increase in import expenditure. As mentioned in Extract 3, the British seem to have an “addiction for all things foreign”, suggesting that their demand for imports may be price-inelastic.

(Can also accept if students explain the dd for imports may have increased due to their preference for foreign goods)

1 mark for identifying the rise in imports as the possible reason

1 mark for the explanation.

- (d) With reference to the data, explain how urbanisation would affect China’s economic well-being. [6]**

Urbanisation refers to an increase in the proportion of people living in urban areas (ie cities and towns) compared to rural areas (ie the countryside). According to Extract 2, the China government has embarked on a 10-year urbanisation plan with the aim of bringing 400 million people to the cities, and increasing the proportion of the population living in urban areas from 50 percent to 60 percent by 2020.

One of the main effects of urbanisation is a reduction of income inequality. As mentioned in Extract 2, China currently has high income inequality, with 13 percent of China's population living on less than \$1.25 per day and average urban disposable income just 21,810 yuan (US\$3,500) a year. People living in rural areas tend to be poor due to the relatively backward and undeveloped state of these areas, where many may be unemployed or underemployed in traditional farms. By moving to the urban areas, they will be able to find better-paying jobs and increase their income. This helps to reduce the income gap between the rich and poor, and thus increase the economic welfare of the

people.

Another effect is the increase in consumption which will then contribute to the growth of the economy. As mentioned in Extract 2, urbanisation could help to put China “on a path to domestic consumption-led growth to replace three decades of investment and export-driven development.” As people move from rural to urban areas, they not only experience an increase in their income through getting better-paying jobs, they are also likely to spend more on consumption as a result of the change in lifestyle and greater variety of goods and services available. This increase in consumption means an increase in AD which would help to generate further increases in income through the multiplier process, resulting in a more than proportionate increase in national income. The increase in economic growth generated by the rising consumption would also mean an increase in the economic well-being.

In addition, urbanisation also helps to generate economic growth through the increase in government spending. As mentioned in Extract 2, the government “will build homes, roads, hospitals and schools” to cater to the increasing urban population. The increase in government spending leads to an increase in AD which will result in a multiplied increase in national income through the multiplier effect. This also means an increase in per capita income and thus an increase in the economic well-being of the people. Also, government spending on public goods and merit goods such as transport and recreational facilities can be said to improve the material aspect of standard of living directly and thus economic well-being. Moreover, the government spending on infrastructure also increases the productive capacity of the country, thus increasing the potential growth of the economy and hence future economic well-being as well.

Marking Tip:

2 marks for each effect explained with reference to Extract.

Max 1 mark for each correct effect with no reference to Extract.

Max 5 for 2 effects well explained.

No credit for discussion of non-material/qualitative aspects of SOL (or social well-being)

- (e) Discuss why the economic growth in the UK might be “the wrong sort of growth”.** **[8]**

Introduction:

Define economic growth – increase in real national income or GDP over a period of time.

Explain that economic growth comprises actual growth and potential growth.

Actual growth – actual increase in real output or equilibrium national income.

Can be due to increase in AD or SRAS

Potential growth – rate of increase in potential output or productive capacity.

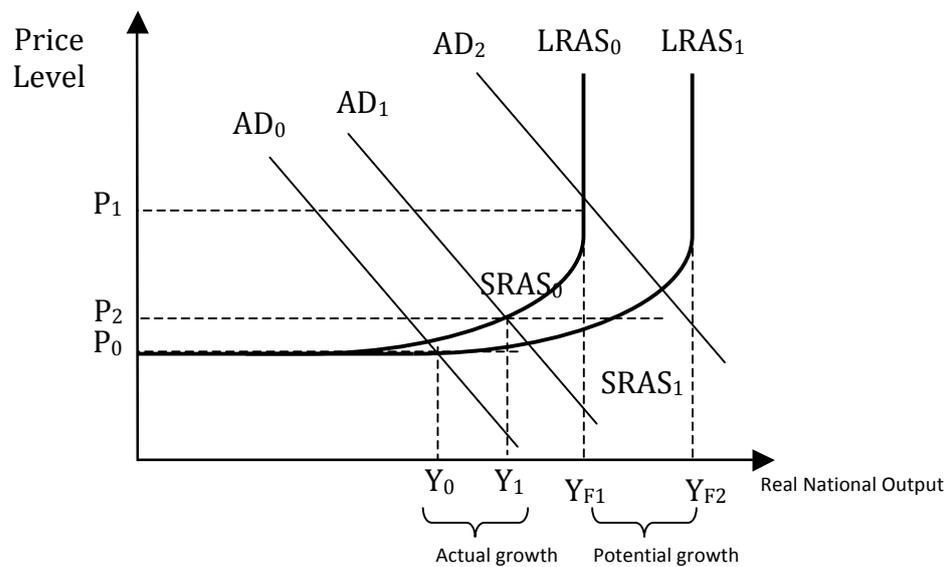
Shown by increase in LRAS.

- Explain the significance of actual and potential growth

For economic growth to be sustainable in the long term, actual growth should keep pace with potential growth. If actual growth is too low and falls below potential growth, there will be increase in spare capacity and unemployment. If actual growth exceeds potential growth, it could lead to increase in inflation as the economy eventually reaches full employment and there is a lack of capacity to increase output to meet rising demand.

Illustrate using AD/AS model:

Figure 1: Actual vs. Potential Growth using AD/AS model



As shown in Fig 1, the increase in AD from AD_0 to AD_1 and increase in SRAS from $SRAS_0$ to $SRAS_1$ leads to an increase in real output from Y_0 to Y_1 , which represents actual growth. Without any increase in productive capacity, the increase in AD from AD_1 to AD_2 will lead to inflationary pressure causing price level to increase from P_0 to P_1 . However, with potential growth shown by the increase in LRAS from $LRAS_0$ to $LRAS_1$, there will be an increase in spare capacity, bringing the price level down to P_2 . Hence, increase in potential growth enables an economy to achieve sustained economic growth without inflationary pressure.

Thesis: Explain why UK's economic growth is the "wrong sort of growth"

- UK's economic growth is driven mainly by demand, particularly consumption, without improvements in supply conditions. As mentioned in Extract 3, low interest rates and improved credit conditions have helped to fuel an increase in demand, driving house prices up in the process. This leads to an increase in the actual growth of the economy. However, without any increase in productive capacity or potential growth, the economy will face a lack of capacity to increase output, leading to inflationary pressure.

This is evident from the statement that the government has introduced "measures to boost demand in what remains in many sectors a profoundly supply-constrained economy."

- Economic growth that is driven only by consumption demand may also conflict with external stability. The increase in consumption may mean that the country is spending more on imports resulting in a balance of trade deficit. This seems to be the case in the UK as the current account deficit has been increasing over the years as shown in Table 1. According to Extract 3, the British appears to have an "addiction to all things foreign" as they continued to increase spending on imports despite the devaluation of the pound which makes imports more expensive.
- Another indication that the UK is having the wrong sort of growth is the relatively low level of investment measured by gross fixed capital formation. At just 14 per cent of GDP, it is by far the lowest among the advanced countries. The low level of investment means that there is little growth in productive capacity, which aggravates the supply constraints faced by the economy. This means that actual growth is likely to outstrip potential growth, resulting in increase in inflationary pressure.

Anti-Thesis: Explain why UK's economic growth might not be the "wrong sort of growth"

- As shown in Table 1, UK's unemployment rate is still relatively high at around 8%, while its growth rate has been weak since the recession in 2009. This suggests that there is still spare capacity in the economy as it has not reached its full employment equilibrium yet. The supply constraints could be applicable only to certain sectors rather than to the whole economy, and may be tackled by improving factor mobility. Hence, stimulating actual growth by increasing demand may not be wrong based on the current economic conditions in the UK. When the unemployment rate has fallen and the economy approaches full employment, the government can then focus on supply-side policies to increase the productive capacity of the economy.
- Consumption-led growth can also be appropriate as it reduces the country's vulnerability to external factors compared to growth that is driven by exports. For example, China's export-driven economic growth has resulted in global trade tensions, which prompted the government to focus on increasing domestic consumption as the new driver of economic growth. In a global recession, most countries will likely reduce their spending on imports, thus causing the UK's exports to fall. Hence, the government may have to rely on increasing consumption spending to stimulate economic growth, as export demand will likely be weak. In this case, UK's consumption-led economic growth might not be the wrong sort of growth.

Conclusion & Evaluation:

Whether UK's economic growth is the wrong sort of growth depends on the economic conditions and the time period. In the short-run, as the economy is still recovering from the global recession and unemployment is still relatively high, it may not be wrong to stimulate economic growth by increasing

consumption demand to tackle the immediate problems. However, in the long run, consumption-led growth alone will not increase productive capacity and the lack of potential growth could result in higher inflation instead. It also depends on the openness of the economy and its balance of payments position. If the country is highly import reliant and is experiencing a high current account deficit, then consumption-driven economic growth such as that of the UK may not be appropriate as it could worsen the country's current account deficit. However, if the country has been experiencing a persistent and high balance of payments surplus, it may not be wrong to increase consumption to drive economic growth even if it reduces the balance of payments surplus.

Mark Scheme

<p>L3 5-6 marks</p>	<ul style="list-style-type: none"> • Excellent two-sided discussion of why UK's economic growth might or might not be the wrong sort of growth • Excellent depth and rigour of analysis based on analytical framework such as AD/AS diagram to distinguish between actual and potential growth • Excellent breadth and scope of analysis covering a variety of arguments for both thesis and anti-thesis (at least 3 different arguments eg. 2 for thesis + 1 for antithesis or 1 for thesis and 2 for anti-thesis) • Arguments are contextualised and well supported by examples and reference to case materials
<p>L2 3-4 marks</p>	<ul style="list-style-type: none"> • Two-sided discussion of why UK's economic growth might or might not be the wrong sort of growth, but may not be well-developed <p>OR</p> <p>the discussion may one-sided but fairly well-developed with well-substantiated arguments</p> <ul style="list-style-type: none"> • There is some rigour of analysis in distinguishing between actual and potential growth, although depth may be limited • Some breadth and scope of analysis covering a variety of arguments for both thesis and anti-thesis (at least 2 different arguments eg. 1T + 1A or 2T or 2A) • Some reference to case materials to support arguments
<p>L1 1-2 marks</p>	<ul style="list-style-type: none"> • A brief or superficial answer that is not well-developed and lacking in analysis • Or largely irrelevant answer with a few relevant points that are incidental rather than coherently argued • There may be conceptual errors in the explanation • Little reference to case materials
<p>E2</p>	<p>A reasoned conclusion and judgement supported by analysis</p>

E1	Some attempt at an evaluative conclusion not supported by analysis
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- (f) **According to Extract 1, “resilient dynamism means tackling immediate problems and long-term challenges at the same time.” With reference to the data and your own knowledge, discuss the appropriate policy measures you would recommend for China to achieve “resilient dynamism”.** [10]

Introduction

To achieve “resilient dynamism,” China will need to tackle its immediate economic problems while at the same time looking into the longer term challenges. The appropriate policy measures will thus need to address the current economic issues and the long term challenges faced by China.

1. Current economic issues faced by China

- High income inequality

One of China’s main economic issues is the high income inequality. As mentioned in Extract 2, about 13 percent of China's population still live on less than \$1.25 per day, but yet China has one fifth of the world’s billionaires. It can be seen that despite the high double-digit growth enjoyed by China over the past few decades, poverty is still quite prevalent especially in the rural areas. It is hence the government’s priority to “spread the fruits of economic growth more evenly in the country of 1.3 billion” and “close the chasm between the country's urban rich and rural poor.”

- Growth slowdown

It can be seen from Table 1 that China’s growth has been slowing down to 7.8% in 2013 compared to the double-digit growth rates in the previous decades. Given China’s large population of 1.3 billion, this could have an adverse impact on the economic well-being of its people. Unemployment, however, remains stable at around 4% which is possibly close to full employment level.

- Worsening Current Account balance

China’s current account surplus has been declining in recent years, indicating a worsening balance of payments position. However, it still has a fairly high current account surplus of over US\$180 billion in 2013, so this may not be a significant problem

2. Longer term challenges of China

- Re-balancing growth

China is facing the need to re-balance its growth away from the investment-driven and export-oriented model to one driven by domestic demand. Although investments and exports have helped to generate high economic growth in China, it could lead to longer term challenges in the form of inefficiency, wastage of resources, instability due to global trade tensions and vulnerability to external shocks. As mentioned in Extract 2, “there are growing concerns that more fixed-asset investment would simply add to the inefficiency of China's state sector”. Excessive investment can mean an over-expansion of productive

capacity resulting in underutilisation of capacity and wastage of resources. For example, over investment in property development has resulted in large numbers of apartments and offices being unoccupied, reflecting a misallocation and wastage of resources.

- Pollution

China's high growth has been fuelled by the rapid expansion of manufacturing industries which have contributed to a severe pollution problem, even forcing people indoors and factories to close temporarily. If not tackled, the pollution problem can have a severe impact on the well-being of future generations and affect the future economic health of the country.

1. Appropriate policy measures for dynamic resilience – the government will need to combine policies to address the current economic issues with measures to tackle the longer term challenges

2a) Addressing Current Economic Issues:

To tackle income inequality:

- Redistributive policies

To deal with the high income inequality, the government can implement redistributive policies such as giving more subsidies and welfare aid to the poor. At the same time, the government can increase the progressivity of the income tax structure, taxing the rich at a higher rate while reducing the rate of tax on the poor.

Evaluation:

- Giving more transfer payments to help the poor could be a strain on the government budget and divert public funds from other more productive uses such as spending on infrastructure.
- Giving more welfare payments to the poor may encourage a "dependency" attitude as people may rely on getting government aid rather than work hard to increase their own income.
- If the tax structure becomes over progressive, it may be a disincentive for people to work hard to increase their income. This could result in a fall in work effort and productivity.

- Urbanisation

The government can encourage urbanisation by building more homes, schools and hospitals and use public campaigns and information dissemination to persuade people to move from rural to urban areas. With better jobs available in the cities, people's income will increase and this will help to reduce the income gap between the rich and poor. The government can also set up job agencies in the urban cities to help migrants from the rural areas to find jobs in the cities.

Urbanisation also helps to tackle the longer term issue of rebalancing growth. With increased proportion of people living in urban cities, there will also be an increase in consumption spending, thus expanding domestic demand and reducing the economy's dependence on investment and exports for growth.

Evaluation:

- Spending on building infrastructure in the cities to promote urbanisation is also a strain on the government budget and could result in the government incurring a budget deficit and lead to high government debt
- Urbanisation also comes with its associated problems such as overcrowding, increased crime rate and social tensions. If there are insufficient jobs in the city for the migrants from the rural areas, it could result in more jobless and homeless people in the cities.

2b) Addressing Longer Term Challenges:

To promote economic growth and re-balance growth:

- Stimulate consumption spending

As mentioned in Extract 2, unleashing the power of China's consumers is vital to China's economic future. There is a need to rebalance growth by reducing the reliance on investments and exports and expanding domestic demand. The government can implement policies to increase the disposable income of consumers such as reducing taxes especially for the lower income (as mentioned above as part of redistributive policies). As lower income households tend to have higher marginal propensity to consume (mpc), their increase in disposable income will lead to an increase in consumption spending. The government can also put money directly into people's pockets by giving direct subsidies or transfer payments to the poor such as shopping vouchers or welfare grants. This increases their disposable income and will thus encourage them to spend more. Urbanisation as mentioned above will also help to increase consumption as the lifestyle in the urban cities could encourage people to spend more compared to living in rural areas.

At the same time, increasing consumption leads to an increase in AD which induces further increases in consumption through the multiplier effect and eventually results in a multiplied increase in national income, thus addressing the problem of economic slowdown.

Evaluation

While increasing domestic consumption can help to reduce the economy's reliance on investments and exports and thus reduce the inefficiency and instability caused by over-reliance on them, it must also be balanced with appropriate supply-side policies to increase AS. Over-expansion of consumption demand may bring the economy to the Classical range of the AS, resulting in high inflation without any increase in real output as the economy has reached its full employment level. Hence, the economy still needs to maintain a certain level of investment to increase its productive capacity and ensure there is potential growth to prevent inflationary pressure from building up.

To address the challenge of environmental degradation and pollution

- Taxation – Pigovian tax

The government can impose a Pigovian tax to make firms pay for polluting the

environment. This has the effect of internalising the negative externalities generated by firms as they have to pay a tax on every unit of the good they produce. If the tax is equivalent to the marginal external cost due to pollution, then it will help to bring the market equilibrium to the social optimal output, thus achieving allocative efficiency.

Evaluation:

- It is difficult to determine the right amount of tax to impose. If the tax is too high, it could lead to under-provision of the good and reduce consumer welfare. If the tax is too low, it fails to reduce pollution sufficiently and inefficiency will persist in the economy.
- The tax revenue can be used to fund R&D to encourage the development and adoption of cleaner and greener technology by the manufacturing industries.

- Regulation

The government may impose regulation to control pollution. Such regulations may include imposing a limit to the amount of pollution firms are permitted to emit and imposing a fine if they exceed the limit. For example, during the Beijing Olympics, the Chinese government introduced a road rationing regulation in which only cars with even-number license plates are allowed to enter the roads on one day while those with odd-number license plates are allowed to enter the following day. The policy helped to reduce vehicle emissions significantly.

Evaluation:

- While regulation can help to reduce pollution effectively, it can also cause distortions in the market and can lead to inefficiency. A blanket restriction of the amount of pollution allowed to be generated by firms does not encourage the more efficient firms to cut down their emissions. It may even induce firms with lower emissions to increase their pollution level as they see it as a right given to them.
- Regulation has to be properly enforced to be effective, resulting in enforcement costs to society. Resources will need to be spent on enforcing the regulation such as monitoring the pollution levels of firms, pressing charges and collecting the fines from the firms etc. The costs of enforcing the regulation need to be weighed against the benefits of the reduction in pollution.

Conclusion:

For China to achieve resilient dynamism, it will need to reduce its high income inequality and stimulate economic growth, while at the same time rebalancing its growth to focus more on increasing domestic demand and addressing the longer term challenge of reducing pollution and improving their living environment. A combination of different policy measures will thus be required to address these issues and challenges. For example, redistributive policies such as progressive income tax may help to reduce income inequality but will not address the challenge of reducing inefficiency of investments and

environmental pollution. It thus needs to be supplemented by policies such as regulation or taxation to reduce pollution from factories and thus ensure the long term sustainability of its economy. Moreover, each policy has its own limitations and will not be able to address both the short term issues and long term challenges of the country at the same time. Hence a mix of policies is recommended to tackle both the short term and long term issues faced by the country.

Mark Scheme

<p style="text-align: center;">L3 6-8 marks</p>	<ul style="list-style-type: none"> • Excellent discussion of appropriate policy measures to address both current economic issues and longer term challenges faced by China • Good explanation of the current economic issues and longer term challenges faced by China with reference to case materials (at least one short term issue and one long term challenge) • The policy measures are well explained and evaluated. (At least 3 policies well explained) • Effective use of case materials as well as 'own knowledge' to support arguments and/or discuss the policies.
<p style="text-align: center;">L2 4-5 marks</p>	<ul style="list-style-type: none"> • Good discussion of appropriate policy measures to address both current economic issues and longer term challenges faced by China • Correct identification of the current economic issues and longer term challenges faced by China with reference to case materials but may not be well developed • The policy measures are appropriate but may not be well explained or may not be evaluated. (At least 2 policies well explained) • Limited use of case materials as well as 'own knowledge' to support arguments and/or discuss the policies.
<p style="text-align: center;">L1 1-3 marks</p>	<ul style="list-style-type: none"> • The answer is largely irrelevant with a few relevant points that are not clearly explained' • Current economic issues and/or longer term challenges may not be accurately identified • Policies may be inappropriate and/or do not address the issues and challenges directly • No reference to case materials or lack of recognition of context.
<p style="text-align: center;">E2</p>	<p>Well-reasoned evaluative conclusion supported by analysis</p>

	and examples
E1	Attempt at a reasoned conclusion that is not supported by analysis.

Paper 2**Essay Question 1**

In recent years, prices of residential properties have risen at a much faster rate as a result of rapid economic growth. One of the cooling measures by the Singapore government is the release of more land for the development of private residential properties.

- (a) Compare the possible effects of economic growth on the prices of different types of residential properties. [12]
- (b) Discuss the usefulness of demand elasticity concepts in explaining how the above cooling measure might affect consumers' expenditure on different types of residential properties in Singapore. [13]

Suggested answers for part (a)**Introduction**

- Depending on the different income elasticity of demand and price elasticity of supply values of the different types of residential, the effects of economic growth on the prices of different types residential properties would be different.

Body 1: Given different price elasticity of supply, explain how economic growth might likely affect the prices of residential properties that are considered to be of inferior good nature.

- An economy enjoying economic growth suggests lower willingness to buy goods they considered to be of inferior nature e.g. smaller public residential units such as 1-room or 2-room Housing Development Board (HDB) flats. This would result in a decrease in demand for smaller public residential units as illustrated by the shift of the demand curve from D_0 to D_1 in Diagram 1.

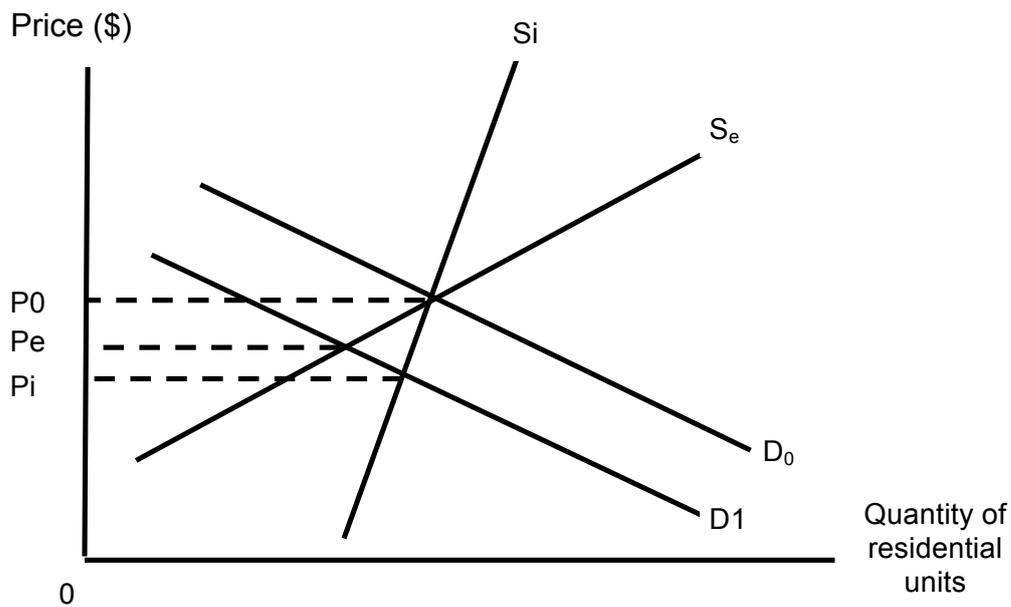


Diagram 1: Market for residential properties of inferior good nature

- The supply of, for example, 1-room HDB flat in the resale housing market would be relatively price elastic as illustrated by S_e . The prices of 1-room Housing Development Board (HDB) flats are likely to decrease insignificantly as illustrated from P_0 to P_e .
- For residential properties with relatively price inelastic supply (e.g. 2-room HDB flats in the new housing market) as illustrated by S_i , the decrease in prices would be significant as illustrated from P_0 to P_i .

Body 2: Assuming same price elasticity of supply, explain how economic growth might likely affect the prices of residential properties that are considered to be of normal good nature.

- The demand for residential properties of normal good nature (i.e. $YED > 0$) would increase and the increase would be large for those of luxury good nature (e.g. private residential units) as illustrated from D_2 to D_4 in Diagram 2, and small for those of necessity good nature (e.g. as 3-room or bigger HDB flats) as illustrated from D_2 to D_3 .

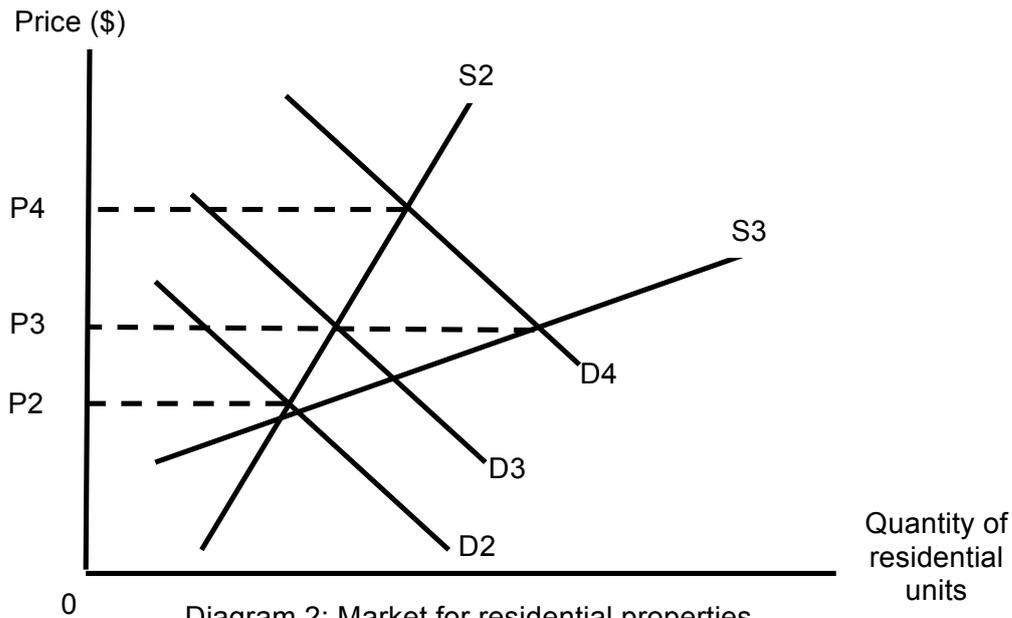


Diagram 2: Market for residential properties of normal good nature

- Assuming a price inelastic supply as illustrated by S_2 , the prices of private residential units are likely to increase from P_2 to P_4 and the increase in prices of 3-room or bigger HDB flats from P_2 to P_4 .

Body 3: Assuming different price elasticity of supply, explain how economic growth might likely affect the prices of residential properties that are considered to be of normal good nature.

- However, the magnitude of the increase in prices would also depend on the values of price elastic of supply (PES). For example, when the economy is enjoying economic growth, the increase in prices might be the same (i.e. from P_2 to P_3) for private residential units (e.g. private residential units in the resale market) as illustrated by S_3 and 3-room or bigger HDB flats (e.g. 3-room or bigger HDB flats in the new housing market) as illustrated by S_2 .

Conclusion

- Depending on the different income elasticity of demand and price elasticity of supply values, the effects of the economic growth would be different on the prices of different residential properties.

Mark Scheme

Levels	Descriptors
<p>High L3 11-12</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Excellent depth in analysis. <ul style="list-style-type: none"> ✓ Accurate, precise and clear use of economic concepts and analysis in all explanations. ➤ Excellent breadth in analysis. <ul style="list-style-type: none"> ✓ YED values are considered. ✓ PES values are considered. Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Contextualised examples. ➤ Logical structure.
<p>Low L3 9-10</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Very good depth in analysis. <ul style="list-style-type: none"> ✓ Accurate and clear use of economic concepts and analysis in most explanations. ➤ Very good breadth in analysis. <ul style="list-style-type: none"> ✓ YED values are considered. ✓ PES value is considered. Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Contextualised examples. ➤ Reasoned structure.
<p>L2 6-8</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Sufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in most explanations. ➤ Sufficient breadth in analysis. <ul style="list-style-type: none"> ✓ YED values are considered. Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Examples are provided.

<p style="text-align: center;">High L1 4-5</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Insufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in some explanations. ➤ Insufficient breadth in analysis. <ul style="list-style-type: none"> ✓ YED is value considered.
<p style="text-align: center;">Low L1 1-3</p>	<ul style="list-style-type: none"> • For an answer that: <ul style="list-style-type: none"> ➤ Is largely irrelevant. <ul style="list-style-type: none"> ✓ Cause(s) of change is not related to economic growth. ✓ Effect(s) of change is not related to prices of different types of residential properties. ➤ Contains fundamental conceptual errors in analysis.

Examiners' Comments:

General Comments:

- *This question was fairly attempted, with majority of the candidates scoring L2 marks. Candidates who were able to interpret the question fully and correctly with the relevant elasticity concepts will generally be able to score L3 marks.*

Lack contextualisation or/and contextualized examples

- *A number of candidates gave rather theoretical answers on the different types of residential properties in Singapore. These students tend to just write private and public housing, while some will just stated inferior, necessities and luxury goods with little contextualised examples.*

Question Analysis/Extract Analysis:

- *A number of candidates made changes to the supply of private houses. While the preamble stated that the supply of private residential land has increased, this was to be used in part (b) and not part (a). These candidates failed to read question carefully which only required the effects of "economic growth", affecting only the demand for different types of housing.*

Content:

- *A large majority of candidates did not analyse the effects of prices using Price Elasticity of Supply (PES). The effects of prices does not just depend on Income Elasticity of demand (YED) alone, but also the PES of the different housing types in Singapore.*
- *While most of the candidates brought in Income Elasticity of Demand (YED), there was a lack of justification of YED values. These candidates will just state that condominiums are luxury goods, without giving reasons. A better candidate will explain that condominiums are considered luxury goods as it has facilities such as swimming pools, tennis courts, privacy due to security guards present as compared to 4-room HDB flats which are necessities as these flats provide the basic functions of housing.*
- *A worrying number of candidates still have incorrect justification of YED values. It is incorrect to use proportion of income as justifications of YED values. These candidates used incorrect justification that bungalows are luxury goods because it takes up a large proportion of income while inferior goods such as 1 -room flat takes up a low proportion of income.*
- *A handful of students had a misconception that increase in demand of housing will increase the supply as producers will want to meet the increase in demand. This is*

incorrect when we go back to the fundamentals of non-price determinants of supply. Instead, the correct explanation should be when demand increases for housing, it is quantity supplied that increases (movement along the supply curve) which accurately shows that suppliers do produce more now.

- *Some brought in PED which is irrelevant for part (a). This shows that they fail to read question carefully.*
- *A handful of students made changes to demand with no application to elasticity concepts at all.*

Structure/organization:

- *There was generally a clear structure for most scripts.*

Phrasing:

- *Candidates still tend to use inappropriate phrasing such as housing has elastic supply. Instead they should use proper phrasing such as the supply is price elastic or the house is price elastic in supply.*

Suggested answer to part (b)

Introduction

- The release of more land for the development of private residential properties which increases the supply of private residential properties would affect consumers' expenditure on private residential properties differently depending on the absolute value of their price elasticity of demand (PED). Given the decrease in prices of private residential properties which is a substitute in consumption to public residential properties, the demand and hence consumers' expenditure on public properties would decrease.

Body 1: Explain how consumers' expenditure on private properties with price elastic and price inelastic demand would change given an increase in supply of private properties due to the release of more land for the development of private residential properties.

- The release of more land for the development of private residential properties is likely to reduce the prices of land for the development of private residential properties. This would in turn result in an increase in supply of private properties which can be illustrated by the shift of the supply curve from S4 to S5 in Diagram 3.

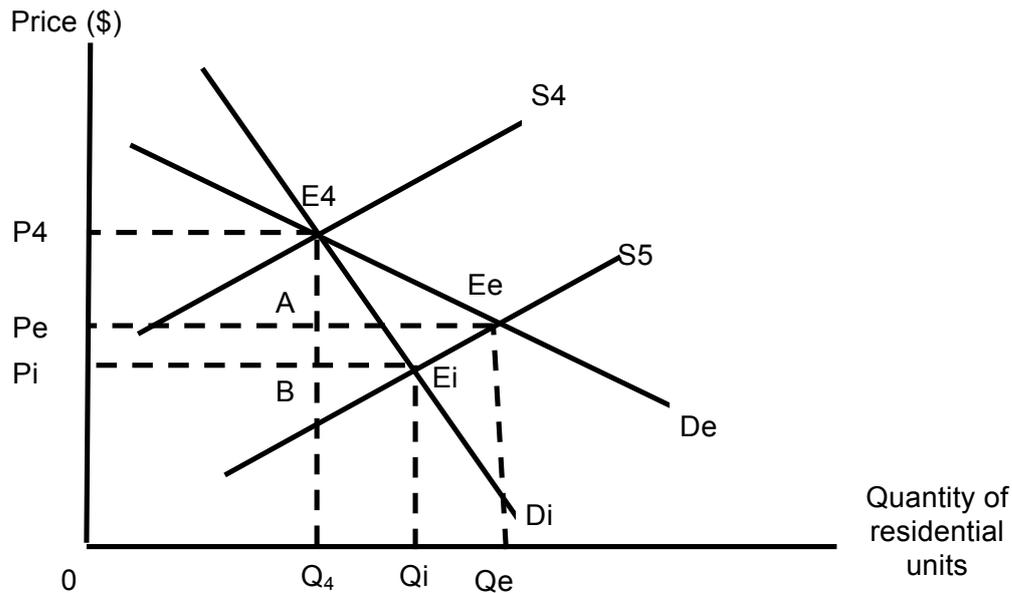


Diagram 3: Market for private residential properties

- Given a relatively price inelastic demand illustrated by D_i , the percentage decrease in price illustrated by distance P_4P_i would be more than the percentage increase in quantity demanded illustrated by distance Q_4Q_i and hence total expenditure on private residential properties with $PED < 1$ would decrease.
- However, if the demand is relatively price elastic illustrated by D_e , the percentage decrease in price illustrated by distance P_4P_e would be less than the percentage increase in quantity demanded illustrated by distance Q_4Q_e and hence total expenditure on private residential properties with $PED > 1$ would increase.

Body 2: Explain how the decrease in prices of private properties would lead to different magnitude of decreases in demand and therefore different magnitude of decreases in consumers' expenditure on public residential properties with different XED values.

- Private residential properties and public residential properties can be considered as substitutes in consumption. Therefore, the demand for public residential properties is likely to decrease as consumers of public residential properties switch to buying private residential properties.

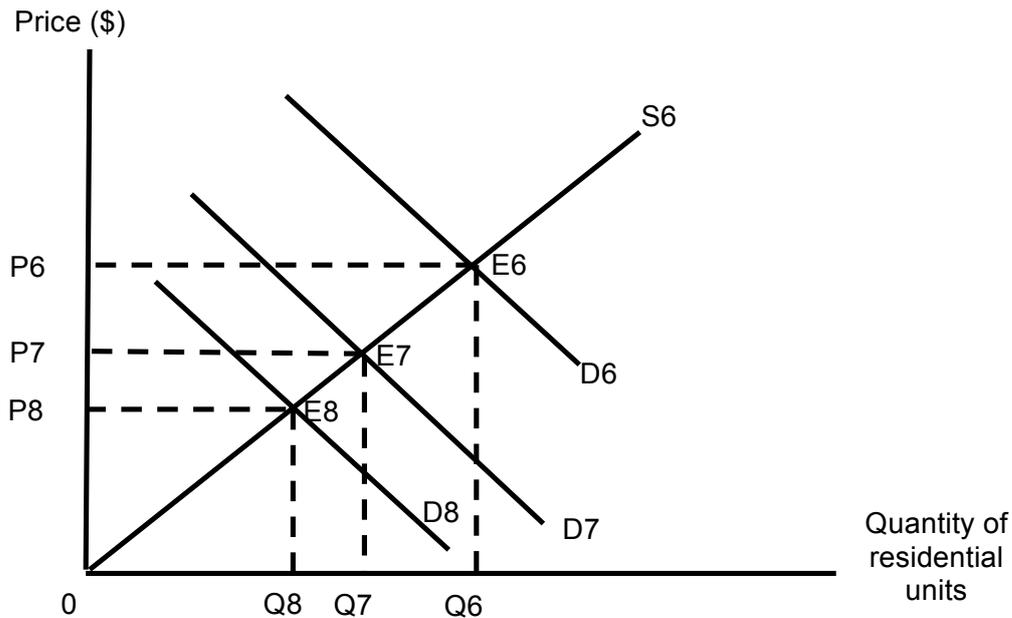


Diagram 4: Market for public residential properties

- For public residential properties which are relatively close substitutes in consumption, the demand would decrease significantly as illustrated from D_6 to D_8 in Diagram 4 resulting in a relatively significant fall in consumers' expenditure.
- For public residential properties which are relatively distance substitute in consumption, the demand would decrease insignificantly as illustrated from D_6 to D_7 resulting in a relatively insignificant fall in consumers' expenditure.

Body 3: Explain the limitations of using PED and XED in explaining how the cooling measure affects consumers' expenditure on different private and public residential properties in Singapore.

- Elasticity values are at best estimates. Therefore, this might lead to inaccuracy in determining the changes in consumers' expenditure as a result of the release of more land for private residential development.
- For simplicity, the analysis in the earlier paragraphs assumes ceteris paribus meaning that other factors remain constant and therefore total expenditure of consumers on the different residential properties are affected only by the release of more land for development of private residential properties. However, the assumption of ceteris paribus for simplicity in analysis might lead to inaccuracy in determining the change in consumers' expenditure as it does not really hold in the real world.

(Any other appropriate limitations would also be acceptable.)

Evaluative conclusion

- Despite being useful and therefore necessary in explaining how the cooling measure might affect consumers' expenditure on different private and public residential properties in Singapore, the use of PED and XED are subjected to limitations and thus other factors have to be incorporated to have a more accurate conclusion.

Mark Scheme

Levels	Descriptors
L3 7-9	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> > Excellent depth in analysis. <ul style="list-style-type: none"> ✓ Accurate, precise and clear use of economic concepts and analysis in all explanations. > Excellent breadth in analysis. <ul style="list-style-type: none"> ✓ PED values are considered. ✓ XED values are considered. ✓ Limitations are considered. • Supported by <ul style="list-style-type: none"> > Well-labelled and well referred to diagrams. > Contextualised examples. > Logical structure.
L2 5-6	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> > Sufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in most explanations. > Sufficient breadth in analysis. <ul style="list-style-type: none"> ✓ PED value is considered. ✓ XED value is considered. • Supported by <ul style="list-style-type: none"> > Well-labelled and well referred to diagram(s). > Examples are provided.
High L1 3-4	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> > Insufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in some explanations. > Insufficient breadth in analysis. <ul style="list-style-type: none"> ✓ PED or XED is considered.
Low L1 1-2	<ul style="list-style-type: none"> • For an answer that: <ul style="list-style-type: none"> > Is largely irrelevant <ul style="list-style-type: none"> ✓ Cause(s) of change is not related to the cooling measure. ✓ Effect(s) of change is not related to consumers' expenditure on different private and public residential properties. > Contains fundamental conceptual errors in analysis.

Levels	Descriptors
E2 3-4	<ul style="list-style-type: none"> • For a well-explained judgment.
E1 1-2	<ul style="list-style-type: none"> • For an unexplained judgment.

Essay Question 2

- (a) Explain why prices in an oligopolistic market tend to be more stable than that of a perfectly competitive market when there is an increase in costs of production. [10]
- (b) Companies often find it profitable to charge different prices for the same product to different groups of consumers. [15]

Discuss whether it is beneficial to society for firms in an oligopolistic market to adopt the above approach.

Suggested answers for Part (a)**Introduction:**

- The traditional objective of firms is to profit maximise and hence when setting prices, firms will choose to set a price where their marginal revenue (MR) which is the increase in revenue from selling an additional unit of the product, is exactly equal to their marginal cost (MC) which is the cost of producing an additional unit of the product.
- When there are changes in the cost of production for firms, the prices of goods and services are likely to change due to changes in the marginal costs. However, the price changes in an oligopoly tend to be less volatile and prices are observed to be “sticky”. In a PC industry however when there are changes in marginal costs, prices will change accordingly.

Body:**Price determination in Perfectly Competitive markets**

- In a perfectly competitive market, there exist a large number of small firms selling a homogeneous product. As a result, each has an insignificant share of the total market output and this leads to each firm being a price taker that has no influence over the price that they can set. Prices are thus determined by the market demand and supply for the product.
- There are no barriers to entry and hence firms can easily enter and exit a market and firms will earn only normal profits in the long run.
- With a given increase in costs of production, the market supply for the product will decrease as firms find it less profitable to produce the same amount of output. Some firms may decide to leave the market while others may decide to cut back on production. Supply would fall and this would lead to an increase in prices. This is illustrated in Figure 1 below.

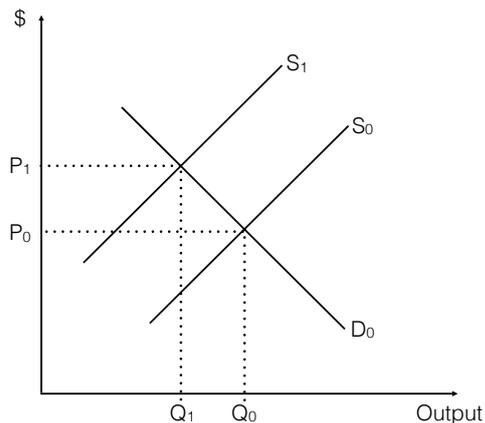
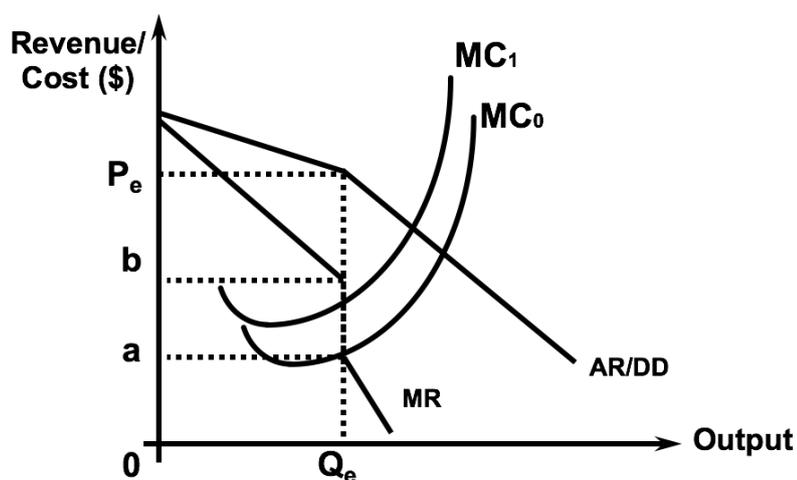


Figure 1

- With reference to Figure 1 above, when there is an increase in cost of production, the supply curve for the industry will decrease and shift to the left from S_0 to S_1 . At the original price of P_0 , there will be a shortage as Q_d is greater than Q_s . This results in an upward pressure on prices from P_0 to P_1 .
- Since firms in PC industry are price takers, when prices increase from P_0 to P_1 , the price of the product for individual firm will also increase.
- Hence with a given change in costs of production, prices in a PC industry are less stable.

Price determination in a Competitive Oligopoly

- An oligopolistic market structure exists when there are a few large sellers, each with a significant share of the total market output, dominating a market. Each firm has considerable market power to influence the price of the product.
- There tends to be high barriers to entry, which can be either natural or man-made, and these deter new firms from entering the market easily. Hence existing firms are able to continue to earn supernormal profits in the long run.
- Examples of these industries include the telecommunications industry and Public Transport.
- Oligopolistic firms are mutually interdependent. Mutual interdependence is where a firm is affected by its rival's decisions and its own decisions affect its rivals. Since each firm in an oligopoly has a significant market share, the decision of any one firm to either raise or lower price will have an impact of the other firms in the industry. There is thus a need to consider the actions of rivals. Prices in an oligopolistic market therefore tend to be more stable. This can be illustrated by the kinked demand curve below.



- Assuming a competitive oligopoly, when one firm lowers its price, all other firms are likely to match this price fall rather than risk losing a share of the market, hence the firm will experience a less than proportionate increase in quantity demanded. Thus the demand curve facing the firms if it lowers the price is very

price inelastic. On the other hand, when one firm raises its price and no one follows, its sales will fall rapidly as the decrease in quantity demanded is more than proportionate. Thus the demand curve facing the firm if it raises its price is very elastic. Other firms will not follow suit, because by keeping their prices constant, they can capture a larger market share. Hence, the demand curve is kinked at the current price P_e , demand being significantly more price elastic above the current price than below.

- The price and output of the oligopolistic firm is less sensitive to increases in production cost as a result. The MC curve can rise from MC_1 to MC_2 , but the firm continues to profit-maximise and equate $MC=MR$, to determine the profit-maximising output Q_e . At Q_e , the maximum price that consumers are willing and able to pay is given by P_e . Hence, the oligopolistic firm would price its good in this manner. This price rigidity reflects that the oligopolistic firm has little incentive to increase or decrease prices and hence even with an increase in costs of production, prices are stable.

Conclusion

- Due to the mutual interdependence of firms in an oligopoly, prices tend to be sticky as each firm has to consider the reaction of rival firms to changes in their price. As a result, when there is an increase in cost of production prices tend to be rigid so long as the increase in MC are within the discontinuous range of the MR.
- In contrast, perfectly competitive firms are price takers and there is no need for any individual firm to consider the actions of their rivals. Once there is an increase in marginal costs, this would be reflected by changes in the market supply and each firm will now face a higher price. Hence price changes will take place more frequently to reflect changing cost considerations.

Mark Scheme

L3	7-10	<ul style="list-style-type: none"> • Excellent knowledge of how prices are determined in BOTH perfectly competitive markets and competitive oligopolies. (Depth) <ul style="list-style-type: none"> ○ Answer includes brief explanation on the condition for profit maximisation. (i.e how firms decide to set prices) • Excellent explanation of why prices in both competitive oligopolies (with real-life examples) are more stable than that of a perfectly competitive market due to the mutual interdependence. • Excellent diagrammatic analysis of the kinked demand curve. Diagram is accurately drawn and used to explain why price rigidity occurs. (Depth) • Good explanation of how changes in costs of production would lead to increases in marginal costs and hence prices. • Good explanation of the features of BOTH oligopolies and perfectly competitive markets to account for the pricing behaviour of the firms.
L2	5-6	<ul style="list-style-type: none"> • Good knowledge of how prices are determined in BOTH perfectly competitive markets and competitive oligopolies.

		<p>(Depth)</p> <ul style="list-style-type: none"> ○ Answer may not includes brief explanation on the condition for profit maximisation. (i.e how firms decide to set prices) • Good explanation of why prices in either competitive oligopolies are more stable than that of a perfectly competitive market due to the mutual interdependence. • Good diagrammatic analysis of the kinked demand curve. Diagram is may not be accurately drawn but explanation of how price rigidity occurs is still evident in words. (Depth) • Some recognition of how changes in costs of production would lead to increases in marginal costs and hence prices. • Some recognition of the features of oligopolies OR perfectly competitive markets to account for the pricing behaviour of the firms.
L1	1-4	<ul style="list-style-type: none"> • Some knowledge of how prices are determined in perfectly competitive markets OR oligopolies. (Depth) <ul style="list-style-type: none"> ○ Some recognition of how prices are determined by firms • Some explanation of why prices in competitive oligopolies are more stable than that of a perfectly competitive market due to the mutual interdependence. • Diagrammatic analysis of the kinked demand curve may not be present or may be incorrectly drawn. Explanation of price rigidity may not be clear/ No explanation of diagram. (Depth) • No recognition of how changes in costs of production would lead to increases in marginal costs and hence prices OR recognition of changes in costs of production as increases in average costs and hence no impact of changes in prices. • No or brief recognition of the features of oligopolies OR perfectly competitive market to account for the pricing behaviour of the firms

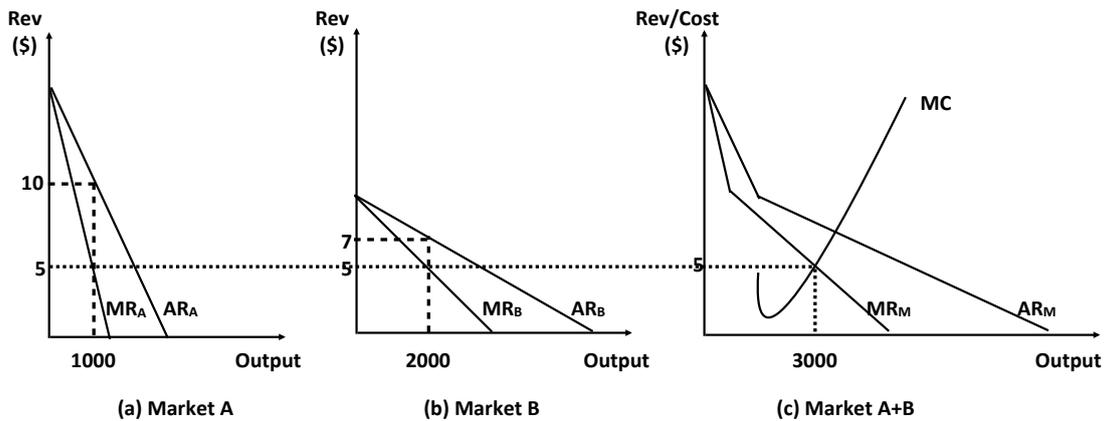
Part (b)

Introduction:

- The practice of charging different prices for the same product to different groups of consumers is often associated with price discrimination if we assume that the different prices charged are not associated with differences in costs.
- Oligopolies would be able to make use of this strategy due to the significant market power that it possesses. The most common form tends to be 3rd degree price discrimination where consumers are segmented into different groups and prices are charged according to the group. This allows oligopolies to earn higher revenue by charging different prices in markets due to the differing price elasticities of demand present.
- While this would result in a loss of consumer surplus and inequity for society, there are several benefits that would benefit society such as that of increased production and cross subsidisation.

Body:**Explaining 3rd degree price discrimination**

- In the case of 3rd degree price discrimination, if the oligopolist is able to segment consumers into two distinct markets and charge a different price in each of the markets, the oligopolist would choose to charge a higher price in a market with a relatively inelastic demand and a lower price in a market with a relatively price elastic demand. This would enable them to increase the revenue earned.
- With reference to Figure 3 below, market A has a relatively price inelastic demand while market B has a relatively price elastic demand. Each of the markets will thus have different MR and AR curves. Together, market A and market B form the total market and this can be reflected by AR_C and MR_C which is the horizontal summation of the AR and MR curves in market A and market B.

**Figure 3** Third Degree Price Discrimination

- Referring to Figure 3(c), the producer maximises his profit where $MR = MC$ i.e. at 3000 units in total. This output must then be divided between the two markets so that MC is equal to MR in each market: i.e. $MC = MR = \$5$ in each market. MR must be the same in both markets; otherwise revenue could be increased by switching output to the market with the higher MR .
- The profit-maximising price in each market will be given by the relevant demand curve. Thus, in market A, 1000 units will be sold at \$10, and in market B, 2000 units will be sold at \$7 each. The higher price is charged in the market with the **less** price elastic demand curve. If the Oligopolist were to charge a single price of \$10, it would not be able to sell any units in market B.

Thesis: It is beneficial for Oligopolistic firms to practice price discriminationFrom the Firm's Perspective

- Higher profit for the firm
 - As the Oligopolist is able to price discriminate, it would be able to sell its products in market B. The resulting effect is that the firm is now able to increase the output produced due to the existence of market B as opposed to only being able to sell in market A before price discriminating. The increase in scale of production would allow the oligopolist to reap internal economies of scale and experience lower average costs.
 - By charging a higher price in markets with a relatively price inelastic demand and a lower price in the market with a relatively price elastic demand than

charging a profit-maximising single price. There would be an increase in total revenue earned by the oligopolist from the combined markets.

- The combined effect of lower average costs and higher revenues would lead to higher profits for the firm.
- These higher profits would allow the oligopoly to have more ability to invest their profits to develop new products or to carry out research to lower its cost of production.

From the Consumers' Perspective

- Possibility of cross subsidisation, benefiting **some** consumers
 - Consumers who end up paying a higher price will have a lower consumer surplus than if a uniform price were charged. However, those who pay a lower price will have a greater consumer surplus.
 - Those paying the lower price may be able to obtain a good or service they could not otherwise afford, for instance, concessionary bus fares for the elderly. Price discrimination is likely to increase output and make the good or service available to more people in such instances
 - Furthermore, with price discrimination, certain essential services would also then be provided to those with lower ability to pay, thus increasing their welfare. For example, certain otherwise unprofitable bus routes can be kept running because of cross subsidization using price discrimination.
- Greater variety of products
 - The higher profits earned by the oligopolist would provide an added ability to conduct research and development to come up with better quality products or more innovative products for the consumers.
 - This is especially true considering how the oligopolistic market structure is characterised by high levels of barriers to entry and that there is fierce non-price competition that exists. Both of these factors would provide the incentive for oligopolist to product innovate.

Anti- Thesis: Oligopolistic firms that practice price discrimination results in costs to society

From Society's and Consumer's Perspective

- Loss of consumer surplus
 - A firm which practises price discrimination will be able to increase its revenue, at the expense of consumers who end up paying a higher price. The gain in revenue for firms is at the expense of loss of consumer surplus for some groups of consumers.
 - However, if an oligopolistic firm innovates and as a result, the price that consumers are willing to pay for the product increases but at the same time, the price charged for the product remains the same, then the consumer surplus to consumers would actually increase. In such a case, the consumer may not suffer from a loss of consumer surplus.
- Inequity
 - As price discrimination raises a firm's profits, the higher profits tend to be concentrated in the hands of business owners and hence this would worsen the income inequality.
 - However, if the government intervenes to reduce the market power of the firm, then the issue of income distribution will not be so severe.
- Less competition and higher prices

- A price discriminating oligopolist may be able to drive competitors out of business if they are able to charge higher prices in the market with a relatively inelastic demand for the product and make use of the profits to charge a very low price in another market. If the prices charged by the oligopolist are lower than the average cost of producing that unit of good, this would be considered as predatory pricing.
- If firms in a domestic market making use of the higher profits earned domestically to artificially charge a lower price for their exports in a foreign market. This could lead to dumping of products by the domestic oligopolist in other countries.
- If the firm is able to drive their competitors out of business in the foreign market, they would have greater market share and monopoly power to charge higher prices and earn greater total revenue and assuming the increase in revenue is greater than the increase in costs, profits would increase.

Conclusion:

- Whether it is beneficial to society for an oligopolist to charge different prices to different groups of consumers depends on what the firms do with the additional profits that they earn. In the context of an oligopoly, due to the high incentive to product differentiate their products, it is likely that the additional profits earned by charging different prices would be used to create new products for consumers and hence consumers would be able to benefit.
- At the same time, the loss of consumer surplus would only affect some groups of consumers and benefit others and hence overall, the loss of consumer surplus would benefit some while causing some to lose out.

Mark Scheme

L3	9-11	<ul style="list-style-type: none"> • Excellent analysis of BOTH benefits and costs to society when oligopolies price discriminate with excellent explanation of how 3rd degree price discrimination works (Depth) • Excellent consideration of firms and consumers, including the differing impact of price discrimination on different groups of consumers (Scope) • Contextualisation of different oligopolistic markets considered • Excellent diagrammatic analysis to explain how price discrimination works and to illustrate effects on society (Depth)
L2	6-8	<ul style="list-style-type: none"> • Good analysis of benefits and/or costs to society when oligopolies price discriminate with clear explanation of how 3rd degree price discrimination works (Depth) • Good consideration of firms and/or consumers. (Scope) • Some use of diagrammatic analysis to explain how price discrimination works and to illustrate effects on society
L1	1-5	<ul style="list-style-type: none"> • Some recognition of benefits OR costs to society when oligopolies price discriminate. (Depth) • Some consideration of firms OR consumers and/or society. (Scope)
Evaluation		
E2	3-4	<ul style="list-style-type: none"> • For a judgement based on criteria to weigh if it is beneficial for an oligopolist to practise price discrimination.

E1	1-2	<ul style="list-style-type: none"> • For a conclusion on the benefits and costs of price discrimination but may not have made use of criteria to weigh if it is beneficial or not.
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Essay Question 3

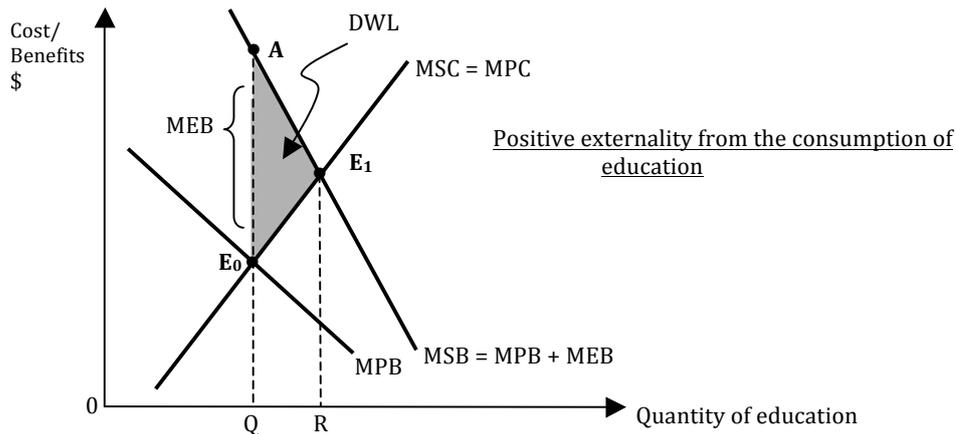
In the UK, primary and secondary education in the state schools is provided free of charge whereas in Singapore, all school pupils are required to pay school fees which are highly subsidised.

Explain why government intervention is advocated in the market for education and assess the economic case for the different approaches between the UK and Singapore. [25]

Suggested answer:

Government intervention is advocated to address under-consumption due to education being a merit good (positive externality and information failure)

- Private individuals only take into account of private costs and private benefits, because they pursue only their self-interest and failed to internalize the external benefits of consuming education
 - Private cost: school fees, cost of uniform and books, foregone earnings.
 - Private benefits: Education allows an individual to enjoy better job prospects (higher future earnings and career progression) which leads to a higher standard of living.
- However, from the society's point of view, there is a divergence between social and private benefits so that MSB is higher than MPB (difference being the MEB).
 $MSB = MPB + MEB$
- External benefits due to education: Equips children with basic literacy and numeracy; possibly increase in employment and growth rates. This drives economic competitiveness of the economy as it spurs innovation and entrepreneurial abilities. In the case of Singapore, education promotes peace and stability in the nation by inculcating national values and social instincts. Need to emphasize how it affects 3rd parties who are not involved directly in the consumption/production of education.
- Education is considered a merit good as it usually possesses positive externalities when consumed by the economy and is deemed socially desirable. The government feels that people would under-consume education without any form of government intervention (such as subsidies or free provision), possibly because of information failure, where individuals lack information of the full benefits of consumption (actual and perceived MPB may differ) where they have lower perceived benefits of education to self.



- Free market equilibrium level of education is OQ where $MPB = MPC$
- Socially optimal level of education is OR where $MSB = MSC$
- Under-consumption of education by QR units
- Results in allocative inefficiency and deadweight loss to society (Area AE_0E_1) (which is the sum of the excess of MSB over MSC for the quantity of education under-consumed).

Government intervention is advocated to address the issue of income inequality

- Since the market responds to the "dollar votes" or demand cast by the consumers, resources may be allocated mainly to the production of goods and services demanded by the rich. Thus, the total welfare of the community may not be maximised. The rich may pursue their own interest, rather than the interest of the community.
- If left to the free market, those who are unable to afford the high cost of private education may not get a chance to attend school.
- Thus government intervention is advocated to address the issue of income inequality via subsidies or direct provision to ensure poor but talented children get a chance to attend school and help students from low income families to break the poverty cycle and narrow the gap between the rich and the poor. This helps to foster a more equal society.

*Note:

- Students may consider market power as the source of market failure in the private education sector and thus government intervention is advocated.

Assess the economic case for the different approaches between the UK and Singapore

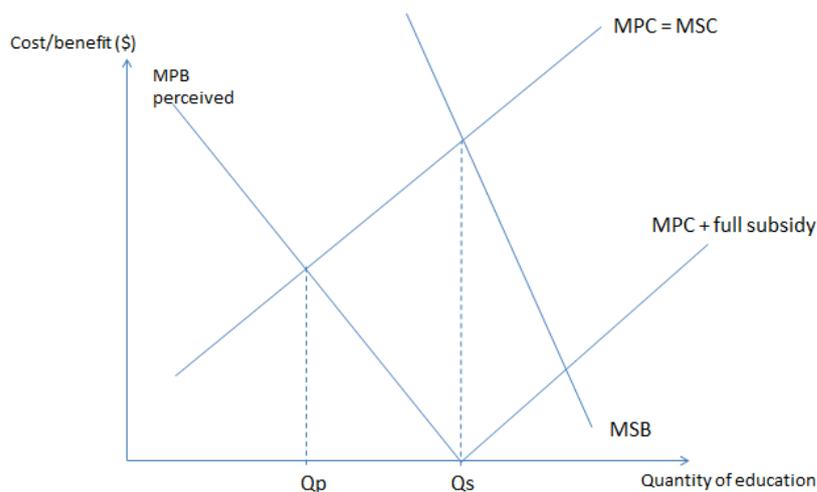
Reason for the different approaches between the UK and Singapore

- Differences in how each country views the perceived and actual private benefit differently.
- To resolve equity issues

Case for UK in providing education free/ Argument against Singapore for providing high subsidy

- Primary and secondary education in UK state schools are free

- Largely for equity reasons to ensure all children in the UK to attend school and help students from low income families to break the poverty cycle and narrow the gap between the rich and the poor.
- In addition, the perceived private benefit in UK may be lower than Singapore. There may be a lower value placed on education in the UK compared to Asian culture where education is placed a high emphasis. This means that there is lower perceived MPB because of information failure where the individual fails to take into account all the full benefits of education to themselves.
- In the question, we assume MSB for 2 countries is the same, meaning that value of externalities/social benefits same.
- *(Alternatively, students may argue for that the UK government may place a larger value on the external benefits of primary and secondary education than the Singapore government. Thus the different approach between free and highly subsidised)*
- Increase the quantity of education to the greatest for primary and secondary education in UK.
- With reference to the graph below, the socially optimum level of consumption is where $MSB = MSC$ at OQ_s . If left to the free market, the level of consumption would be where $MPB_{\text{perceived}} = MPC$ at OQ_p .
- The level of under-consumption would be $Q_s - Q_p$.
- If the UK government gives free education (i.e. total subsidy), the MPC curve shifts to $MPC + \text{subsidy}$. The level of consumption would be where $MPC + \text{subsidy} = MPB_{\text{perceived}}$ which is equal to $MSB = MSC$ at OQ_s . The subsidy allows the consumers to internalise the positive externality.
- To achieve allocative efficiency where $MSB = MSC$ at OQ_s , this is the level where $MPB = 0$.



Argument against providing free education in the UK

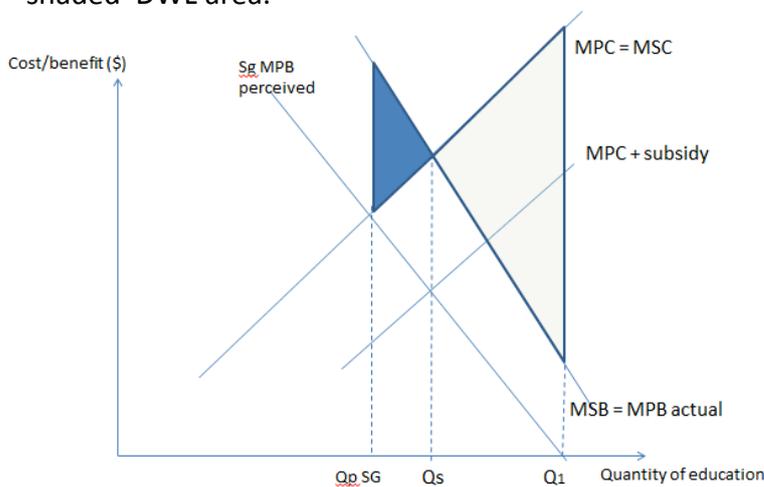
- The limitations of free provision to resolve the externalities also depend on how the increased government expenditure can be financed. The opportunity cost of subsidising education might be very high if government has to limited funds for all its competing uses. There is always opportunity cost incurred in government

spending on education. Something has to be given up in order for more funding to be made available for subsidising education. Hence, a reliable cost-benefit analysis should be carried out to ensure that the precious tax payers' are put to effective use in maximising society's welfare.

- UK government faces high government debt and therefore subsidising education may worsen their debt burden.
- In addition, education is not a public good as it is rivalrous and excludable
- Rivalrous: Additional people who consume education depletes the benefits available for others to enjoy
 - ➔ Marginal cost is not zero, i.e. there is opportunity cost involved in providing education to an additional student, if it is free then the price is lower than the opportunity cost of providing the last unit of the good)
 - ➔ Hence, education should not be free provision. There should a fee charged for education
 - ➔ Note: Discussion on excludability is not required to determine the different approaches between Singapore and the UK.

Case for Singapore in providing high subsidies

- The perceived MPB is higher in Singapore than the UK, therefore the DWL arising from free provision (where $MPB=0$) (shown by the grey area) may be more than the DWL of no government intervention (the blue area). Level of subsidy in Singapore is $MPC + \text{subsidy}$ such that it is equal to MPB_{sg} , and it coincides with $MSB=MSC$ at OQs .
- The reason for co-payment (highly subsidised rather than totally free) is to ensure that education is not overconsumed. This is shown at OQ_1 and the grey shaded DWL area.



- Singapore provides targeted subsidies through Financial Assistance Scheme (FAS) to help the low income families who may face difficulty in paying for education fees, standard miscellaneous fees and basic schooling expenses such as textbooks and school attire. This helps to address the equity issue.
- However, Singapore does not provide free education for all, though it is highly subsidised.

Argument against free provision/ giving high subsidy for both countries

- Difficulties lie in measuring the exact size of the MEB and hence the exact amount of subsidy or taxes needed to correct the market failure. Government failure may itself lead to problems if they over-subsidise education, leading to inefficiency in the allocation of scarce resources (in this case, tax payers' money) to the market for education.

Evaluation/Conclusion:

- The different approaches arise because of the different valuation of MPB (perceived MPB_{sg} > perceived MPB_{uk}). In addition, perceived MPB for UK is zero at the socially optimum level of education unlike the case for Singapore where it is above zero.
- The economic case for the two approaches depends on the budget of the respective governments and whether their government has high fiscal debt. In the case of Singapore, there are large reserves and it is in a better position to offer high subsidies and to continue to invest in developing its human capital. In contrast, the UK government has high fiscal debt and thus has lesser ability to offer free education.
- It also depends on the importance of investing in human capital in the respective countries. In Singapore, given the lack of natural resource, labour is our most valuable factor of production and thus stresses the importance to invest in education to train up a skilled workforce and the external benefits brings positive externalities to society, for example, through the skills they bring to the workplace which increase overall productivity and output. In contrast, the UK has greater endowment of factors of production, and thus, lower need to rely solely on human capital to drive its economic growth. Thus, the different approaches adopted may not be justified totally.
- Given the high quality of students generated by Singapore schools as shown by international tests and being a relatively effective social leveller in the society, this method of highly subsidising majority of the students and giving targeted subsidies to the low income students have worked well for Singapore, such that Singapore's fiscal position is relatively healthy.

Level	Descriptors
Level 3 High L3 18-21	<p>For an answer that shows:</p> <ul style="list-style-type: none"> - Excellent depth in analysis: <ul style="list-style-type: none"> o accurate use of economic concepts and analysis throughout - Excellent breadth in analysis: <ul style="list-style-type: none"> o Answer demonstrates a thorough analysis and explanation on why government intervention is advocated with reference to 2 sources of market failure o Answer includes a two-sided analysis of why the approaches differ for both UK and Singapore by considering the cases for and against free provision and high subsidy.
	<p>For an answer that shows:</p> <ul style="list-style-type: none"> - Very good depth in analysis <ul style="list-style-type: none"> o Accurate use of economic concepts and analysis in <u>most</u>

Low L3 15-17	<p>explanations</p> <ul style="list-style-type: none"> - Very good breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a very good analysis and explanation on why government intervention is advocated with reference to at least 1 source of market failure. ○ Answer includes a two-sided analysis of why the approaches differ for both UK and Singapore by considering the cases for and against free provision and high subsidy.
High L2 12-14	<p>For an answer that shows:</p> <ul style="list-style-type: none"> - Good depth in analysis <ul style="list-style-type: none"> ○ Accurate use of economic concepts and analysis in most explanations. Use of economic concepts and analysis may not be precise. Some use of economic analysis and tools is evident. - Good breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a good analysis and explanation on why government intervention is advocated with reference to at least 1 source of market failure. ○ Answer includes analysis of why the approaches differ for both UK and Singapore by considering the cases for and against free provision and high subsidy or it may be a one-sided analytical explanation but both countries' approaches considered.
Low L2 10-11	<p>For an answer that shows:</p> <ul style="list-style-type: none"> - Sufficient depth in analysis <ul style="list-style-type: none"> ○ Accurate use of economic concepts and analysis in most explanations. Use of economic concepts and analysis may not be precise. - Sufficient breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a sufficient analysis and explanation on why government intervention is advocated with reference to at least 1 source of market failure. ○ Answer includes sufficient analysis of why the approaches differ for both UK and Singapore by considering the cases for and against free provision and high subsidy or it may be a one-sided explanation but both countries' approaches considered.
High L1 6-9	<p>For an answer that shows:</p> <ul style="list-style-type: none"> - Insufficient depth in analysis <ul style="list-style-type: none"> ○ Inaccurate use of economic concepts and analysis in most explanations. - Insufficient breadth in analysis: <ul style="list-style-type: none"> ○ Some analysis and explanation on why government intervention is advocated but only addressed <u>one part</u> of the answer i.e. the market failure well. For example, why government intervention is advocated in education by examining at least 1 possible source of market failure with good analysis. ○ OR Largely a one-sided explanation with either both countries'

	approach considered or only 1 country considered but a 2-sided argument.
Low L1 1-5	For an answer that <ul style="list-style-type: none"> - Is largely irrelevant - Contains fundamental conceptual errors in analysis. - Largely descriptive answer
E2 3-4	<ul style="list-style-type: none"> - Judgment based on analysis - Ability to evaluate which economic case is preferred with analysis/elaboration
E1 1-2	<ul style="list-style-type: none"> - Unexplained judgment - May have discussed the limitations of the approaches

Essay Question 4

- (a) Explain the trade-offs in macroeconomic objectives that Singapore is likely to face when it allows the exchange rate of the Singapore dollar to appreciate. [10]
- (b) Discuss the alternative macroeconomic policies that the Singapore government can adopt to tackle these trade-offs. [15]

Suggested answers to part (a)**Introduction**

- An appreciation of Singapore dollar might result in trade-offs among Singapore's economic growth, inflation, unemployment, and balance of payment.

Body 1: Explain how an appreciation of Singapore dollar might lower inflation but worsen balance of payment, decrease actual growth and increase demand deficient unemployment in Singapore.

Body 1A: Explain how an appreciation of Singapore dollar might lower inflation in Singapore.

- Allowing Singapore dollars (SGD) to appreciate is likely to lower inflation in Singapore.
- This is because Singapore is heavily reliant on imports for consumption and production given its lack of resources. The strengthening of SGD would thus resulting in the lowering of costs for businesses illustrated by the shift of the short run aggregate supply (SRAS) curve from $SRAS_1$ to $SRAS_2$ as shown in Diagram 1. Businesses are likely to pass on the lower costs in terms of lower prices to consumers thus resulting in a decrease in general price level as illustrated from P_1 to P_2 (given AD_3) and hence lowering cost push inflation in Singapore.

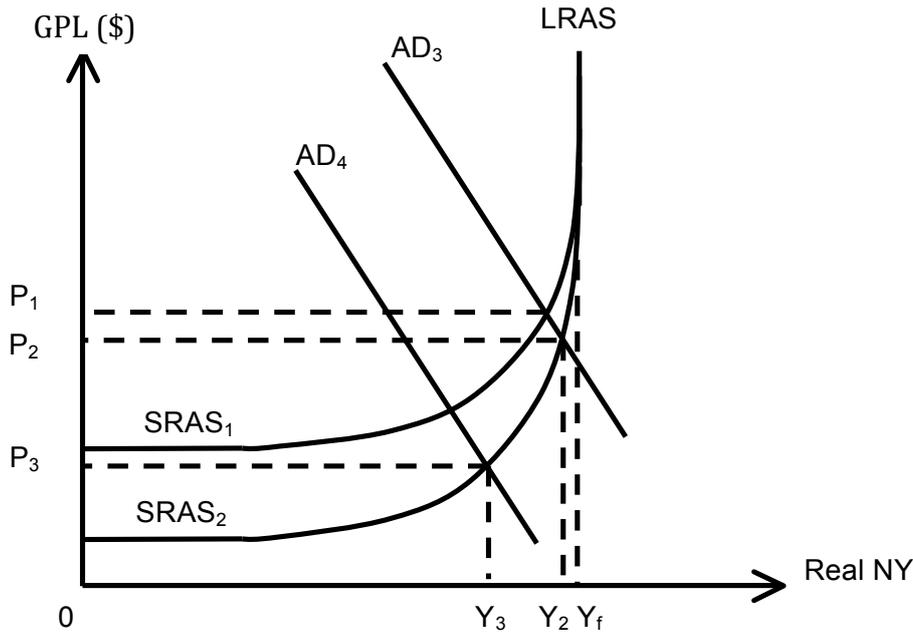


Diagram 1

- Moreover, because Marshall-Lerner condition holds, the appreciation of SGD would result in a decrease in Singapore's aggregate demand (AD). Marshall-Lerner condition holds for Singapore because the demand for Singapore's export is price elastic (i.e. $PED_x > 1$) due to the wide availability of substitutes for Singapore's export. The decrease in AD illustrated from AD_3 to AD_4 would result in a decrease in general price level illustrated from P_2 to P_3 and hence lowering demand pull inflation in Singapore.

Body 1B: Explain how the appreciation of Singapore dollar might in the short term worsen balance of payment, decrease actual growth and increase demand deficient unemployment in Singapore.

- The appreciation of SGD would however worsen Singapore's balance of trade and hence worsen Singapore's balance of payments.
- In addition, firms are likely to decrease the derived demand for labour thus resulting in an increase in demand deficient unemployment and hence a decrease in real national income as illustrated from Y_2 to Y_3 in Diagram 1. As production decreases, real national output and hence actual growth decreases.

Body 2: Explain how the appreciation of Singapore dollar might in the long term improve balance of payment, increase potential growth and actual growth, and lower demand pull inflation, but might increase structural unemployment in Singapore.

Body 2A: Explain how the appreciation of Singapore dollar might lead to an inflow of foreign direct investment and thus in the long term improve balance of payment, increase potential growth and actual growth, and lower demand pull inflation.

- Nevertheless, the appreciation of SGD might incentivise an inflow of foreign direct investment in search of higher returns. An inflow of FDI would be considered a credit entry in Singapore's capital-financial account and thus might improve Singapore's balance of payment.
- In addition, Singapore's productive capacity is likely to increase in the long term. This can be illustrated by the shift of the LRAS curve from $LRAS_4$ to $LRAS_5$ as shown in Diagram 2, increasing full employment level of output from Y_f to Y'_f hence increasing potential growth.
- Actual growth is also likely to increase as illustrated from Y_f to Y_5 and demand deficient unemployment is likely to decrease given an increase in derived demand for labour to increase production. Moreover, demand pull inflation is likely to decrease as illustrated by the fall in general price level from P_4 to P_5 .

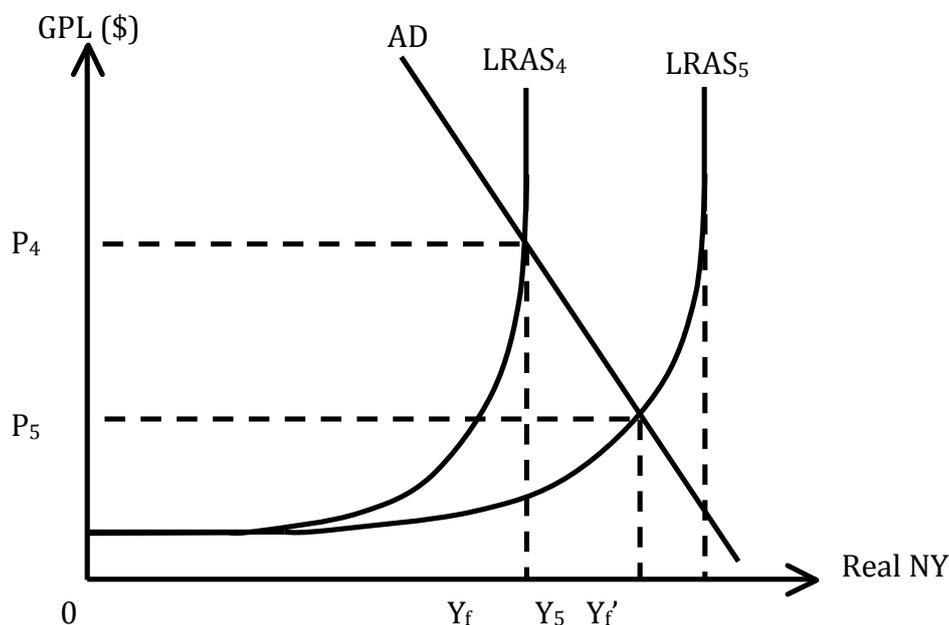


Diagram 2

Body 2B: Explain that the appreciation of Singapore dollar might increase structural unemployment in Singapore.

- However, Singapore may face an increase in structural unemployment due to the mismatching of skills of labour and skills requirements by businesses because of the investments Singapore derives from the inflow of FDI. Low skilled workers or workers who skills are outdated may be retrenched and may not be able to regain employment.

Conclusion

- An appreciation of SGD is likely to result in trade-offs among Singapore's macroeconomic objectives.

Mark Scheme

Levels	Descriptors
<p>High L3 9-10</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Excellent depth in analysis. <ul style="list-style-type: none"> ✓ Accurate, precise and clear use of economic concepts and analysis in all explanations. ➤ Excellent breadth in analysis (all the 4 macroeconomic objectives are considered). <ul style="list-style-type: none"> ✓ Inflation. ✓ Economic growth. ✓ Unemployment. ✓ Balance of payment. • Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Contextualised examples. ➤ Logical structure.
<p>Low L3 7-8</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Very good depth in analysis. <ul style="list-style-type: none"> ✓ Accurate and clear use of economic concepts and analysis in most explanations. ➤ Very good breadth in analysis (at least 3 out of the 4 macroeconomic objectives are considered). • Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Contextualised examples. ➤ Reasoned structure.
<p>L2 5-6</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Sufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in some explanations. ➤ Sufficient breadth in analysis (at least 2 out of the 4 macroeconomic objectives are considered). • Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Examples are provided.
<p>High L1 3-4</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Insufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in some explanations. ➤ Insufficient breadth in analysis (at least 1 out of the 4 macroeconomic objectives is considered).
<p>Low L1 1-2</p>	<ul style="list-style-type: none"> • For an answer that: <ul style="list-style-type: none"> ➤ Is largely irrelevant. <ul style="list-style-type: none"> ✓ Cause(s) of change is not related to an appreciation

	<p>of Singapore dollar.</p> <ul style="list-style-type: none"> ✓ Effect(s) of change is not related to the macroeconomic objectives. ➤ Contains fundamental conceptual errors in analysis.
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Examiners' Comments:

General Comments:

- *Generally, the majority of the candidates were awarded L2 marks for this part-question. Candidates could have done better if the question was interpreted carefully and if they had provided greater depth of analysis in their explanation.*

Question Analysis/Extract Analysis:

- *A large minority of candidates simply explained the negative effects on Singapore's macroeconomic objectives without explaining the positive effects of the appreciation on Singapore's macroeconomic objectives.*

Content:

- *A majority of candidates used graphical illustrations to replace economic analysis.*
- *A minority of candidates gave more emphasis to secondary effects of the exchange rate appreciation, resulting in answers that were opposite to the expected effects on economic growth, unemployment and inflation. Such candidates highlighted that the appreciation of SGD might attract foreign investments due to the positive outlook and higher expected future returns. The increase in FDI inflow would then result in an increase in AD, leading to higher economic growth, lower unemployment and demand-pull inflation. Candidates should note that the primary effects of exchange rate changes are related to (X-M) as the exchange rate directly affects the prices of exports and imports. The effect on capital flows and FDI are only secondary in nature and less certain as there are many other factors that could affect the decisions of foreign investors.*

Structure/organization:

- *A minority of candidates gave answers which seem incoherent because they explained opposing effects on economic growth and unemployment and thus appeared to be contradicting themselves.*

Phrasing:

- *A significant minority of candidates were not precise in their use of economics terminologies. For example, instead of referring to the increase in demand deficient unemployment and lowering of demand-pull inflation, candidates simply referred to an increase in unemployment and lowering of inflation. Candidates are advised to use precise economic terminologies in their explanation for greater clarity.*

Suggested answers for (b)

Introduction

- Singapore government can adopt aggregate supply policies, expenditure switching policies, signing of free trade agreements and fiscal policies with supply-side effects to tackle the trade-offs.

Body 1: Discuss the workings and limitations of aggregate supply policies in decreasing structural unemployment, increasing potential and actual growth, decreasing demand-deficient unemployment, and improving balance of trade.

- One of the trade-offs identified in part-question (a) is the increase in structural unemployment due to the inflow of skilled labour and/or capital intensive FDI when SGD appreciates. Singapore can adopt supply-side policies to incentivise and encourage skills upgrade to remain competitive rather than to discourage FDI of such nature. One such policy to develop human capital is the setting up of training institutions to provide relevant courses at affordable fees so that workers are more willing to go for skills upgrading.
- Some workers may however still be unwilling to go for training or would just attend the minimum amount of training despite the high level of subsidies given and hence resulting in a high level of fiscal burden and fund.
 - Evaluation
 - Nevertheless, it is critical for the development of human capital to be in tandem with economic restructuring (i.e. appreciation of SGD should not be the sole consideration). The calibration would definitely be challenging (but not impossible) for the Singapore government given Singapore's rapid rate of economic development and hence the rapid pace of economic restructuring.
- The use of appropriate supply-side policies is also likely to promote potential and actual growth, decrease demand deficient unemployment and improve balance of trade. This is because when productivity of, for example, labour increases, the productive capacity of the economy increases leading to an increase in the full employment level of output (i.e. increase in potential growth illustrated by the shift from $LRAS_6$ to $LRAS_7$ in Diagram 3) and more output produced (i.e. actual growth illustrated by an increase in real national output from Y_f to Y_7) given the same amount of input. Average cost of production is likely to decrease (illustrated by the shift from $SRAS_6$ to $SRAS_7$) and if the cost of production is passed to consumers in terms of lower prices (illustrated by the decrease in general price level), the increase in price of exports due to an appreciation of SGD might be offset and therefore balance of trade is likely to improve.

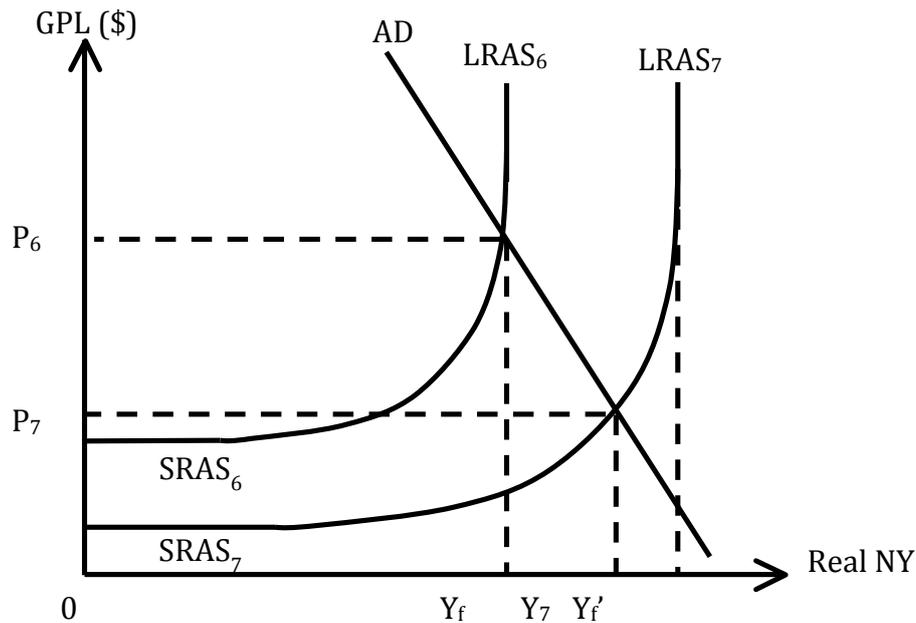


Diagram 3

Body 2: Discuss the workings and limitations of expenditure switching policies in improving Singapore's balance of trade, promoting actual growth and decreasing demand deficient unemployment.

- Although the use of supply-side policies mentioned above might also help to improve the quality of Singapore's export of goods and services and thus resulting in an improvement in Singapore's balance of trade as the demand for Singapore's exports are likely to increase which would in turn increase Singapore's aggregate demand to promote actual growth and to reduce demand deficient unemployment, the effects can generally be felt only in the long term.
- One example of expenditure switching policies Singapore government can adopt is to organise overseas trade fairs to promote goods made in Singapore especially in new markets resulting in an increase in demand for Singapore's exports. If successful, Singapore's export revenue would increase.
- However, to improve trade balances, it is equally important to decrease import expenditure on foreign produced goods and services. If successful, Singapore's import expenditure would decrease.
- Overall, if the expenditure switching policies are effective, Singapore's balance of trade is likely to improve and this would in turn increase aggregate demand in Singapore as illustrated from AD_8 to AD_9 in Diagram 4 and hence promote actual growth as illustrated from Y_8 to Y_9 and decrease demand deficient unemployment in Singapore.

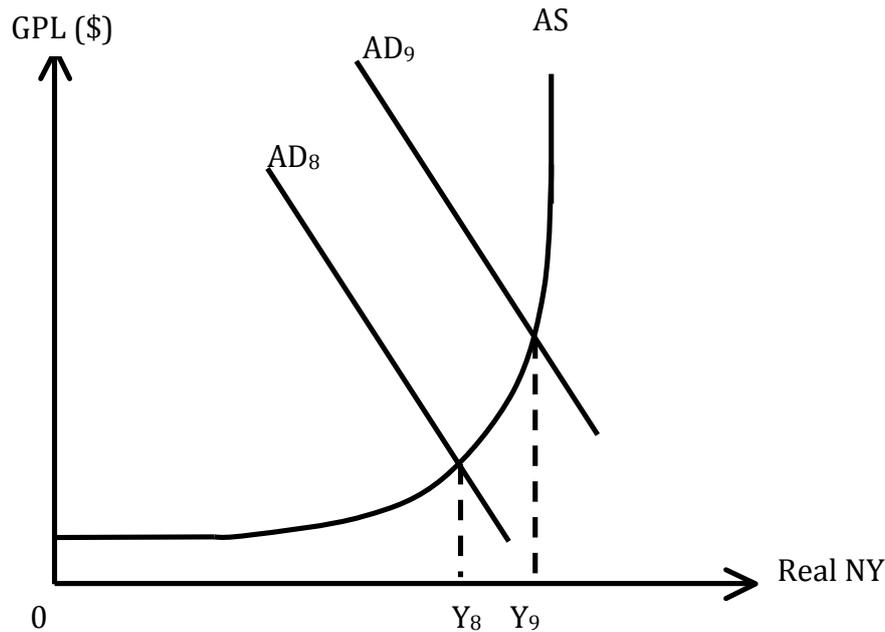


Diagram 4

- Despite successfully switching consumers from consuming foreign produced goods and services towards consuming goods and services produced by Singapore, the improvement in balance of trade might however be insignificant because of the high import content in goods produced by Singapore (including Singapore's exports to foreign countries) due to Singapore lacking in domestic resources. Coupled with the fact that Singapore has a small multiplier ($k = 1/MPW$) because of the high leakages due to having the high marginal propensity to withdraw (MPW), the increase in actual growth and hence the decrease in demand deficient unemployment might also be insignificant. Singapore's high MPW is largely due to the high marginal propensity to save as a result of compulsory savings (i.e. CPF), and high marginal propensity to import due to its lack of domestic natural resources.
 - Evaluation
 - Given the high level of international recognition for Singapore exports in terms of quality, it would not be too difficult to introduce Singapore's goods into new markets.

Body 3: Explain the workings and limitations of signing free trade agreements in improving Singapore's balance of trade and hence increase actual growth and decrease demand deficient unemployment.

- The signing of free trade agreements (FTA) reduce tariffs, and open up output and input markets. The opening up of export markets which are likely to increase demand for Singapore's export due to the larger consumers' base and thus Singapore's export revenue is likely to increase and thus improve Singapore's balance of trade.

- In addition, the increase in the volume of Singapore's export might suggest that the scale of production of exporting firms in Singapore increases. This would allow the firms to enjoy internal economies of scale such as long run cost savings arising from greater efficiency.
- The signing of FTA might open up new foreign markets that Singapore can purchase cheaper imports (e.g. raw materials hence Singapore's import expenditure is likely to decrease thus improve Singapore's balance of trade.
- Given the increase in Singapore's net export revenue as a result of the improvement in balance of trade, aggregate demand is likely to increase which would in turn lead to an increase in actual growth and decrease in demand deficient unemployment.
- Similar to the use of expenditure switching policies, the effectiveness of signing of FTA to increase aggregate demand to achieve actual growth and decrease demand deficient unemployment would be limited by the Singapore's small multiplier.
 - Evaluation
 - Nevertheless, the increase in net export revenue might increase significantly meaning that the increase in aggregate demand might be relatively larger thus even if the multiplier is small, the increase in actual growth and thus the decrease in demand deficient unemployment may not be that insignificant.

Evaluative conclusion

- Singapore government should adopt a mix of complementary policies to tackle the trade-offs because each policy has its own limitations.

- **Mark Scheme**

Levels	Descriptors
<p>High L3 11</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Excellent depth in analysis. <ul style="list-style-type: none"> ✓ Accurate, precise and clear use of economic concepts and analysis in all explanations. ➤ Excellent breadth in analysis (at least 3 policies) <ul style="list-style-type: none"> ✓ Policies to increase aggregate demand to tackle the trade-offs are considered AND/OR <ul style="list-style-type: none"> ✓ Policies to increase aggregate supply to tackle the trade-offs are considered. ✓ Limitations of most policies are considered. • Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Contextualised examples. ➤ Logical structure.
<p>Low L3 9-10</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Very good depth in analysis. <ul style="list-style-type: none"> ✓ Accurate and clear use of economic concepts and analysis in most explanations. ➤ Very good breadth in analysis (at least 3 policies). <ul style="list-style-type: none"> ✓ Policies to increase aggregate demand to tackle the trade-offs are considered AND/OR <ul style="list-style-type: none"> ✓ Policies to increase aggregate supply to tackle the trade-offs are considered. ✓ Limitations of most policies are considered. • Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Contextualised examples. ➤ Reasoned structure
<p>L2 6-8</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Sufficient depth in analysis. <ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in some explanations. ➤ Sufficient breadth in analysis (at least 2 policies). <ul style="list-style-type: none"> ✓ Limitations of some policies are considered. • Supported by <ul style="list-style-type: none"> ➤ Well-labelled and well referred to diagrams. ➤ Examples are provided.
<p>High L1 3-5</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> ➤ Insufficient depth in analysis.

	<ul style="list-style-type: none"> ✓ Accurate use of economic concepts and analysis in some explanations. ➤ Insufficient breadth in analysis (only 1 policy considered).
Low L1 1-2	<ul style="list-style-type: none"> • For an answer that: <ul style="list-style-type: none"> ➤ Is largely irrelevant. <ul style="list-style-type: none"> ✓ Cause(s) of change is not related to appropriate macroeconomic policies. ✓ Effect(s) of change is not related to the trade-offs in macroeconomic objectives. ➤ Contains fundamental conceptual errors in analysis.

Levels	Descriptors
E2 3-4	<ul style="list-style-type: none"> • For a well-explained judgement.
E1 1-2	<ul style="list-style-type: none"> • For an unexplained judgement.

Essay Question 5

“In a severe economic recession, such as that experienced by the US in 2008, households should not be encouraged to save and the use of monetary policy may lose its traction.”

- (a) **Explain why households should not be encouraged to save during an economic recession. [10]**
- (b) **Discuss whether the use of monetary policy is the least appropriate in trying to pull the US economy out of a recession. [15]**

Part (a)

Candidates are expected to explain the contractionary effect of a fall in spending in the economy. An explanation of the reverse multiplier process and the paradox of thrift should be used to develop the answer fully.

Introduction:

- During a recession, households have a tendency to save and cut back on spending. However according to Keynes, this higher saving would lead to lower national income.
- Instead households should spend instead to pull the economy out of a recession.

Body:

- With lower national income, households may expect their future incomes to fall further due to the poor economic outlook. As a result, they would choose to cut back on their spending and save instead.
- This would lead to a fall in autonomous C and hence a fall in the aggregate expenditure (AE) of the economy. Aggregate expenditure or aggregate monetary demand is the total planned expenditure on goods and services in an economy

and consists of consumption expenditure by households (C), investment expenditure by firms (I), government expenditure (G) and net exports (X-M).

- An autonomous increase in household savings (at every income level) reduces consumption and shifts the AE curve downward. The fall in AE would lead to a more than proportionate decrease in national income.
- Draw a Y=AE diagram or AD-AS diagram to show the more than proportionate fall in national income.
- Explain the reverse multiplier process in full using a numerical example.

Conclusion:

- Hence increase in thriftiness by the economy during a time of economic recession will aggravate the situation. Households, businesses, government should instead be encouraged to spend more and not to save more.
- Consumption and high investment are important for raising national income and employment only in periods of less than full employment or depression. This can be done through various policies that a government can undertake.

Mark Scheme

L3	7-10	<ul style="list-style-type: none"> • Excellent explanation of how an increased in savings would lead to a fall in autonomous consumption. • Excellent explanation of the reverse multiplier process. <ul style="list-style-type: none"> ○ Making numerical example and/or diagrammatic analysis to show the process.
L2	5-6	<ul style="list-style-type: none"> • Good explanation of how an increased in savings would lead to a fall in autonomous consumption. • Good explanation of the reverse multiplier process. <ul style="list-style-type: none"> ○ Some attempt at providing a numerical explanation of the reverse multiplier process. (eg only providing one round of the process)
L1	1-4	<ul style="list-style-type: none"> • Some recognition of how an increased in savings would lead to a fall in autonomous consumption. • Some recognition of the reverse multiplier/multiplier process.

Suggested answers for Part (b)

Introduction:

- The US was in a severe recession during 2008 and as a result, the government undertook several policies to try and pull the economy out of the recession.
- The US government made extensive use of quantitative easing a form of monetary policy to try and increase spending in the economy as the use of interest rates was limited and unable to effectively stimulate the economy.
- The appropriateness of the use of monetary policy in the US depends on the type of monetary policy being used and whether the government has other policy options to help increase economic growth in the country.

Body:

Thesis: The use of monetary policy is the least appropriate to pull the US out of a recession because it is ineffective in increasing real NY AND other policies are more appropriate

Ineffectiveness of MP

- Monetary policy is the use of monetary policy tools by the Central Bank to manipulate interest rates or the money supply in order to influence the level of economic activity of the country.
- In order to pull the economy out a recession, the Federal Reserve increased the money supply in the economy, which led to a fall in interest rates.
- The fall in interest rates led to a fall in the cost of borrowing for households and firms.
 - Households should have increased their consumption expenditure on big-ticket items such as houses and cars in response to their lower monthly mortgages and loan repayments making these items more affordable.
 - At the same time, with the lowered interest rates and a given rate of returns on their investments, firms would find investment projects more profitable and hence investment expenditure should increase.
- The combined increase in C and I should have led to an increase in AD and a more than proportionate increase in national income via the multiplier effect. This would have pulled the economy out of the economic recession.
- However, as the US was likely to be operating in the liquidity trap, M^S increases but i/r is very low and expected not to fall further. Hence there will be no change in i/r and hence no change in planned investment and no change in AD.
- Real national income would thus not increase and hence the economy would still be in a recession.
- By 2009, the Fed had lowered rates to near zero. Given that nominal interest rates could not fall below zero, the Fed would have few other policy options to increase real nation income. Hence, there was a need to undertake economic stimulus in the form of fiscal policy.

Effectiveness of Fiscal Policy

- The use of fiscal policy may be more appropriate as given the current situation in the US where the economic recession is severe, the use of fiscal policy to directly increase the aggregate demand through increases in government expenditure. At the same time, reductions in taxes would lead to increases in consumption expenditure and investment expenditure.
- The government could increase spending on infrastructure such as the building of highways and the modernization of federal buildings. Spending could also be on new projects that would help to develop key industries in the US. For example, building of new scientific facilities and improvement of broadband infrastructures to improve access to the Internet in rural areas.
- Tax cuts for households resulted in an increase in disposable incomes for consumers and hence an increase in consumption expenditure. The reduction in corporate taxes also increased firms' after tax profits and allowed for an increase in investment expenditure.

- The combined effect of the increase in C, I and G would lead to an increase in AD and a more than proportionate increase in national income via the multiplier effect and hence help to pull the economy out of the recession.

Exchange rate policy- Switch to make use exchange rate instead

- Based on the open economy trilemma, the US can only control its domestic interest rates or money supply, have free capital mobility and/or control its exchange rate. In the US, the choice was to have control over domestic money supply and interest rates as well free capital mobility. Hence they have had to give up control over their exchange rate.
- In the context of the recession however, given that interest rates are already at such low levels and are likely to be ineffective, the US could consider switching its growth from one of internal consumption to making use of the external sector to drive their growth instead. This would mean giving up control over domestic money supply or interest rates.
- With a depreciation of the US\$, the price of exports in foreign currency would be cheaper. This would lead to an increase in demand for exports and hence export revenue. At the same time, imports would be relatively more expensive in US\$ leading to a fall in quantity demanded. Since the US is generally self sufficient and not very reliant on imports, the demand for imports is likely to be price elastic. Hence, with an increase in price of imports in US\$, import expenditure will fall. Assuming that Marshall-Lerner condition holds where $|PED_x + PED_M| > 1$, $(X-M)$ would increase and hence AD would increase leading to a more than proportionate increase in national income via the multiplier effect. This would increase actual economic growth and pull the US out of recession and hence would make it more appropriate than monetary policy.

Protectionism

- The US government could also undertake protectionist measures to boost domestic demand for goods and services. Imposing taxes on imported goods and services, would increase the price of imports relative to the price of domestic goods, and services and hence US consumers would switch from the consumption of imports to domestic goods and services. This would reduce import expenditure assuming that demand for imports are relatively price elastic and hence increase $(X-M)$ and hence AD and national income.
- Another example could be protectionist measures that unfairly protect domestic producers by making it harder or by preventing the import of imports. For example, in 2009 as part of the Stimulus Package announced by President Barack Obama, there was a provision that would mostly bar foreign steel and iron from the infrastructure projects laid out by the \$819 billion economic package. Doing so would effectively protect US steel manufacturers from the imported steel of South Korea and China. This would increase demand for domestic goods and services and at the same time decrease demand for imports and hence import expenditure.
- This policy would be more appropriate than monetary policy as it helps to provide new markets that the US could depend on rather than its domestic market that is pessimistic in outlook.

Supply side

- The US government could consider undertaking policies to increase the SRAS by reducing the cost of production for firms or perhaps by reducing structural rigidities.
- The reduction of taxes to firms would create a greater incentive for them to innovate and become more efficient to lower their cost of production as they are able to keep a greater share of their profits due to the reduction of taxes. The increased efficiency would lower the cost of production and hence lead to an increase in SRAS as more output is being produced.
- An increase in SRAS would help to increase real national output and hence pull the US economy out of recession. This would be more appropriate as compared to monetary policy that focuses on increasing AD.

Anti-Thesis: The use of monetary policy is not the least appropriate to pull the US out of a recession because it can be effective AND other policies are less appropriate

Effectiveness of MP through the direct transmission mechanism

- However, the use of monetary could still work through the direct transmission mechanism. Given excess liquidity households and firms spend more on goods and services.
- An increase in the money supply means that at the initial interest rate, the quantity of money supplied exceeds the quantity demanded. People are therefore holding on to more of their wealth in the form of money than they would like to. They will tend to spend this surplus or switch to other forms of assets. As they attempt to reduce their money holdings, people increase their demand for all kinds of assets, including homes and other durable goods such as cars and televisions, as well as switching into other financial assets (shares, bonds).
- In particular, the US undertook a policy of quantitative easing. Quantitative easing is useful particularly when the economy is in a liquidity trap or when interest rate, already very low, cannot be cut further. The increase in money supply through quantitative easing can help to stimulate spending through the direct transmission mechanism, even without any fall in interest rate. Moreover, as people switch their money holdings to other types of assets, it will drive up the prices of other assets in general, resulting in an increase in wealth of asset owners and thereby creating a wealth effect which causes people to spend more on goods and services.
- The increase in C and I would lead to an increase in AD and hence increase in real national income.

Limitations of FP

- The huge amount of the fiscal stimulus would require heavy borrowing to finance. As a result this would lead to the US to be in debt. The US government was already heavily in debt prior to the financial crisis and continued borrowing to fund the fiscal package would lead to an increasing national debt.
- This means that the Government has to spend more each year in debt-interest payments to holders of government bonds and other securities. This results in an opportunity cost to society when the funds could have been put to other more productive uses.
- The problem is aggravated when the country faces an economic downturn causing tax revenues to fall, which reduces the government's ability to make its interest payments or repay its debt. This could trigger a debt crisis as the government may be forced to default on its debt repayment.

Limitations of Supply side policy

- Supply side policy may be more inappropriate than monetary policy as it does not tackle with the root cause of the recession which is an issue of aggregate demand deficiency.

- Supply side policy may even worsen the recession by creating a negative side effect of creating more spare capacity if the supply side policy increases the LRAS without a corresponding increase in AD.

Conclusion:

- Despite the ineffectiveness of traditional monetary tools of interest rates to spur spending, the use of quantitative easing to cause increases in consumption and investment expenditure would still make the use of monetary policy crucial in pulling the economy out of the recession.
- However, given that the scale of the economic recession is very severe, and the fact that the economy was at the liquidity trap, the need to implement fiscal policy to complement the use of quantitative easing is also necessary to give the economy an additional boost through the increase in G.
- Overall, the type of monetary policy being implemented is what determines whether or not it is the most appropriate. Also, given the fact that debt levels were high in the US, the ability of the government to increase its spending through increased borrowing would also pose a potential threat to future growth in the economy. Hence, it was necessary to use a combination of both fiscal policy and monetary policy to pull the US economy out of the recession.

Mark Scheme

L3	9-11	<ul style="list-style-type: none"> • Balanced argument that considers why monetary policy may be appropriate and why it is inappropriate. Answer should include a discussion on why other policies may be more appropriate and the limitations of other policies. • Excellent analysis of at least 3 policies (including monetary policy). There should also be a discussion of the possible limitations of at least 2 policies. • Excellent diagrammatic analysis to compare effectiveness of the different policies. • Attempts at comparing the appropriateness of different policies.
L2	6-8	<ul style="list-style-type: none"> • Balanced argument that considers why monetary policy may be appropriate and why it may be inappropriate. However the answer may not be well developed. OR One-sided answer that only considers why monetary policy is the least appropriate or why it is not the least appropriate. • Good analysis of at least 2 policies (including monetary policy). There should also be a discussion of the possible limitations of at least 2 policies.
L1	1-5	<ul style="list-style-type: none"> • Argument that considers why monetary policy may be appropriate OR why it may be inappropriate. However the answer may not be well developed. • Two-sided answer with limited development.
Evaluation		
E2	3-4	<ul style="list-style-type: none"> • Well-reasoned judgement supported by analysis.
E1	1-2	<ul style="list-style-type: none"> • Unexplained judgement that is not supported by analysis.

Question 6

Discuss the view that the extent to which countries benefit from globalisation depends mainly on the type of comparative advantage that the country has. [25]

Question Analysis:

Command word: Discuss the view

Concept(s): cause of effects of globalisation, type of comparative advantage (as a cause), discussion of different types of comparative advantage

Context: Open

Introduction**Key definitions**

- Globalisation: refers to the increasing integration of national economies in terms of financial flows, trade, movement of factors of production, ideas, and changes in information and technology.
- Benefits: Link to the 4 macroeconomic objectives, consumer welfare, Standard of Living (SOL) – both material and non-material
- While the type of comparative advantage (CA) plays a significant role in the extent to which countries benefit from globalisation, there are however other factors which play equally significant roles in determining the benefits of globalisation.

Body:

Thesis: Extent which countries benefit from globalisation depends on the type of comparative advantage that the country has

Explain Comparative Advantage and effects on Trade

- **The Theory of Comparative Advantage** states that trade can benefit all countries if they specialise in (and export) the goods in which they have a comparative advantage.
- Looking at the example of Singapore and China, suppose each country has 10 units of resources which are divided equally to produce the 2 goods: Electronic Equipment and Cloth (i.e. 5 units of resources in wheat and 5 units of resources in cloth).
- The output is as follows:

Table 1: Production and consumption before specialisation (with 5 units of resources in Electronic Equipment and Cloth)

Country \ Good	Electronic Equipment (units)	Cloth (units)
Singapore	50	200
China	10	100
Total	60	300

- This means that 1 unit of resource in Singapore can produce 10 units of electronic equipment or 40 units of cloth; while 1 unit of resource in China can produce 2 units of electronic equipment or 20 units of cloth.

Table 2: Opportunity Cost Ratios for Singapore and China

Country \ Good	1 unit of resource can produce	
	Electronic Equipment (units)	Cloth (units)
Singapore	10	or 40
China	2	or 20

- Singapore therefore has absolute advantage in both electronic equipment and cloth.
- A country is said to have absolute advantage in the production of a good if it can produce more of the good with the same amount of resources (or uses less resources to produce the same quantity of the good) compared to another country
- However, the countries can still gain from trade if they specialize according to their comparative advantage, which is determined by their opportunity cost in production, or relative efficiency in producing the good. As seen above in Table 2, the opportunity cost of producing 1 unit of Electronic Equipment for Singapore is 4 units of clothes while the opportunity of producing 1 unit of Electronic Equipment is 10 units of clothes. Thus Singapore has the comparative advantage in producing Electronic Equipment while China has the comparative advantage in producing clothes.
- As shown in Fig. 1, Singapore will choose to specialise completely in Electronic Equipment. Before Trade, the consumption possibility frontier (CPF_a) is identical to that of its production possibility frontier (PPF_a). Singapore can then trade with China based on the prevailing terms of trade which will see an outward shift of the consumption production frontier, from CPF_a to CPF_b, which reflects the gain from trade, with the countries specialising in the respective goods in which they have the comparative advantage.

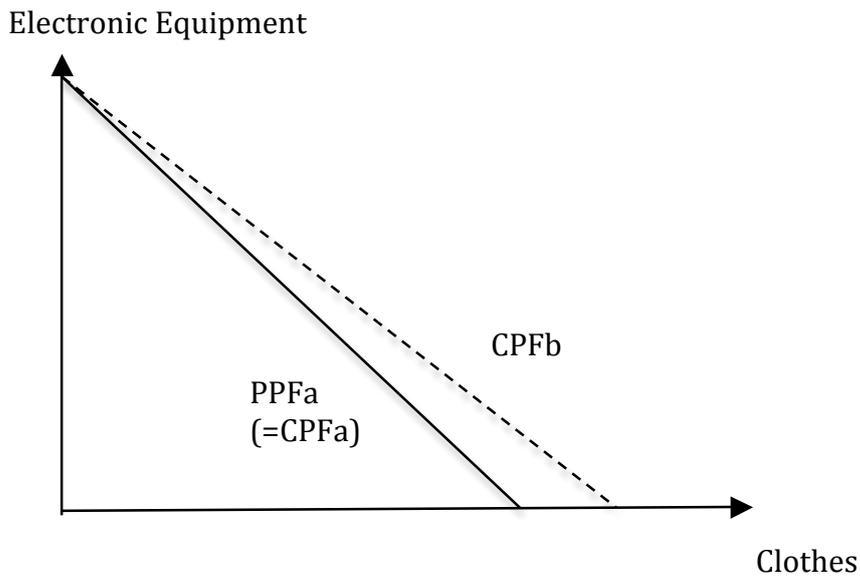


Figure. 1 Production Possibility Frontier and Consumption Possibility Frontier of Singapore

Explanation of why different countries have different types of comparative advantage

Countries have different comparative advantages due to:

- i) Resource endowment of the country (Heckscher-Ohlin Model)
 - According to Heckscher Ohlin Model, a country with a huge population (relative to other factors of production) will have a comparative advantage in labour-intensive production e.g. China and India. They also tend to be developing countries. On the other hand, a country with a huge capital base and high-skilled labour will have a comparative advantage in capital-intensive production. E.g. USA and Singapore They also tend to be developed countries.
 - The countries can each benefit from the gains of specialisation and trade based on terms of trade that lie between the opportunity cost ratios of the 2 countries.
 - The gains from trade may differ based on the different types of comparative advantages that the countries possess as this may affect the bargaining power of the countries.
 - Looking at the examples of Singapore and China, with China having comparative advantage in clothes, tends to have a lower income elasticity of demand due to it being a necessity while for electronic equipment, the good tends to have a high income elasticity of demand due to its status as a luxury good thus over time, given increases in global incomes, the terms of trade tends to worsen for clothes manufacturers like China while the terms of trade improves for electronic equipment manufacturer like Singapore.

- Thus with increased trade due to globalisation, countries with comparative advantages in capital-intensive industries (Singapore) would have benefited more than countries with comparative advantage in labour-intensive industries.

Effect on Investment and Outsourcing/Offshoring

- With globalisation and the ease of communication and removal of barriers on movement of goods and services and factors of production, the principle of comparative advantage is extended to intermediate goods (rather than just final goods) – For example, many companies in developed countries (with CA in capital goods) have tended to outsource production to developing countries (with CA in labour-intensive goods) This is especially for the assembly of final consumer products which tend to be labour intensive and is usually located in countries with a huge population such as China.

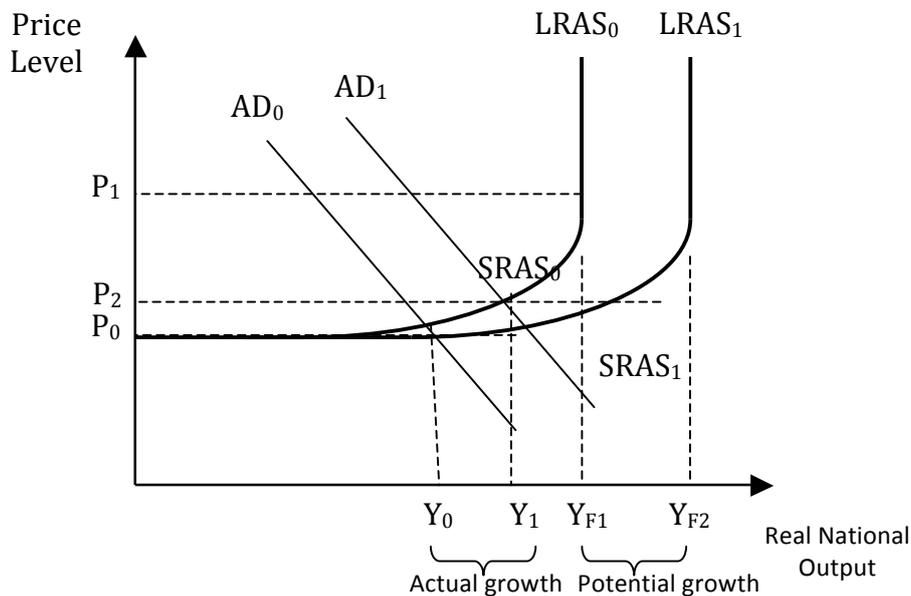
Note: Students can choose to compare between any 2 different types of comparative advantage for analysis and illustration.

Analysis for countries with CA in labour-intensive production

- Outsourcing leads to increased inflows of foreign direct investment (FDI) and increasing investment (I) leads to an increase in aggregate demand (AD) . Assuming that the increase in FDI facilitates the growth of the export sector which increases overall export revenue, this will result in an overall increase in AD from AD_0 to AD_1 as shown in Figure 2.
- The investment, coupled with the transfer of ideas, information and technology will increase the long-run aggregate supply (LRAS) of the economy as shown in the increase from $LRAS_0$ to $LRAS_1$ (*The investment may also introduce production techniques that lowers the cost of production, resulting in an increase in short-run aggregate supply – illustrate in diagram*)
- With the increase in AD and increase in LRAS, there is an increase in real national income from Y_0 to Y_1 , resulting in actual economic growth.

Diagrammatic analysis

Figure 2: Actual vs. Potential Growth using AD/AS model



- At the same time, there is also an increase in employment as more labour is required with the increase in production. The influx of foreign direct investment will improve capital and financial account and the increase in net exports will improve the current account, leading to an overall improvement in the balance of payment.
- As there will be increased employment of low-skilled workers, this is likely to close the income gap between them and high-skilled workers/ capital owners and result in greater income inequality. However, this also depends on whether the low-skilled workers will be exploited, especially by the multi-national companies.

Analysis for countries with CA in capital-intensive production

- Likely that with outsourcing (with outflows of FDI), the countries will be better able to focus on capital-intensive industries which they have comparative advantage in. However, problem of structural unemployment for low-skilled workers due to transition of economy to focus on high-skilled, capital-intensive industries. Result in higher income inequality between the low-skilled workers and high-skilled workers/capital owners.

Effect on movement of labour

- With globalisation, there will be outflow of high-skilled labour from countries with CA in labour-intensive industries to countries with CA in capital-intensive industries to take up labour shortages. These countries tend to be developed countries. This will result in serious brain drain problems for developing countries, which has huge populations and CA in labour-intensive industries.

Evaluation: With globalisation, economic migrants of all types (high-skilled and low-skilled alike) have taken advantage of the increased communication and transport accessibility to move from developing countries to developed countries due to the perceived higher standard of living in developed countries. Thus, CA is not the only factor explaining migrant flows and the pursuit of a higher standard of living may be a better factor at explaining migrant flows.

Anti-Thesis: Extent which countries benefit from globalisation does not depend on the type of comparative advantage that the country has

(Discussion of 3 factors would suffice)

Limitations of comparative advantage as a theory

1. Transport cost and location

- Although globalisation has reduced communication and transport costs, transport costs still play a significant factor, especially if the country has a comparative advantage in goods that are bulky, low-valued and/or perishable products which limit the number of markets that the country can export to and thus the benefits of globalisation. For example, agricultural products of Malaysia.
- The extent to which countries benefit from globalisation also depends on the distance to the main markets (such as USA). Countries nearer major markets (e.g. USA) will have a natural advantage over countries located further away.
- Thus this will be a factor that will limit the gains of trade by countries wishing to specialise based on their comparative advantage

Other factors that influenced benefits from globalisation

2. Trade not based on CA: Intra-industry Trade (Horizontal)

- Inter-industry trade (based on comparative advantage) is just one type of trade whose volume will increase due to globalisation.
- With globalisation, there will also be an increase in intra-industry trade which is not based on comparative advantage.
- Theory of Comparative Advantage assumes that goods are homogenous in nature. However, in the real world, there are different varieties of the same product and thus taste and preference of consumers is important as a demand factor that affects trade flows and facilitates intra-industry trade rather than inter-industry trade based on CA.
- Intra-industry trade allows consumers to enjoy a variety of products without sacrificing the cost advantage of economies of scale arising from large scale production.
- Intra-industry trade, however may also bring about increased competition for domestic industries, leading to their closure, thus reducing domestic employment and economic growth.
- Comparison with Type of CA as a factor: Intra-industry constitutes a large portion of overall trade, especially for manufactured products thus with globalisation, the presence of intra-industry may play a bigger factor in determining whether countries benefit from globalisation.

3. Use of government policies

Different countries may benefit differently from globalisation due to the adoption of differing policies by them.

- Trade Liberalisation vs. Protectionism: Some countries may pursue trade liberalisation policies (through the signing of Free Trade Agreements) which allows them to gain from increased exports (using exports as an engine of growth) and to attract Foreign Direct Investment.
- E.g. Singapore has signed a myriad of FTAs with different countries in order to develop Singapore as an integrated manufacturing centre and attract firms to invest in Singapore (FDI) and use Singapore as an export hub (with low tariffs and trade restrictions), which in turn increases exports.
- Laws on immigration may also differ between countries, limiting the gains from globalisation. E.g. Singapore's tightening of foreign labour flows
- Protectionistic policies adopted by some countries can limit the gains from trade of other countries or even cause the other countries to be adversely affected due to unfair trading practices. Eg. restrictions on import of agricultural products by developed countries to protect domestic farmers reduce the agricultural exports of developing countries, thus reducing their benefit from trade.
- Governments may also play a role in determining the type of comparative advantage the country will have. Type of comparative advantage is not static and may change over time. Governments may encourage the development of new comparative advantages, especially in moving up the production chain, as part of their development strategy. For example, the Chinese government plays an instrumental role in providing subsidies and other forms of help in developing the solar panel industry, a capital-intensive industry, even though it is not a comparative advantage that China traditionally has.

4. Nature of economies

- Size of countries as a factor: Smaller countries may better benefit more from bigger countries.
- For small countries such as Singapore, gains from specialisation may only appear when coupled with gains from economies of scale. Small markets like Singapore will not be able to support large-scale industries and rely on market access to large markets in order to reap the cost advantages from these large-scale industries. This is however also dependent on whether the goods that the country specialises in allows internal economies to be reaped. For example, if the country specialises in cottage industries that suffer from internal diseconomies of scale at a relatively small output, then globalisation will not bring about the benefits that it should.

Small countries also depend on trade for their imports of necessities thus a key determinant of whether countries benefit also depends on the size of the country.

Conclusion/Synthesis

- Significance of transport costs/locations as a limitation of comparative advantage

- CA is ultimately a theory that explains the supply side of why countries trade and demand factors such as intra-industry trade are equally important in determining the extent of benefits from globalisation.
- Finally, governments themselves also play a significant role in determining the extent of benefits of globalisation with the policies adopted as well as the different nature of economies often playing a more significant role
- Thus, type of comparative advantage plays a significant role but is not the main reason that determines the extent of benefits from globalisation.

Mark Scheme

Level	Descriptors
<p>Level 3 High L3 18-21</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> - Excellent depth in analysis: <ul style="list-style-type: none"> ○ Accurate use of the concepts of comparative advantage & globalisation and thorough examination of the different types of comparative advantage between countries ○ Detailed examination of benefits based on a criteria encompassing the 4 macroeconomic objectives and standard of living/consumer welfare - Excellent breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a thorough examination of increased trade flows and other different aspects of globalisation (at least 2 including trade) and how benefits from globalisation are affected by different types of comparative advantage as well as at least 3 other factors - Supported by <ul style="list-style-type: none"> ○ Well labelled and well referred AD-AS diagram and opportunity cost tables or PPF diagram ○ Contextualised examples based on the different types of comparative advantage and other factors ○ Logical structure
<p>Low L3 15-17</p>	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> - Very good depth in analysis <ul style="list-style-type: none"> ○ Accurate use of the concepts of comparative advantage & globalisation and thorough examination of the difference in types of comparative advantage between countries. ○ Some examination of benefits based on a criteria encompassing at least 3 macroeconomic objectives and/or standard of living/consumer welfare - Very good breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a very good examination of increased trade flows and other aspects of globalisation (at least 2, including trade) and how benefits from globalisation are affected by both different types of comparative advantage as well as at least 2 other factors - Supported by <ul style="list-style-type: none"> ○ Well labelled and well referred AD-AS diagram and/or

	<p>opportunity cost tables or PPF diagram.</p> <ul style="list-style-type: none"> ○ Contextualised examples based on the different types of comparative advantage or other factors ○ Logical structure
High L2 12-14	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> - Good depth in analysis <ul style="list-style-type: none"> ○ Accurate use of the concepts of comparative advantage & globalisation and some examination of the difference in types of comparative advantage between countries. ○ Some examination of benefits based on at least 3 macroeconomic objectives and/or standard of living/consumer welfare - Good breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a good analysis of increased trade flows and other aspects of globalisation (at least 2, including trade) and some examination of how benefits from globalisation are affected by both different types of comparative advantage as well as at least 2 other factors - Supported by <ul style="list-style-type: none"> ○ Use of AD-AS diagram or opportunity cost tables. ○ Contextualised examples based on the different types of comparative advantage or other factors ○ Logical structure
Low L2 10-11	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> - Sufficient depth in analysis <ul style="list-style-type: none"> ○ Some use of the concepts of comparative advantage & globalisation with possible inaccuracies and some examination of the difference in types of comparative advantage between countries. ○ Some examination of benefits based on at least 2 macroeconomic objectives and/or standard of living/consumer welfare - Sufficient breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates a sufficient analysis of increased trade flows but superficial examination of other aspects of globalisation ○ Some examination of how benefits from globalisation are affected by different types of comparative advantage but other factors are insufficiently examined (One-sided analysis) - Supported by <ul style="list-style-type: none"> ○ Contextualised examples ○ Some logical structure
High L1 6-9	<ul style="list-style-type: none"> • For an answer that shows: <ul style="list-style-type: none"> - Insufficient depth in analysis <ul style="list-style-type: none"> ○ Inaccurate use of the concepts of comparative advantage & globalisation and why differences in types of comparative advantage between countries exist.

	<ul style="list-style-type: none"> ○ Little reference to a criteria of what constitutes benefits - Insufficient breadth in analysis: <ul style="list-style-type: none"> ○ Answer demonstrates some understanding of the effects of globalisation at a superficial level. ○ Attempt at examining how benefits from globalisation are affected by different types of comparative advantage and other factors
Low L1 1-5	<ul style="list-style-type: none"> • For an answer that - Is largely irrelevant - Contains fundamental conceptual errors in analysis. - May have only addressed one part of the answer and little else. For example, why different countries have different types of comparative advantages.
E2 3-4	- Judgment of significance of types of comparative advantage based on analysis
E1 1-2	- Unexplained judgment