

St. Andrew's Junior College



Economics Department JC 2 Preliminary Examinations (2015)

Suggested Answers

H2 Economics Paper 2 (Syllabus 9732)

Section A

1	The removal of an EU quota on milk earlier this year has caused a fall in the world price of milk. Recent reports in the media have stated that butter, made from milk, contains greater amounts of heart healthy nutrients than margarine which is generally made from vegetable oils. These changes have affected the markets for butter and margarine.
(a)	Explain how the removal of the EU quota on milk is likely to affect consumer expenditure on milk of different types of households in the EU. [8]
(b)	Discuss the likely effects of both the above changes on the markets for butter and margarine. [17]

Suggested Answers:

- a) Explain how the removal of the EU quota on milk is likely to affect the consumer expenditure on milk of different types of households in the EU. [8]**

Introduction

- Explain how the removal of quota on the market for milk leads to a fall in the price of milk – removal of quota on milk → increase in supply of milk → fall in price of milk.
- Consumer expenditure is the amount the consumers spend on the good, which is a product of price and quantity.
- Effect on consumer expenditure of different types of households depends on price elasticity of demand (PED).
- PED is the responsiveness of quantity demanded of a good to changes in its own price, ceteris paribus.

Body

- Use PED to explain the effect of the fall in price on consumer expenditure of → households with price inelastic demand for milk (e.g. households with young children where milk is a necessity) – fall in price of milk from P_0 to P_1 → less than proportionate increase in Qd of milk from Q_0 to Q_1 → consumer expenditure falls as fall in expenditure due to fall in price exceeds the rise in expenditure due to higher quantity consumed.

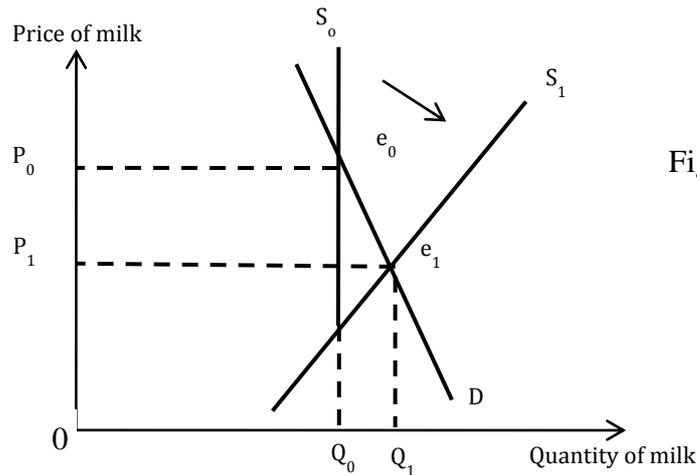


Figure 1

→ households with price elastic demand for milk (e.g. milk not a necessity) – fall in price from P_0 to P_1 → more than proportionate increase in Q_d of milk from Q_0 to Q_1 → consumer expenditure rises as fall in expenditure due to fall in price is less than the rise in expenditure due to higher quantity consumed.

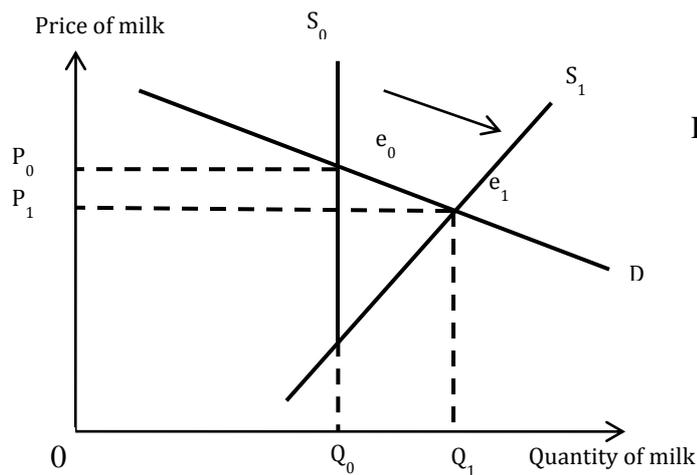


Figure 2

Conclusion

Re-state significance of PED.

Note :

1. Students are just required to highlight an increase in supply due to the removal of quota. No need to penalise students if students illustrate a parallel shift of the supply.
2. Students may define different types of households in different ways (e.g. High income vs. low income households and proportion of income spent on the good), so long as students are able to apply the factors affecting PED to the scenario.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Well-developed explanation of factor(s) that affect price elasticity of demand for milk applied to different households with strong link to how it may affect the TE of different households.	6-8
L2	Under-developed explanation of the factor(s) that affect elasticity of demand for milk applied to different households with some link to how it may affect the TE of different households.	3-5
L1	A smattering of valid points Did not understand requirement of question or the concepts to apply.	1-2

b) Discuss the likely effects of both the above changes on the markets for butter and margarine. [17]

Introduction

Butter and margarine are goods in competitive demand (substitutes). The 2 changes above i.e. the fall in the price of milk and the media reports on the benefits of butter may affect the demand and/or supply of butter and margarine, causing changes in the equilibrium price and quantity in the markets for butter and margarine. These may affect the total revenue earned by producers which is the product of price and quantity of the producers of butter and margarine.

Body

Market for butter

Fall in price of milk : Increase in supply of butter due to fall in COP due to lower priced milk $\rightarrow \downarrow P$ and $\uparrow Q$ (Explain using adjustment process)
Effect on TR depends on the PED.

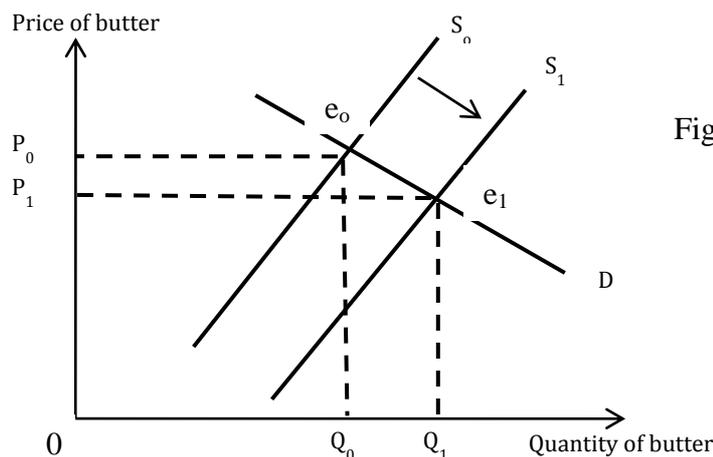


Figure 3

Ev: Demand for butter likely to be price elastic as close substitutes available in the form of margarine $\rightarrow \% \downarrow P < \% \uparrow Q$. $\downarrow P$ will result in a more than proportionate increase in $Q \rightarrow \uparrow TR$ from $0 P_0 e_0 Q_0$ to $0 P_1 e_1 Q_1$ as loss of revenue due to fall in price is greater than gain in revenue due to increase in quantity. This is shown in Fig 3.

Effect of reports on health benefits of butter: Taste and preferences shift in favour of butter \rightarrow increase in demand for butter \rightarrow \uparrow equilibrium price from P_0 to P_1 & quantity from Q_0 to Q_1 (Explain using adjustment process) \rightarrow \uparrow TR from $0 P_0 e_0 Q_0$ to $0 P_1 e_1 Q_1$ as shown in Fig 4

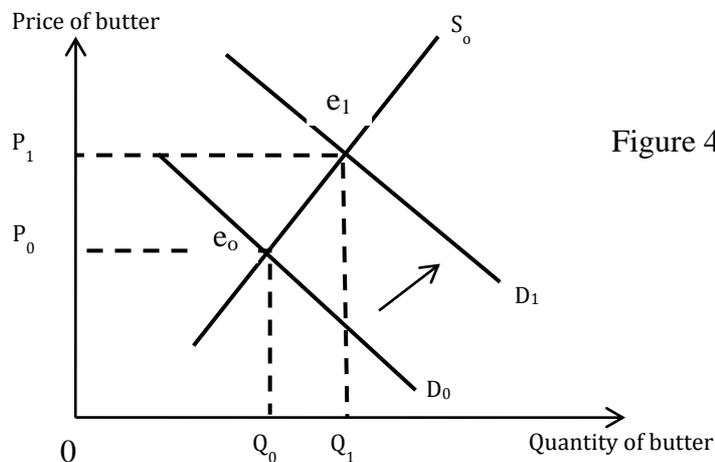


Figure 4

Ev: Supply of butter likely to be price inelastic as it takes time to increase quantity supplied of butter in response to an increase in price. As such $\% \uparrow P > \% \uparrow Q$

Overall effect:

- Equilibrium qty will definitely increase
- Equilibrium price however would depend on magnitude of change in dd and ss.
If $dd \uparrow > ss \uparrow$, equilibrium price \uparrow
If $dd \uparrow < ss \uparrow$, equilibrium price \downarrow

Ev: Judgement : Comment on which is a more likely scenario and why.

E.g. $dd \uparrow < ss \uparrow$ as the demand may only rise for a small group of people who may be concerned with heart health like those in the high risk category or those who are suffering heart problems or that it takes time for tastes and preference to change.

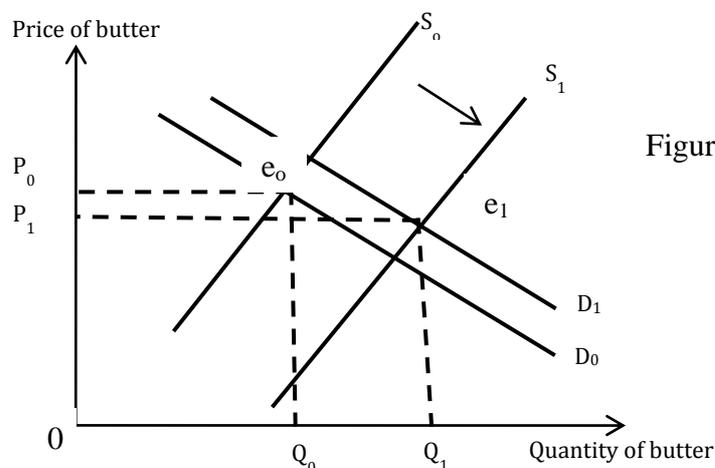


Figure 5

- $dd \uparrow < ss \uparrow$, equilibrium price \downarrow and qty \uparrow as seen in Fig 5 above.
- TR will increase.

(Students may also argue that increase in demand > increase in supply. This too is acceptable so long as they have a valid reason to support)

Market for margarine

SS of margarine, no change as there is no milk used in margarine.

Ev: However, butter and margarine are close substitutes. Therefore the fall in price of butter due to lower cost of production or due to lower equilibrium price in the market for butter may lead to a more than proportionate fall in demand for margarine. (Define XED and explain with reference to XED)

Effect of reports on health benefits of butter: Taste and preferences may shift away from margarine → ↓dd for margarine

⇒ ↓ equilibrium price from P_0 to P_1 & quantity from Q_0 to Q_1 → ↓TR 0 $P_0e_0Q_0$ to $0P_1e_1Q_1$ as shown in Fig 6.

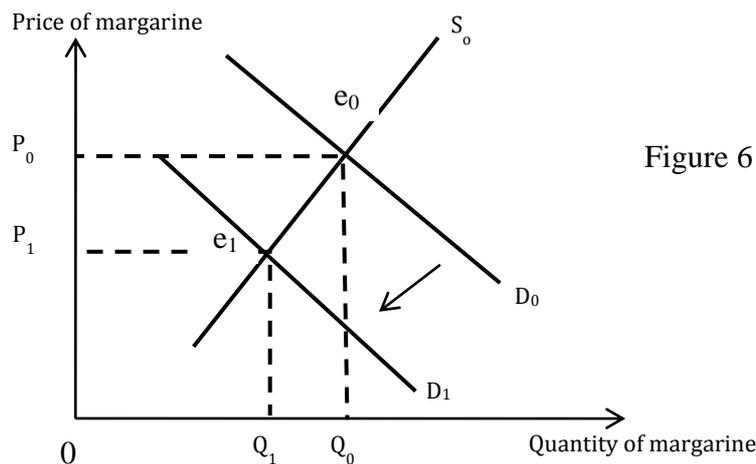


Figure 6

Ev: Supply of margarine likely to be price inelastic as it takes time to reduce quantity supplied of margarine in response to an decrease in price. Therefore, $\% \downarrow P > \% \downarrow Q$

Ev: Judgement: Comment on the extent of the change in dd and therefore equilibrium P & Q and TR.

E.g. fall in demand due to lower price of butter reinforced by fall in demand due to changes in taste and preferences → larger fall in demand → larger fall in equilibrium P & Q → larger fall in TR (compared to a situation where only one of the changes take place)

Conclusion

- Question ceteris paribus assumption and likelihood of more than one factor affecting butter or margarine changing at the same time,
- Other factors may also change e.g. income level, which are not considered here.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	An excellent balanced and rigorous analysis which includes effects on both the markets for butter and margarine with reference to equilibrium P, Q and TR.	11-13
L2	For an under-developed explanation that lacks sufficient depth / rigour / breadth: Student is able to explain the effects on the market with reference to P & Q with no reference to TR or Student only explains the effect on 1 market	7-10
L1	For a weak superficial, descriptive answer which contains theoretical inaccuracies and a lack of scope and depth	1-6
E2	Evaluation/judgment based on analysis	3-4
E1	Largely unexplained evaluation based on analysis	1-2

2	<p>Communications and Information Minister Yaacob Ibrahim hit the nail on the head this week when he said Singapore's much-anticipated fourth cellphone operator had to spur competition and bring innovation to the market causing the existing telcos to also innovate.</p> <p style="text-align: right;">Adapted from http://www.businesstimes.com.sg</p>
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	<p>Consider the market structure in which Singapore's telecommunications (telcos) industry may operate and discuss if barriers to entry are the main factor influencing the behaviour of these firms. [25]</p>
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Suggested Answers:

Question Analysis

There are two parts to this question:

- 1) Identify the market structure and explain the characteristics of the telco industry in Singapore
- 2) Explain and analyse how BTE and other factors influence these firms' behaviours and discuss if BTE are the main factor

Part 1

Identify market structure: Oligopoly

Characteristics:

- 1) No. of firms: A few large dominant firms (Singtel, M1 and Starhub) with each firm having a high market concentration ratio
- 2) BTE: High For e.g., high setup costs in terms of satellites, enjoys internal economies of scale which new firms may not be able to achieve and licensing requirement from government to provide the telecommunication services)

- 3) Price Setter: Due to High BTE, each firm is a price setter as it has relatively strong monopoly power
- 4) Products/Services: Differentiated (Telcos attempt to distinguish themselves by coming up innovative subscription plans to suit different market segments.)

Part 2

Introduction:

Barriers to entry affect the degree of competition in an industry and thus firms' behavior in terms of pricing and output. The stronger the barriers to entry, the more market power firms have and thus have a greater ability to set price or output. With more market power or a concentration of market share in a few firms, firms tend to set higher prices as compared to industries in which barriers to entry are weak.

Body:

With strong barriers to entry to the telco industry, these firms face less competition. They are able to set higher prices as there are fewer substitutes for their products and demand for their products is price inelastic. Barriers to entry also usually mean that only larger firms with sufficient capital to bear high fixed costs of initial capital outlay can enter the industry. Thus, firms in the telco industry tend to have more market power and output of the industry is usually concentrated in these few large firms.

- Assume objective of telco firms is profit maximisation: telco firms will restrict output and set higher prices (produce at output where $MC = MR$). Illustrate with diagram.
- Mutual interdependence / non-price competition. Telcos may follow the change in prices by another operator due to the nature of kinked demand model where firms follow a decrease in price but not an increase in prices. E.g. telcos may engage in aggressive price wars but these firms are usually more likely to engage in aggressive advertising campaigns to differentiate their products (give examples).

Other factors influencing firms' behavior in terms of pricing and output (Any 2):

- Other objectives of firms (e.g. revenue maximisation, sales maximisation)
Assuming the objective of these telco firms is revenue maximisation, they will be producing at the output where MR is equal to zero rather than the output where $MC = MR$. The prices set by these firms will change accordingly as well. (illustrate on the diagram)
- Govt intervention
For e.g. A change in government licensing requirements in allowing 4th operator into the industry to increase competition and encourage innovation to benefit consumers. Demand becomes less price inelastic → firms will produce at higher output and lower prices. In addition, the existing firms may engage heavily in R&D to retain their market share.
- Strategies
For e.g. If these telco firms engage in possible collusion, they will behave like a monopoly by restricting output and charge higher prices to the consumers.

Possible Evaluation:

- As most consumers would have signed a period of contract for telco services, even if there is a change in price (increase or decrease), consumers are unlikely to immediately switch to another telco operator until their contract expires.
- In the context of Singapore, collusion is unlikely to occur as there is a strict monitoring by the government with the competition law to promote efficient functioning of Singapore's markets and hence enhance the competitiveness of the economy. Market competition spurs firms to be more efficient, innovative, and responsive to consumer needs. Consumers enjoy more choices, lower prices, and better products and services. The economy as a whole benefits from greater productivity gains and more efficient resource allocation.

Conclusion:

- There are any factors that can influence a firm's pricing and output strategy and BTE is one of the main factors.
- In context of Singapore, BTE could also be affected by changes in government regulations, which will thus affect the pricing and output of the telcos firms in Singapore. As such, government intervention seems to be the main factor influencing the behaviour of telcos in Singapore.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Both parts of the question are well-explained. Answer is reasoned, logical and precise in analysis. Coherent, sound, and thorough analysis of characteristics of telcos industry in Singapore and how barriers to entry <u>and</u> other factors (at least 2) affect the behavior of firms. Examples are clearly illustrated and well-explained in the context of Singapore.	15 – 21
L2	Attempt to address both parts of the question but underdeveloped. Undeveloped explanation, which shows some relevant applications of the context to characteristics of telcos industry and how barriers to entry <u>or</u> other factors (One-sided answer) will affect the behavior of firms but answer may be limited in scope, elaboration or development. Examples are given but lack clear illustration. Analysis is present but insufficient or inconsistent (some description). Low L2: Only part 1 (explanation of characteristics) or part 2 (discussion of barriers of entry and other factors affecting firms' behaviour) is given. If only 1 part given but well-explained, can be given max L2 marks (up to 14 marks)	10 – 14
L1	Answer shows some basic correct facts but weak applications to characteristics of telcos industry. Shows some knowledge of how barriers to entry affect firms'	6 – 9

	behavior but answer is unexplained or undeveloped.	
	Smattering of ideas which are largely irrelevant to the question. Answer describing barriers to entry into a market without links to effect on firm's behavior. Answer describing firm's behavior without reference to barriers to entry. Answer contains basic or serious conceptual errors.	1 – 5
E2	Judgement based on economic analysis. For example, able to recognize and justify which is the most significant factor in influencing the behavior of telcos in Singapore	3 – 4
E1	Judgement without justification.	1 – 2
3 Vast tracts of forest in Indonesia are burnt annually to provide land for planting crops. Adapted from www.scidev.net		
(a)	Explain how forest fires in Indonesia could be a cause for concern for its government.	[10]
(b)	Assess the policies that the Indonesian government could implement to reduce the negative impact caused by the forest fires.	[15]
Suggested Answers:		
(a)		
<i>Analysis of Question</i>		
<ul style="list-style-type: none"> - Forest fires = sources of market failure (imperfect info & -ve ext) - Cause for concern = allocative inefficiency (social welfare not maximised) - No policies needed for (a) 		
<u>INTRODUCTION</u>		
<ul style="list-style-type: none"> - One of the roles of govt is to ensure efficient allocation of resources to maximise social welfare. - Producers in the free market seeking self-interest will freely burn forest that brings harm to the rest of the economy. - Govt is thus concerned that maximum social welfare will not be achieved in the presence of sources of market failure. 		
<u>BODY</u>		
<ul style="list-style-type: none"> - Explain market failure due to forest fires - Determine private eqm output, Qp (MPB = MPC) 		

- Introduce:
 - o negative externalities (MEC)
 - neighbouring villagers suffer from worsening health conditions and incur extra healthcare costs
 - may affect other industries such as tourism and transport (airport closures)
 - Economic growth negatively affected
 - Many other examples such as disappearance of flora and fauna
 - o imperfect information
 - producers do not realise the extent of damage caused by forest fire and hence, underestimated its own cost of clearing forest. For example, due to very poor visibility, firms may not be able to efficiently transport its workers or raw materials to its own factories for production.
- Determine social eqm output, Q_s ($MSB = MSC$)
- Determine that there is a case of market failure – over-allocation of resources to plantation/farming activities → Presence of DWL (indicate in diagram, if drawn)

(Students may also relate to government being concerned due to its inability to achieve macroeconomic goals due to the haze that results from the forest fires that may affect the workers' productivity and tourism, etc.)

CONCLUSION

- The Indonesian govt is concerned that there had been a sub-optimal level of social welfare due to forest fires and hence would need to intervene in the market to achieve maximum social welfare.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Answer clearly explained the sources of market failure that led to government's concern of sub-optimal social welfare. Sound analysis is systematically carried out and supported by good examples to reflect the real-world situation.	7 – 10
L2	Good attempt at explaining the sources of market failure though inaccurate but non-fatal representations or analysis may be present. Answers demonstrate a sufficient understanding of conflict between private desired outcome and socially optimal outcome that led to government's concern.	5 – 6
L1	Mere listing of technical jargons that, when put together, produced the typical rehearsed answer. Candidates who fail to even spot the issue of market failure should deserve bottom marks.	1 – 4

(b) Assess the various policies that the Indonesian government could implement to reduce the negative impact caused by the forest fires. [15]

(b)

Analysis of Question

- *Identify the negative impact caused by forest fires – could come up with a more complete list of impact if have yet done so in (a)*
- *Explain how each of the policies works. Provide brief explanation of its strengths and limitations. Policies need not be those already implemented. Policies should be those that are reactive than preventive, as required by the question.*
- *Provide a well-considered assessment of the policies brought up.*

INTRODUCTION

- There are various policies the Indonesian govt could implement.
- They are:
 - (i) bring in technology that would better put out forest fires (identification of hotspots, better equipment, etc)
 - (ii) public education on harmful effects of haze – stay indoors, reduce physical activities, etc.
 - (iii) provision of health protection equipment – masks, air purifiers

BODY

- Explain at least 3 policies.
- Describe the strengths and limitations of the policies based on economic analysis.

EVALUATION

- Ranking order of policies according to set of criteria (time lag, cost, effectiveness, etc)

CONCLUSION

- The Indonesian govt could implement some policies available to reduce negative impact. While some may be more effective than others, the Indonesian govt should strive to reduce limitations of some of the policies in order to fully realise their potential to reduce negative impact of forest fires in the long run.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Ability to identify and explain the various policies in a systematic, analytical and convincing manner to reduce negative impact. Due considerations were given to both strengths and limitations of each of the policies to form the basis for evaluation.	9 – 11
L2	A meek attempt at providing analytical explanation of the policies required. Non-fatal errors do not mar the level of understanding candidate has demonstrated. If only one policy is well-explained, max 6m.	6 – 8
L1	Undeveloped argument, displaying a lack of understanding of the issue. Smattering of points. Basic errors and irrelevancies may be evident. Lack proper economic analysis.	1 – 5
E2	Judgement based on economic analysis. For example, recommended Indonesian govt to collaborate with international agencies in the short term but learn from them so as to adopt/implement more preventive measures in the long term.	3 – 4
E1	Judgement without justification.	1 – 2

Section B

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

4	Governments generally face trade-offs when implementing different policies aimed at achieving their macroeconomic goals.
	Assess the extent to which the size of an economy affects its government's macroeconomic policy decisions when faced with these trade-offs. [25]

Suggested Answer:

Part 1: Explain at least 2 trade-offs between different macroeconomic policy objectives.

Intro:

The 4 main macroeconomic objectives of an economy are:

1. Strong, stable and sustained economic growth
2. Low inflation rate and price stability
3. Full employment or low unemployment rate
4. Satisfactory/Favourable balance of payment (BOP) position

A government's macro policy decision may lead to potential trade-offs in macro objectives/aims as it is often impossible to simultaneously achieve all four macroeconomic objectives.

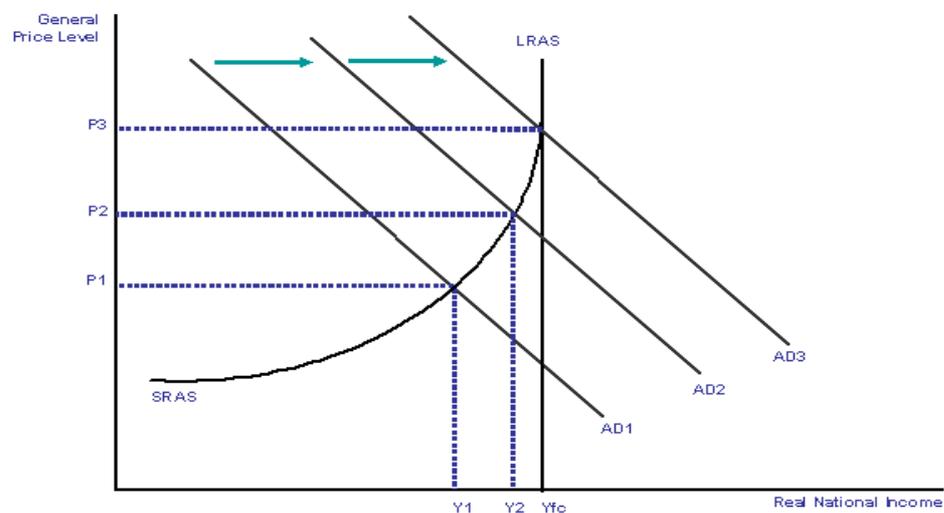
Thus, it is essential for the government to understand these trade-offs well in order to assess the net benefits that these macroeconomic policies may bring when making macroeconomic policy decisions.

Body:

One possible trade-off is **trade-off between low unemployment or strong growth and low inflation.**

In times of recession, the government attempts to achieve strong growth and/or low unemployment rate by implementing expansionary demand side policies. In such a case, there is a possibility that demand-pull inflation may arise, thus resulting in conflict with the aim of low inflation.

Expansionary demand side policies such as expansionary monetary policy or expansionary fiscal policy will enable the relevant components of AD to rise and if it rises excessively, the AD will move nearer to the full employment level of national income. This increase in AD will be translated into higher price levels (P1 to P2 to P3) due to more intense competition for the increasingly scarce resources.



As a result, the problems associated with DD-pull inflation will emerge such as higher cost of living for workers who may then demand for higher wages, triggering wage-push inflation which would further worsen inflation and bring further negative consequences as lower investment due to greater uncertainty and the resultant adverse effect on sustained economic growth.

Another possible trade-off between different macroeconomic policy objective could be **trade-off between strong growth vs BOP position.**

For a country that experiences strong growth (as a result of successful demand-management policies), its citizens would have a greater taste and preference towards imported normal goods and services so as to satisfy their needs and wants by seeking greater variety which will lead to a higher level of M expenditure. Assuming X revenue remains constant, net X will fall, current a/c worsens and hence BOP position worsens (*ceteris paribus*). A country that had an initial BOP surplus may find its position sliding into a deficit. If this persists, a long term BOP deficit will now pose a new set of problems such as depletion of foreign reserves as well as depreciation of currency giving rise to imported inflation, thus creating further conflicts with other aims of an economy.

Thus, the government needs to weigh the potential benefits and costs carefully before deciding how it should aim to achieve its current macroeconomic objective.

Part 2: Assess whether trade-offs between different macroeconomic policy objectives influence macroeconomic policy decisions is affected by the size of the economy.

Thesis: Trade-offs between different macroeconomic policy objectives influence macroeconomic policy decisions may be affected by the size of the economy.

Let us compare 2 countries, Switzerland and Canada which are both developed and open economies but of different sizes with Switzerland being a smaller economy. Assuming both countries target the objective of strong and sustained economic growth, their choice of macroeconomic policies may differ as Switzerland is likely to prefer ER policy as its growth is externally driven due to its small market size while Canada probably chooses expansionary MP or FP as it has domestically driven growth.

If Switzerland were to use depreciation of its currency to boost economic growth, it may run into the conflict of imported inflation as well as demand-pull inflation if rise in net export results in excessive rise in AD, causing a strong conflict with the aim of low inflation and subsequent conflict with economic growth due to lower export price competitiveness.

On the other hand, if Canada uses expansionary FP or MP, it may also face demand-pull inflation if rise in G, C or I results in excessive rise in AD, causing a conflict with the aim of low inflation. However, compared to Switzerland, the conflict may be weaker since Switzerland had 2 types of inflation reinforcing each other.

Thus, the size of economy plays a significant role in the choice of macroeconomic policy which is internal for countries with the presence of a large consumer base and pool of local investors and external for smaller economies with smaller consumer base.

This choice of policy in turn results in trade-offs with different macroeconomic objectives at different degrees.

Anti-Thesis: Trade-offs between different macroeconomic policy objectives influence macroeconomic policy decisions may be affected by factors other than the size of the economy such as degree of openness and the stage of economic development.

Argument 1: Trade-offs between different macroeconomic policy objectives are affected by the degree of openness.

Define degree of openness as the number of times the total volume of trade is of its GDP.

Let us compare Singapore and Norway (both with similar size of economy with population of 5 million and similar stages of development with Singapore being much more open than Norway).

Given different degrees of openness, the countries may have different macroeconomic objectives. For example, Singapore may focus on price stability and thus concentrate on ER policy while Norway's macroeconomic priority may be strong economic growth which may be achieved with use of expansionary MP or FP.

A small and open economy like Singapore may pursue the priority of price stability given her dependence on the quality of relationships with its trade and investment partners. A gradual and modest appreciation of the S\$ controls imported inflation which is essential since Singapore is highly import reliant. This however conflicts with the aim of BOP since appreciation assuming Marshall-Lerner condition is satisfied, leads to BOT worsening, thus worsening of current account and therefor BOP assuming ceteris paribus.

A less open economy like Norway with a different objective such as economic growth will prefer to rely on its expansionary FP due to a small MPW and hence higher k value to bring about economic growth, which may result in demand-pull inflation, thus conflicting with the aim of low inflation.

Thus, the degree of openness may result in countries having different macroeconomic objective and thus different trade-offs are likely to arise due to different choice of macroeconomic policies.

Argument 2: Trade-offs between different macroeconomic policy objectives are affected by an economy's stage of development

Let us compare Australia and Ivory Coast with high degree of openness, similar size but different stages of economic development.

For a country like the Ivory Coast, economic growth (Y to Y_1) is a likely priority given that a rise in income can allow its citizens to enjoy a higher material SOL and thus may employ expansionary demand side policies such as expansionary FP, MP which may give rise to demand-pull inflation.

In contrast, a developed economy like Australia will prefer to keep watch over its price levels since it is likely to be near its full capacity, so it may implement contractionary demand-side policies such as contractionary MP or FP which may result in slowdown in economic growth and higher unemployment.

Thus, the different stages of development may result in countries having different macroeconomic objective and thus different trade-offs are likely to arise due to different choice of macroeconomic policies.

Argument 3: factors other than nature of economy

- The choice of macroeconomic policy decisions may also depend
 - on the current state of the economy- its most pressing macroeconomic problem at the moment.
 - Effectiveness of policies- limitations may result in policies not useful in achieving the macroeconomic objectives. (explain briefly key limitations of policies)

Evaluation:

- Stand: To what extent do you agree with the statement? Justify.
- In reality, may not be as easy to isolate the differing characteristics of economies. For e.g., small & open economy vs a large & less open economy. The analysis will then be more complex than what was discussed.
- It is also important to take into account the appropriateness and effectiveness of policies when making macroeconomic policy decisions.
- It should also be noted that in any case, trade-offs are inevitable when governments are making macroeconomic policy decisions. Thus, it is essential that the government be forward-looking in their policy decisions, to ensure not just short-term goals, but the long-term prosperity of the economy.

Level Descriptors	
Level (Marks)	Knowledge, Application, Understanding and Analysis
L3 (18-21)	Both parts of the question are well-explained. A well-thought and analytical discussion that critically examines the considerations behind a government's policy making decision. Arguments should not only consider how a government's macroeconomic policy decision may be affected by the trade-offs, but how other factors may also influence a government's choice of policy. Answer is well-substantiated with real-life examples.
L3 (15-17)	Both parts of the question are addressed adequately with some minor gaps in explanation. A generally cohesive argument that is reasoned and demonstrates good knowledge of some of the considerations a government may have with regard to its policy choices. Answer, however, tends to lack relevant examples.

L2 (12-14)	Attempt to address both parts of the question but underdeveloped. Part 1 adequately explained but part 2 answer is one-sided either only thesis or anti-thesis adequately given or a weak explanation of both sides.
L2 (10-11)	Only part 1 (explanation of trade-offs) or part 2 (discussion of size of economy and other factors affecting trade-offs) is given. So the answer lacks an essential part and may contain some minor misconceptions and/or theoretical errors. If only 1 part given but well-explained, can be given max L2 marks (up to 14 marks)
L1 (6-9)	Some relevant points incidentally made but explanation of trade-offs is limited and there is no clear thesis/ anti-thesis discussion of trade-offs being affected by the size of economy or other factors. Contains a number of conceptual errors.
L1 (1-5)	A largely irrelevant answer that merely regurgitates the workings of macroeconomic policies, showing a lack of understanding of the issue on hand.
E2 (3-4)	An evaluative discussion with judgment based on sound economic analysis. Demonstrates a good examination of the considerations that a government may have in its policy making decision.
E1 (1-2)	Mainly unexplained judgment or one that is not supported by economic analysis. Merely stating the stand with no or little justification.
5	India's Finance Minister has announced that tackling inflation is the key priority. This came after data showed that inflation rate increased from 9.3% in 2012 to 11% in 2013. Adapted from Reuters, Dec 2013 & www.inflation.eu
	(a) Explain how firms and households may be affected by high inflation. [10]
	(b) Discuss the appropriateness of demand management policies to alleviate inflationary pressures. [15]
Suggested Answers:	
	<ul style="list-style-type: none"> Explain how firms and households may be affected by high inflation. [10] <p>Approach:</p> <p>1) The main focus of the effects of high inflation is on the real value of money. Hence candidates need to identify the areas of effects of high inflation rate faced by the households and firms.</p> <p>2) In addition candidates can look at how high inflation will affect the behavior of both</p>

firms and households.

Introduction:

- Definition of inflation
- While low and stable inflation has positive effects on the economy, high inflation has destabilising effects on the economy.
- High inflation will cause firms and households to change their consumption and production behaviour because of the respective effects on the real value of households' income and savings and the firms' profitability

Body:

A. Effects of high inflation on Households

- When there is high inflation, the increase in general price level has caused the internal value of money to fall. Thus for the **households**, even though the nominal income has risen, if it is less than the inflation rate, real income will fall. Thus there is a fall in their purchasing power.
- Household consumption might fall. Households will rush to purchase goods and services in advance for fear or with the expectation of even higher future prices and they cannot buy the same amount of goods and services.
- In addition, the real value of their savings and the real interest accrued in the bank may also fall. This will encourage more consumption of goods and services, or in the purchase of gold, properties and financial assets with higher returns than the interest earned in the savings. Households will thus make more trips to the banks and thus increases shoe leather costs.
- On the other hand, households who had borrowed money from the bank to purchase big ticket items, eg car, electrical appliances or houses, will gain as their **real** value of the loans/mortgages (for houses) and interest/mortgage charges will have fallen.
- COL would have risen. SOL may have worsened if the increase in their nominal income has not kept up with the inflation rate. But if their nominal income is higher than inflation, then their SOL may not have fallen.
- Low income households are more negatively affected by high inflation compared to high income households. This is because they spend a larger proportion of their income on consumption of goods and services and so when prices of goods and services increase, they would be more severely affected compared to high income households which spend a smaller proportion of income on consumption.
- Households with fixed income earners, eg pensioners, would also face a greater drop in real income compared to those who earned income indexed to inflation rate because the amount they receive in nominal terms remain constant but their real income is reduced. For those whose income is indexed to inflation rate, they would see an increase in nominal income but their real income would remain unchanged.
- With high inflation, assuming that it is relatively higher than the country's trading partner, households may switch their expenditure on domestic to imports of goods and services

B. Effects of high inflation affects firms – centred around cost of production and real returns

- When inflation rate is high, firms may be able to increase prices to earn higher revenue before workers demand for higher wages (or any other payments to the factors of production) to meet the rising cost of living. When COP increases, firms are less willing and able to produce and thus supply of goods and services fall. Overtime, as costs continues to rise, firms which earn subnormal profit will shut down in the short run, should $AR < AVC$. Larger firms are better able to handle inflation due to the economies of scale they enjoy which allows them to operate at a lower AC than smaller firms in the same industry.
- Banks would increase their nominal interest rate in their attempt to secure a higher real interest rate given the high inflation. Firms will thus be more hesitant to invest as the higher cost of borrowing for investment would have risen and the **real** expected returns could be lower.
- Furthermore if the relative inflation rate is higher in the economy compared to other economies, firms that are dependent on the export market, may become less price competitive causing a fall in their export revenues (assuming $PED_x > 1$). Some will consider relocating their production to other countries, as their cost of production to would have increased.
- Lastly, with high inflation firms will incur higher menu costs as they would have to update their price lists more regularly. However, with greater use of technology, the menu costs incurred is reduced.

Conclusion:

- Due to the negative effects of high inflation rates, governments around the world implement policies to attain low and stable inflation.

Level	Knowledge, Application, Understanding and Analysis
L3 (7 – 10)	<p>Answer provides clear explanation of the effects of high inflation on firms and households.</p> <p>High L3 for candidates who are able</p> <ul style="list-style-type: none"> • Must consider the effect on the real value of money • to distinguish the effects on small vs large firms, and low-income vs high-income households, internal and external consideration.
L2 (5 – 6)	<p>Answer provides undeveloped explanation of the effects of high inflation on firms and households. Such answers would lack adequate links between statements.</p> <p>Max 5 if candidates only addressed effects of high inflation on one economic agent</p>
L1 (1 – 4)	<p>Answer provides some knowledge of the effects of high inflation and relate to why governments want to achieve low and stable inflation.</p>

(b) Discuss the appropriateness of demand management policies to alleviate inflationary pressures. [15]

Approach: Candidates are expected to explain demand management policies in tackling high inflation and to evaluate whether they are suitable to tackle all sources of inflation. Candidates should introduce alternative policies where demand-management policies are inadequate in tackling those inflationary pressures. Candidates should bring in appropriate examples

Note: Limitations of each policy are considered as **evaluative** comments on effectiveness and is not appropriateness)

Introduction:

- Governments aim to attain low and stable inflation
- They have a range of policy tools at their disposal to tackle high inflation.
- Whether DD-management policies are appropriate to tackle high inflation, the main criterion is the source of inflation/root cause of inflation, namely demand-pull or cost-push. Other criteria are: nature of economy (eg open, import dependent on raw materials), trade-off (in relation to the state the economy, ie are they developing, with high unN).

Body:

A. **Thesis:** Demand management policies are appropriate to tackle high inflation, demand pull inflation which are caused by excessive increase in AD relative to AS (Candidates only need to explain one policy as part of the thesis arguments, even if you bring in FP and MP, they should be examples of demand side policies, with different fiscal and monetary tools affecting AD). Focus is on the analysis of whether a fall (leftward shift) in AD is appropriate. Give explanation of a fall in AD can bring down the general price level.

MP

- Where inflation is due to demand-pull inflation, governments can introduce demand-management policies such as monetary policy or fiscal policy
- In 2011, China implemented a contractionary MP to increase the cost of borrowing for households to buy property as the property market was overheating.
- The increase in interest rates made it more expensive to borrow as households would have to return more interest with the loan that they took.
- As such, this helped to reduce the amount of borrowing and thus reduced consumption of property. This caused a fall in AD and thus a fall in GPL, c.p.
- Thus MP helped to tackle the demand-pull inflation
- However, MP has its limitations that may render it ineffective to tackle high inflation. One limitation is that MP would not be an appropriate policy in economies that have free capital flow, like Singapore, as the increase in interest rates would lead to the inflow of hot money and thus cause money supply to increase and thus lower interest rates. Overall this would render the policy ineffective.

FP

- Similarly, government can make use of discretionary fiscal policy to cause a fall in

AD using fiscal tools, government expenditure (G) and/or tax revenue (T). In this case, a decrease in G and/or an increase in T. It might also reduce transfer payments to the households or firms to reduce their expenditure.

- Limitations that would affect effectiveness of policy– elaborate on small K multiplier (assuming there is no global recession like the recent crisis where G are using austerity measures can be appropriate more for managing employment and growth),
- Thus demand-management policies are appropriate for demand pull-inflation.

Exchange Rate Policy (ERP):

- Economies that experience imported inflation, especially of the raw materials or intermediate goods, such as Singapore, can implement the ERP where the government will appreciate the currency. This will make imports cheaper in terms of the domestic currency and thus lower the COP for firms. This will increase SRAS, lower the general price level and real NY
 - This policy is also appropriate to address high inflation due to demand-pull inflation as the appreciation of the currency makes exports more expensive and imports relatively cheaper and leads to fall in net exports assuming Marshall-Lerner condition holds and thus could lower AD.
 - However Marshall-Lerner condition may not hold in the SR due to contractual agreements in trade and thus may not be appropriate to tackle high inflation

B. **Anti-thesis:** Demand management policies are not appropriate to tackle high inflation. This is especially so when the root cause of problem is due to an increase in COP, accelerated increase in AD is not met with an increase in the capacity to produce (increase in LRAS) for a sustainable economic growth, or the dependency of the foreign sector in the consumption or production of goods and services.

MP

- MP is not appropriate to tackle high inflation should the cause of inflation be imported or wage-push. A rise in interest rate does not have a direct/immediate impact on the general price level due to an increase in import prices or imported inflation or wage increase.
- As such, the government needs to employ alternative policies such as exchange rate policy to deal with imported inflation, and supply-side policies for wage-push inflation.

Alternatively :

- **Supply-Side Policies (SSP):** Where the source of inflation is wage-push inflation, governments can implement SSP to increase the productivity of workers. An increase in productivity will allow the workers to produce more units of output per unit time and thus lowers the AC of each unit produced. This will help to alleviate the inflationary pressures due to wage increases with the assumption that wage increase is not matched with increase in labour productivity. Examples in Singapore include the Skills Programme for Upgrading and Resilience (SPUR) where workers can attend courses to develop themselves in their area of work so as to increase productivity.
 - However, increase in productivity through training takes a long time to attain

and it is not guaranteed as the success of the training depends on the attitudes and mindset of the workers undergoing training.

- For developing countries that are growing, supply-side policies must be implemented in tandem to cope with the increase in AD to bring stability to the general price level rather than reducing AD.

(Note: the above discussion is not exhaustive. Candidates may add the other criteria given in the approach to answering the question. But looking at the source of inflation as a criterion to judge appropriateness of policies is a must.)

Synthesis/Conclusion:

- Whether demand-management policies are appropriate depends on the source of inflation that the economy is facing.
- Often there are multiple sources of inflation and thus governments should employ a mix of policies that are appropriate to the respective sources of inflation.
- Governments would also have to be mindful of the effect of the policies on the other macroeconomic goals as lowering inflation by lowering AD could lead to a slowdown in growth and may result in higher unemployment should firms find it unprofitable to continue producing in the economy. In addition, a small and open without natural resources may require supply-side policies to reduce inflation.

Level	Knowledge, Application, Understanding and Analysis
L3 (9 – 11)	Answer provides clear analysis of at least 3 policies that a government can employ to tackle inflation with an emphasis on the appropriateness in tackling certain sources of inflation and one other criterion
L2 (6 – 8)	Answer provides an undeveloped analysis of at least 2 policies to tackle inflation without reference to source of inflation Explanation of policies without looking at its limitations will be given max 6m
L1 (1 – 5)	Answer shows some knowledge of the policies to tackle inflation but lacks analysis.
E2 (3 – 4)	Judgement based on analysis.
E1 (1 – 2)	Mainly unexplained judgement.

6	<p>Singapore and the EU concluded the Free Trade Agreement (FTA) in Dec 2012, after three years of talks. Under the FTA, the EU will eliminate tariffs on all imports from Singapore over five years, while Singapore will grant duty-free access for all imports from the EU.</p> <p style="text-align: right;">Source: Todayonline.com, 30th March, 2014</p>
(a)	<p>Explain the changing pattern of trade in Singapore in recent years. [10]</p>
(b)	<p>Assess the extent to which Singapore could benefit from signing Free Trade Agreements. [15]</p>
	<p>Comments on a): This question is not asking for Singapore's pattern of trade but the CHANGING pattern of trade. However, content related to pattern of trade is required as basic information before students can explain how those determinants changes. Recent years is to set the time frame and context so that students are supposed to use recent examples.</p> <p>Suggested outline to a): Introduction</p> <ul style="list-style-type: none"> - Define trade - Explain what is pattern of trade - Optional: Singapore is small and open <p>Changes in Supply factors:</p> <ul style="list-style-type: none"> - The theory of Comparative Advantage (CA). Differences in factor endowments affecting opportunity costs of production can be used to determine what countries should specialised, export and import. - Signing of Free-Trade Agreements (FTA). Changes the relative price of import and export between countries that sign FTA and those without. <p>Changes in Demand Factors:</p> <ul style="list-style-type: none"> - Governmental interventions - Relative income level - Demographics & Taste and Preferences <p>Conclusion Singapore's changing patterns of trade with the rest of the world can be explained with the changes in the demand and supply factors mentioned above.</p> <p>Suggested Answer to a): Introduction International trade is the exchange of goods and services between countries. Singapore's pattern of trade refers to:</p> <ul style="list-style-type: none"> • Who Singapore trade with in terms of both imports and exports • What do Singapore imports and exports

- How much do Singapore imports and exports

The pattern of trade between Singapore and the rest of the world can be explained by demand and supply factors. Therefore, changes to these demand for and supply factors will affect and change Singapore's pattern of trade.

Changes in Supply factors:

The theory of Comparative Advantage (CA). Differences in factor endowments affecting opportunity costs of production can be used to determine what countries should specialise, export and import.

Theory of Comparative Advantage argued that specialisation and trade can take place and benefit all countries as long as each country has comparative advantage in the production of one good over another country. A country should produce and export what it has CA in and import what it does not have comparative advantage in. A country is said to have comparative advantage in the production of a commodity when it can produce a particular good at a lower opportunity cost than another country.

The opportunity cost of production will change when:

- Changes in Factor endowment
- Changes in Quality of factor of production

Therefore, pattern of trade will change.

Changes in Supply factors:

Signing of Free-Trade Agreements (FTA) will change the relative price of import and export between countries that sign FTA and those without.

FTA signed between countries can also influence patterns of trade. More trade tends to take place with countries that Singapore has signed free trade agreement due to lowering of import restriction such as cheaper import tariff to member countries that lower the price of the import. This leads to artificial comparative advantage, as the price of imports from member countries is lower than that from non-member countries.

Changes in Demand Factors:

- Governmental interventions

1) Imposition Export Subsidies

Exports from countries might change due to Export subsidies given by different countries therefore will change the relative price which will change Singapore's trade patterns.

2) Imposition of Protectionism measures

Import tariff might be imposed on goods imported from Singapore, would raise the price of on goods imported from Singapore which will change Singapore's trade patterns.

3) Changes in Exchange rate

Appreciation and depreciation of currencies will change the relative price of goods and services between countries in different currencies which will change Singapore's trade patterns. This could be done by Singapore as well as our trading patterns.

Changes in Demand Factors:

- Relative income level

Demand factors such as rising affluence for example emerging economies that experiences strong rates of economic growth will have increasing demand for the goods and services produced by other countries like tourism related services. Therefore this increases the exports of such goods from Singapore to these emerging economies. Where there are changes in the lifestyles or improvement and innovations in the design of a product the composition of imports will also be altered significantly,

Strong regional economic growth may lead to an increase in the demand for goods and services which Singapore specialises in producing, for example financial services and logistical services. The strong growth of the emerging economies like China as well as the rest of the world would mean that Singapore is able to cater their services to the needs of this higher-income population.

Changes in Demand Factors:

- Demographics & Taste and Preferences

Where there are changes in population sizes as well as population demographics, the global demand pattern will also change. For example, ageing countries like japan will demand more goods and services like medical tourism and wheelchairs for the elderly from Singapore.

Conclusion

Singapore's changing patterns of trade with the rest of the world can be explained with the changes in the demand and supply factors mentioned above.

Level	Knowledge, Understanding, Application and Analysis	Marks
L3	High L3 9-10m: Well-developed explanation with least 3 demand and supply factors using good and relevant examples that apply to Singapore. Low L3 7-8m: Well-developed explanation with least 2 demand and supply factors using relevant examples that apply to Singapore.	7-10
L2	Average explanation with least 2 demand and supply factors using relevant examples that apply to Singapore. Max at 6m for well-written answers that focused only on pattern of trade instead of changing pattern of trade relating to Singapore. Max at 5m for good explanation comprising of at least one-supply and one-demand factors NOT applied to Singapore. Max at 5m for well-written answers that focused only on pattern of trade instead of changing pattern of trade relating to Singapore.	5-6
L1	Max at 4m for well-written answers that focused only on pattern of trade instead of changing pattern of trade NOT relating to Singapore. Max at 4m for average written one-sided answers that focused either on Demand or Supply factors Scattering of points	1-4

Suggested Outline to b):**Introduction**

- Define Free Trade Agreements and its components
- Singapore is small and open
- Singapore could be affected in terms of the 4 Key Economic Indicators and SOL

Thesis: Singapore would benefit from Free Trade Agreements

- Improved Balance of Payments
- Economic Growth, both potential and actual
- Lower GPL or Low inflation
- Decrease Unemployment
- Improved Standard of Living, both material and non-material

Anti-Thesis: Singapore would not benefit from Free Trade Agreements

- Worsen Balance of Payments
- Recession, negative actual Growth
- Inflation
- Increase Unemployment
- Worsen Standard of Living, both material and non-material

Evaluation & Conclusion**Suggested answer to b):****Introduction**

A Free Trade Agreement (FTA) is a legally binding agreement between two or more countries to reduce or eliminate barriers to trade, and facilitates the cross border movement of goods and services between the territories of the Parties. Singapore's FTAs help both foreign and Singapore-based firms increases cross-border trade by eliminating or reducing import tariff rates as well as making it easier to invest.

Singapore's network of FTAs cover 20 regional and bilateral FTAs with 31 trading partners.

Thesis 1: Singapore would benefit from Free Trade Agreements with improved Singapore's Balance of Payments.

Reduction of trade barriers reduces tariffs imposed on Singapore's exports and imports from other countries. Both X and M will become relatively cheaper than before FTAs begin signed. Therefore, both X and M will increase. Assuming the increase in exports is more than the increase in imports, Net Exports (X-M) will increase which will increase Aggregate Demand (AD).

Also FTAs, helps to promote investment between countries, which will increase Foreign Direct Investments (FDIs) between both countries. Assuming the net FDI into Singapore is positive, there will be an injection into Singapore's circular flow of income causing investment within Singapore will increase, which also increases AD.

Thesis 2: With an increase in AD due to FTAs, Singapore would benefit in term of

actual economic Growth, decrease unemployment (UnE) and improvement in material standard of living (SOL).

When AD increases, RNY will increase, as real output increases, employment of factors of production increase, including labour. Therefore unemployment will decrease, especially cyclical unemployment.

Assuming Real national income increase more than the rate of population growth, RGDP per capita will increase, household's standard of living will increase as disposable income of average person had increase.

Firms that are relative more price competitive will enjoy an increase in output and revenue which will help firms enjoy more economies of scale.

Thesis 3: Singapore would benefit from Free Trade Agreements with lower GPL or decrease in inflation rate.

Due to decrease in Cost of Production and Price of imported goods and services: Also firms can experience a lower in cost of production due to an fall in price of imported factors of productions, making their goods and services even more price competitive. On a macroeconomic perspective, Singapore might experience a increase in SRAS which will help to reduce the GPL and inflationary pressure.

Household will enjoy more goods and services at a lower price and higher quantity. This increases consumer's surpluses and the amounts of goods consumers are willing and able to consumers. This increases material SOL. This could be link to non-material SOL as consumers have better quality and choices.

Thesis 4: Singapore would benefit from Free Trade Agreements potential growth.

Singapore's LRAS with increase in capital accumulation, transfer of technology due to increase in trade and investment from abroad. Increase labour mobility would also increase quality and quantity of labour which also increases LRAS.

Anti-Thesis 1: Singapore would not benefit from Free Trade Agreements with Worsen Balance of Payments

Assuming the increase in exports is less than the increase in imports, Net Exports (X-M) will decrease which will decrease Aggregate Demand (AD).

Assuming the net FDI into Singapore is negative, there will be an withdrawal from Singapore's circular flow of income causing investment within Singapore will decrease, which also decreases AD.

Anti-Thesis 2: With an decrease in AD due to FTAs, Singapore would not benefit in term of recession, increase unemployment (UnE) and worsen in material standard of living (SOL).

- Fall in AD and its impact.

Other factors:

- Non-competitive firm will close down due to lesser protection from foreign goods.
- Sun set industries will shut down earlier. Infant industries will find it harder to survive.
- Increase labour mobility from abroad may reduce wage rate or increase unemployment especially low skilled labour (increase income inequality)

Anti-Thesis 3: Singapore would not benefit from Free Trade Agreements with increase GPL or increase in inflation rate when AD increases.

Evaluation & Conclusion

To a large extent Singapore could benefit more from signing Free Trade Agreements due to the nature of our economy being small and open.

There will be some who will benefit while others will not from free trade. Whether the extent to which Singapore could benefit from signing Free Trade Agreements would depend on whom in the economy, example competitive and non-competitive.

Impact from FTAs can also be more evident in the long run compared to short run as other countries are signing free trade agreements among themselves. Therefore, Singapore will eventually lose out by not signing FTAs

Negative effect from FTAs can be cushion with interventions from government but only in the short term.

Level	Knowledge, Understanding, Application and Analysis	Marks
L3	High L3 10-11m: Well-developed discussion with least 3 thesis and anti-thesis points using good and relevant examples that apply to Singapore.	8-11
	Low L3 8-9m: Well-developed discussion with least 3 thesis and anti-thesis points using relevant examples that apply to Singapore.	
L2	Average discussion with least 3 thesis and anti-thesis points using relevant examples that apply to Singapore.	6-7
	Well-developed discussion with least 3 thesis and anti-thesis points using good and relevant examples that DO NOT apply to Singapore. Max at 6m for well-developed one-sided answers using good and relevant examples that apply to Singapore.	
L1	Max at 5m for well-developed one-sided answers using example NOT related to Singapore. No use of economic theories. Scattering of points	1-5
E2	Evaluation with justification related to the Singapore context	3-4
E1	Evaluation without justification or without relation to the Singapore context	1-2

