

JC1 and JC2 H2 Economics

2013 NYJC Economics Tutorial

TOPICS	PAGE
<i>Introduction to Economics</i>	1
Data Response Skills	
<i>Introduction to Economics</i>	9
Essay and Case Study Skills	
<i>Scarcity, Choice & Opportunity Cost</i>	28
Nature & Scope	
<i>Resource Allocation in Competitive Markets</i>	34
Demand & Supply (In Product Market)	
<i>Resource Allocation in Competitive Markets</i>	67
Elasticity of Demand & Supply	
<i>Key Economics Indicators</i>	122
National Income Accounting	
<i>Key Economics Indicators</i>	139
An Introduction to Macroeconomics	
<i>How The Macroeconomy Works</i>	143
Keynesian Theory	
<i>How The Macroeconomy Works</i>	163
Government Policy Tools	
<i>How The Macroeconomy Works</i>	179
Economic Problems - Inflation	
<i>How The Macroeconomy Works</i>	221
Economic Problems – Unemployment	
<i>How The Macroeconomy Works</i>	253
Economic Problems – Economic Growth	
<i>International Economics</i>	289
International Trade, Finance & Globalization	
<i>Firms & How They Operate</i>	377
Theory of Production and Costs; The Perfectly Competitive Market; The Monopolist	
<i>Firm's & How They Operate</i>	407
Monopolistic Competition; Oligopoly	
Market Failure & Government Intervention	450

1.1 Numbers

(a) Absolute and Relative

Absolute – refers to the actual size/value of a certain variable and what happens to the actual size/value over a period of time.

Example: Pei Ling's Mathematics marks rose by 5 from 25, while Wei Xiong's marks rose by 8 from 80.

Relative – refers to the size / value of one variable with regard to some aggregate or other variable and how this position changes over a period of time.

Example: Pei Ling's marks rose by 20%, while Wei Xiong's rose by 10%.

NOTE: Data can show a larger absolute change but a smaller relative change. In "absolute" terms Wei Xiong showed a larger improvement, but in "relative" terms Pei Ling's improvement was more significant.

(b) Index Numbers

Index Numbers (or indices) are a common tool that economists use to measure the relative changes of variables over time. It is especially useful when the absolute or 'raw' data becomes very unwieldy or when absolute comparisons are not necessary.

Example: We can 'index' the changes of the waist size of a few individuals over time, so that more valid or 'fair' comparisons can be made.

Table 1

Waist (cm)	January	March	June
Person A	40	44	48
Person B	60	63	69
Person C	80	86	94

Table 2

Waist (Jan =100)	January	March	June
Person A	100	110	120
Person B	100	105	115
Person C	100	107.5	117.5

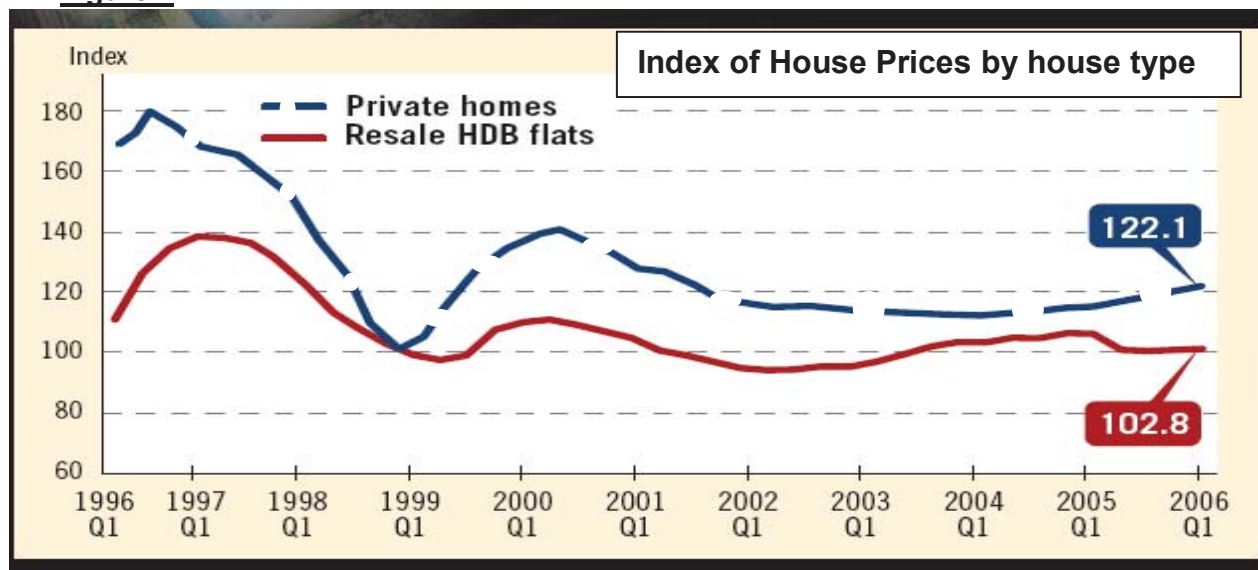
Whose waist grew the most?

Person A

NOTE:

- Indices are used to measure changes in many variables. They are most frequently applied to measure changes in prices of groups of things. The most common being the Consumer Price Index (CPI), which measures the changes in the prices of a selection of consumer goods. Measuring the change in the CPI can give us an indication of how fast consumer prices are changing. If the changes are increasing over a period of time, then we have an indicator for the rate of inflation.
- Although Indices are a quick and fair way of measuring changes (and rates of change), they are not useful when making comparisons in absolute terms.

Figure 1



Using the data presented in figure 1 answer the following questions:

Calculate the approximate change in the prices of each of the two housing types from the first quarter 1996 as compared to the first quarter 2006.

$$\begin{aligned}\text{Resale HDB flats} &= \frac{102.8 - 110}{110} \times 100 \\ &= -6.5\%\end{aligned}$$

$$\begin{aligned}\text{Private homes} &= \frac{122.1 - 170}{170} \times 100 \\ &= -28.2\%\end{aligned}$$

The data does not state what the 'base' period is. In your opinion which period do you think is the base period? Why?

First quarter 1999 was the base year because the index was 100.

In Q1 1999, the index for Private House prices and that of Resale HDB flats is the same. Can it be concluded that Private Houses and Resale HDB flats were sold, on average, at the same price? Explain your answer.

No. The index is the same but the actual prices are not be the same.

We can only conclude that prices are the same unless we are given the actual data which states so.

1.2 Graphs

Graphs represent a quantity as a distance on a line. The main point of a graph is to enable us to visualise the relationship between 2 variables. Two types of relationship can be observed:

Positive – when the 2 variables change in the same direction.

Negative – when the 2 variables change in the opposite direction.

When looking at graphs you should consider the following patterns:

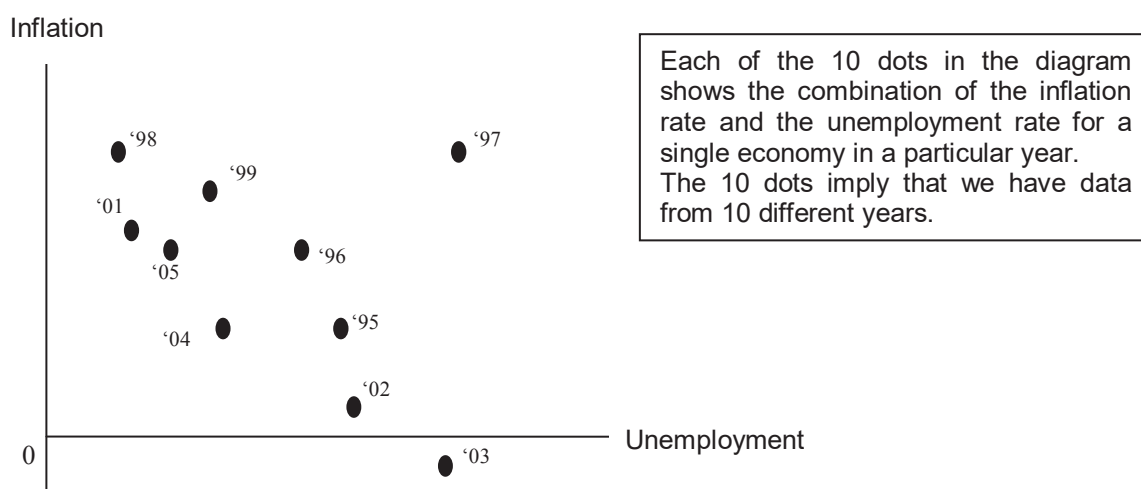
- Variables that move in the same direction.
- Variables that move in the opposite direction.
- Variables that have a maximum or a minimum
- Variables which are unrelated.

Types of Graphs:

(a) Scatter Diagrams

This type of diagrams (graph) is used to reveal whether a relationship exists between two variables.

Figure 2



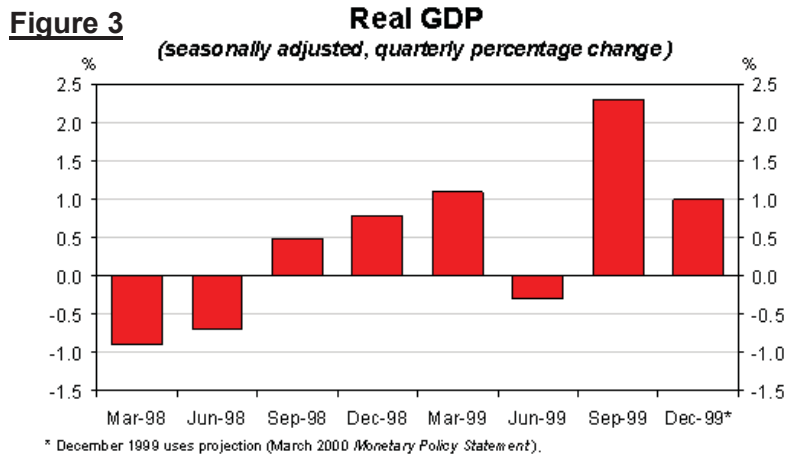
Does the scatter diagram (fig 1) reveal a relationship between inflation and unemployment?

Yes. From the line of best fit, we can see a negative relationship between inflation and unemployment. The line is downward sloping depicting an inverse relationship between inflation and unemployment.

(b) Time-Series Graphs & Data

These types of data chart the changes in a variable over time. It is used to examine patterns or trends or changes in trends.

Time-series data involve the identification of **trends** and the recognition of changes or exceptions to the trends. Rates of change often can also be inferred and calculated.



Describe the trend of the quarterly changes in the “Real GDP” (Fig 3).

Generally increasing over the years except for the quarter leading to June 99 and a slowdown in the increase for the quarter leading to Dec 99.

Upward trend with lowest negative growth in Jun 98 and highest growth in Sep 99.

Table 3

Singapore GDP per capita (Current Market Price)									
Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
S\$	37520	35161	35440	39784	37130	37976	38599	42852	44666

Calculate the percentage increase in GDP per capita from 1997 to 2005 (Table 3).

% increase in GDP per capita = $\frac{44666 - 37520}{37520} \times 100\% = 19.05\%$



(c) Cross-sectional data

This type of data shows how figures are ‘built’ up. They are useful to show the components of any single figure. Cross-sectional data presented in table form usually use ‘**indentation**’ to show the different levels.

Table 4

Gross Domestic Product by Industry	S\$ million
GDP at Current Market Prices (2005)	194,359.8
Goods Producing Industries	62,207.1
Manufacturing	52,127.5
Construction	7,044.3
Utilities	2,844.2
Other Goods Industries	191.1
Service Producing Industries	121,901.1
Wholesale and Retail Trade	28,838.1
Hotels & Restaurants	3,637.9
Transport & Communications	23,142.6
Financial Services	20,906.9
Business Services	24,584.2
Other Service Industries	20,791.4
Ownership of Dwellings	6,890.4
Less: FISIM¹	7,673.5
Gross Value Added at Basic Prices	183,325.1
Add: Taxes on Products	11,034.7

¹Refers to Financial Intermediation Services Indirectly Measured

In table 4:

{GDP at Current Market Prices (2005)} = {Goods Producing Industries} + {Service Producing Industries} + {Ownership of Dwellings} – {FISIM} + {Taxes on Products}
i.e.: **194,359.8** = (62,207.1) + (121,901.1) + (6,890.4) – (7,673.5) + (11,034.7)

Identify the components of the item ‘Goods Producing Industries’ and the item ‘Service Producing Industries’.

Components of the item ‘Goods Producing Industries’ = Manufacturing, Construction, Utilities and Other Goods Industries.

Components of the Item ‘Service Producing Industries’= Wholesales and Retail Trade, Hotels & Restaurants, Transport & Communications, Financial Services, Business Services and Other Service Industries.

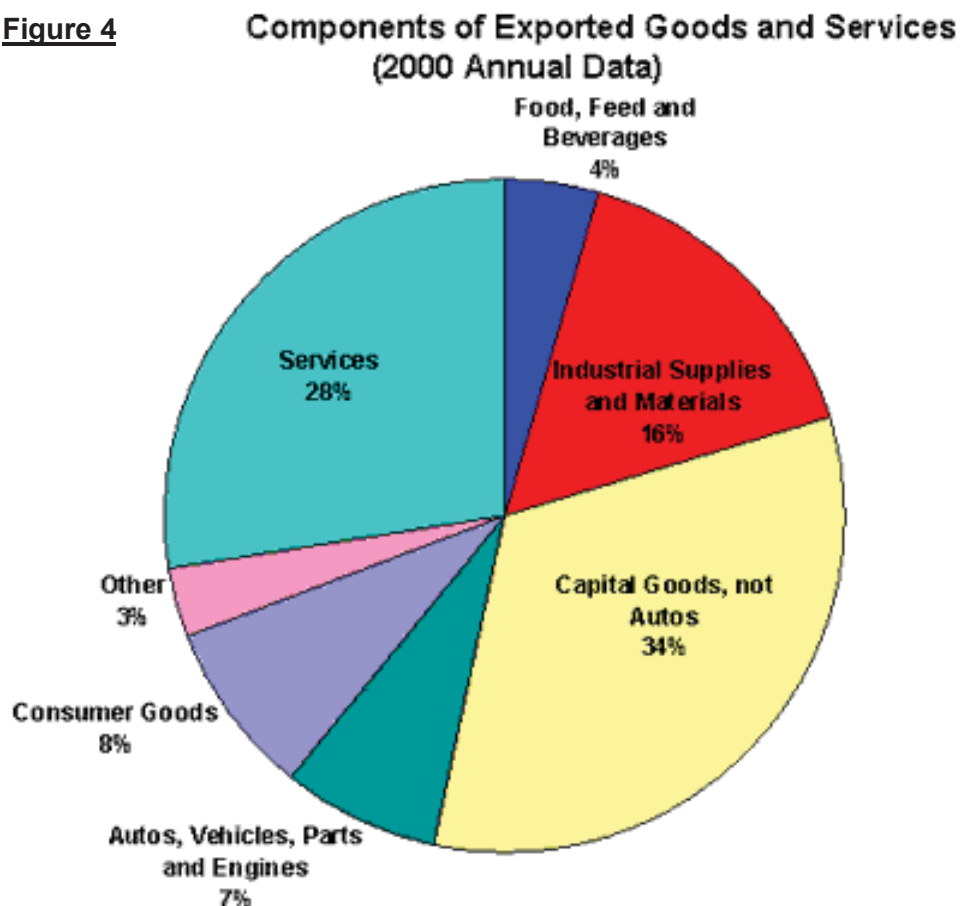
The cross-sectional data in Table 5 are in terms of “average” figures. Thus, although the item “**All households**” is made up of “Private Houses”, “Private Flats” and “Public Flats”; the numbers are not a simple summation. For this reason no indentation is used in the table.

Table 5

Average Monthly Household Expenditure by Type of House in 2003 (S\$)	
All Households	3,244
Private Houses	6,958
Private Flats	5,846
Public Flats	2,804

Figure 4 shows another way cross-sectional data is often presented, using a pie chart. This mode of presentation has the benefit of showing the relative contribution of each component visually. E.g from Fig. 4, we can visually identify “Capital Goods, not Autos” as the largest contributor to Exported Goods and Services in 2006.

Figure 4



(d) Pooled data

This refers to various data presented in the same figure or table. This is a very useful form of presenting data as many things can be inferred.

Figure 5: Real Economic Growth (Singapore)

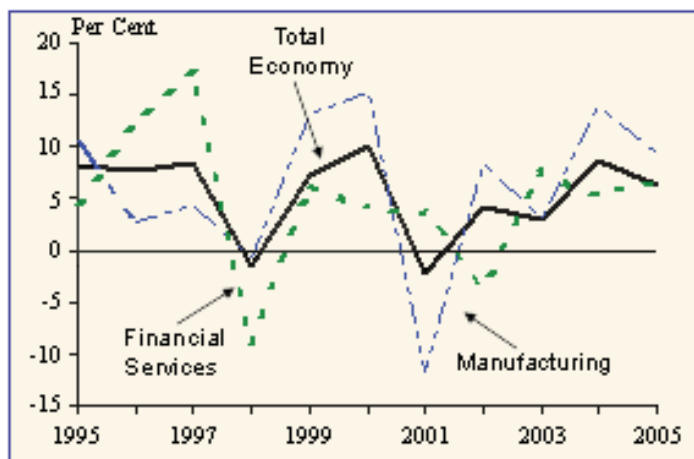


Fig. 5 shows the Real Economic Growth for the whole of the Singapore economy from 1995 to 2005. At the same time the growth rates for two key industry sectors, the Financial Services and the Manufacturing sectors are also shown.

NOTE: A falling growth rate still means positive growth.
A typical question on this type of data would be:

Describe the trend of the Real Economic Growth for the Singapore from 1995 to 2005 and account for the changes in this trend. (4m)

The Real Economic Growth for the Singapore economy shows a steady positive growth trend of between 3% to 7% annual growth. However, there are two periods when this trend was clearly disrupted. The first disruption was in 1998 when growth dipped to a negative growth and again, in 2001 when negative growth was registered.

In 1998 the dip was largely a result of the decline in the 'Financial Services' sector, when this sector recorded negative 10% growth. However, the dip in 2001 was largely caused by the decline in the 'Manufacturing' sector, when this sector registered a negative growth of almost 12%.

Table 6 shows pooled data regarding “Average Monthly Household Expenditure” over 4 years. Here again, much can be inferred from this data.

Table 6

Average Monthly Household Expenditure by Type of House (S\$)				
	1988	1993	1998	2003
All Households	1,461	2,662	3,095	3,244
Private Houses	2,765	5,919	6,945	6,958
Private Flats	2,815	5,047	6,400	5,846
Public Flats	1,328	2,302	2,721	2,804

Which household type showed the largest increase in monthly expenditure?

Private houses showed the largest increase in monthly expenditure.

From the data above, what do you think could be the possible reasons for your answer to the above question?

Possible reasons why private house showed the largest increase in monthly expenditures include higher rise in incomes relative to other groups, prices of the goods consumed by the rich have risen by more (e.g. rentals, luxuries, etc).





NYJC

2013 JC1 H1 & H2 ECONOMICS

Introduction to Economics: 2. Essay and Case Study Skills

- A. Aims and Assessment Objectives
- B. Essay Skills
 - 1. Approach to essay writing
 - 2. Parts of an essay
 - 3. Level of Responses & Skills tested
 - 4. Types of essay questions
 - 5. Key elements of a paragraph
 - 6. Mark Structure for Essay
 - 7. Meaning of direction words
- C. Case Study
 - 1. Approach to Case Study
 - 2. Understanding the Requirements of the Questions



A. AIMS AND ASSESSMENT OBJECTIVES

AIMS

The syllabus is intended to provide the basis for a broad understanding of economics. Specifically, the syllabus aims to develop in candidates:

1. an understanding of fundamental economic principles, theories and concepts, and of the methods of analysis used by an economist;
2. the ability to use the tools of economic reasoning to explain, analyse and resolve economic issues, and evaluate policy decisions;
3. the habit of reading critically, from a variety of sources, to gain information about the changing economic activities and policies at the national and international levels;
4. the ability to use evidence in making rational arguments in economic context and understand the roles of various economic agents.

ASSESSMENT OBJECTIVES

Candidates are expected to demonstrate:

Understanding of

1. the main concepts, principles and theories employed within the field of economics
2. methods of analysis in economics

Ability to

3. understand and interpret economic information presented in textual, numerical or graphical form
4. select and apply economic concepts and principles to explain and analyse contemporary events at the micro and macro levels
5. recognise unstated assumptions
6. make interpretations and valid inferences from information presented and evaluate the reliability of information given
7. evaluate alternative theoretical explanations and perspectives of economic problems, issues and policy decisions
8. organise and communicate economic ideas and arguments in a clear, logical and appropriate form



B. ESSAY SKILLS

1. Approach to essay writing

A good essay should be a coherent whole with an introduction, logically developed body consisting of developmental paragraphs in developing the argument of the question and a conclusion.

There are various steps to follow in writing an essay:

- (i) **Stage 1 : Study & Interpret the question**
 - Identify main issue to be discussed – to ensure focus
 - Check for key concepts – to assess knowledge and understanding
 - Ask 'wh' questions (what, why, when, who, how) to understand the requirement of the question
 - Check for direction words – to assess for scope & level of skill tested
 - Check for assumptions – to assess comprehension
 - Identify context – to ensure relevancy
 - Rephrase the question if necessary – to ensure accuracy
- (ii) **Stage 2 : Plan the answer**
 - Briefly sketch out the Intro, Body and Conclusion
 - Brainstorm points to support and develop the issue
 - Identify theoretical framework/tools of analysis/diagrams to illustrate understanding and support arguments
 - Illustrate with examples to match context of question
 - Raise any differing/alternative point(s) of view to the issue
 - Organise points/arguments according to the task requirement or flow
 - Avoid zigzagging between different sets of ideas
 - Sum up ideas, weigh arguments & suggest alternative viewpoints
- (iii) **Stage 3 : Write the essay**



2. PARTS OF AN ESSAY:

Parts	How to arrive at a relevant answer	Skills required
<i>Introduction</i>	<p>Briefly explain the requirement/objective of the question and the approach that you would like to take.</p> <p>Use a 'hook' by stressing the central topic of the question or defining the issue that is to be discussed in the essay</p> <p>State the principles and theories required e.g. law of supply, law of increasing opportunity cost, etc.</p> <p>Define key economic terms e.g. scarcity, demand, cross elasticity of demand, etc.</p>	<ul style="list-style-type: none"> • Spell out importance of concepts defined • Restate the question
<i>Developmental paragraphs</i>	<p>(a) Analyse the question to specify what is required.</p> <p>(b) State the necessary assumptions.</p> <p>(c) Arrange the points according to some structure that would meet the requirements spelled out in the direction words.</p> <p>(d) Demonstrate a step-by-step approach/logical sequence to show linkages between ideas/concepts</p> <p>(e) Logically develop the arguments, discuss the pros and cons, advantages and disadvantages, thesis and anti-thesis.</p> <p>(f) Include relevant and current examples and illustrations (tables/diagrams) to support answer/strengthen points and apply to context.</p> <p>(g) In some cases, it may be necessary to demonstrate that there may not be only one correct answer based on the underlying assumptions.</p> <p>(h) To strengthen analysis, consider different conditions, assumptions, time period, parties involved, economic indicators, micro & macro effects, direction & magnitude of change, etc</p>	<ul style="list-style-type: none"> • Plan the answer to focus clearly on the question set. • Each paragraph should deal with one point and link each paragraph logically. • Do not list the points. • Draw large and well-labelled diagrams, which must be followed by relevant explanations. • Use simple language, short sentences, good grammar and spelling. Avoid use of abbreviated words and symbols of e-mail messaging in answers. • Stay focus throughout the answer and do not lose sight of the question.
<i>Conclusion</i>	<p>It is important that some conclusion is drawn and that the question is not just left in 'mid-air'.</p> <p>Make a judgement based on analysis.</p> <p>Look at question & make a clear stand relevant to the question or issue</p> <p>Important to consider the extent to which you agree or disagree with the issue</p> <p>Identify the criteria that justify your judgment, e.g. time period (short run vs long run), who/what has largest impact & why, type of economy, etc.</p> <p>Elaborate on the reasons by making explicit use of theoretical economic frameworks, the given context or illustrative examples</p>	<ul style="list-style-type: none"> • Discuss validity of the argument presented. • State your views and criticise the limitations/assumptions • Suggest solutions or alternatives.



3. Level of Responses & Skills tested

Level 1	Level 2	Level 3	Evaluation
Knowledge & Comprehension	Application & Understanding	Analysis & Synthesis	Judgement
<p>Lowest level of response</p> <p>Awarded to answers that</p> <ul style="list-style-type: none"> - superficially address the question e.g. identify theory without explanation or just mere listing of factors, formulae or concepts - contain only a few valid points or key ideas - have basic errors of theory or an inadequate devt of analysis 	<p>A level above L1</p> <p>Awarded to answers that</p> <ul style="list-style-type: none"> - provide details, e.g. an answer that explains descriptively the content, theory or economic concept, - provide examples without sufficient explanation - contain theories that are incompletely explained - show inability to recognise unstated assumptions nor application to context of question - has no clear logical presentation 	<p>Highest level of response</p> <p>Awarded to answers that</p> <ul style="list-style-type: none"> - provide proper detailed explanation to the question through the use of economic concepts/relevant theories - place explanation in the context of the question - contain economic analysis with the aid of diagrams, real world examples, etc wherever possible - examine the implications of the question - distinguish between facts & value judgements - query the assumptions - discuss 'what if' situations - create new ideas 	<p>Evaluation marks can be obtained in any part of the essay, be it in the <i>Body</i> or in the <i>Conclusion</i></p> <p>To score well, there is a need to provide both analysis and evaluation</p> <p>Hint: Try using words like 'however', 'on the other hand', etc to highlight an alternative</p> <p>Awarded to answers that</p> <ul style="list-style-type: none"> - provide sufficient elaboration of evaluative comments - has a logical alternative point of view (anti-thesis) - explain the shortcomings of a concept - question stated & unstated assumptions - make recommendations <p>E1 – mainly unexplained judgement</p> <p>E2 – judgement based on analysis</p>
<p>Description</p> <p><i>Identify</i> – the key theory without explanation</p> <p><i>Outline</i> – give a list of relevant factors</p> <p><i>What, Summarise</i></p>	<p>Consolidation - Add some detail</p> <p><i>Explain</i> – what happens – descriptive</p> <p><i>Clarify</i> – give examples without explanation</p> <p><i>Illustrate, Compare, How, Demonstrate</i></p>	<p>Elaboration - Extend to include analysis</p> <p><i>Analyse</i> – use relevant theory to aid explanation</p> <p><i>Apply</i> – place explanation in context of question</p> <p><i>Examine Account for</i></p>	<p>Assess</p> <p><i>Criticise</i></p> <p><i>Critically examine</i></p> <p><i>Evaluate</i></p> <p><i>Discuss</i></p> <p><i>How successful</i></p> <p><i>Justify</i></p> <p><i>To what extent</i></p> <p><i>Comment on</i></p>
<p>Have I stated the ideas?</p>	<p>Have I given details about the ideas?</p>	<p>Have I used the ideas?</p>	<p>Have I judged the ideas?</p> <p>Ask questions like 'What if', 'So what', 'Always true'?</p>

4. Types of Essay Questions¹

2 types: Two-part question and single part question.
Both questions are based on 25 marks in total.

Two-part question is already split into part (a) and part (b), with the two parts related or linked.
We will need to split the single part question artificially into two parts.

Regardless of whether the question is a two-part type or a single part question that has been artificially split, the two parts must be linked together with a bridging paragraph to ensure a smooth flow of ideas, and to allow the essay to flow seamlessly from part (a) to part (b). The bridging paragraph can be the conclusion for part (a), while introduction for part (b) may be the thesis statement that focuses on the question itself.

Part (a) essay questions is usually worth between 10-12 marks.
They do not require evaluation.

There are 4 main types of part (a) essay questions:

(i) **Causes and Effects**

- Explain the causal relationships between 2 or more variables
- 3 possible subtypes:
 - many causes leading to one effect
e.g. Explain the causes of high population growth
 - one cause leading to many effects
e.g. Explain why the government is concerned about the high crime rate
 - many causes leading to many effects
e.g. Explain how a fall in population and a rise in retirement age can affect the workers in the country
- Requires about 3 causes/effects, with sufficient depth of explanation

Sample Question A:

Discuss the extent to which a lower population in recent years will cause problems for the Singapore economy. [25]

Sample Question B:

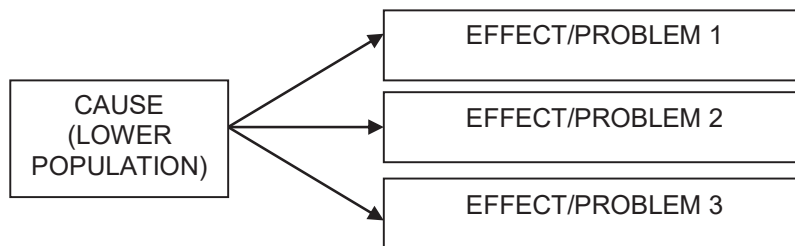
Discuss the extent to which a lower population is a major reason for the problems faced by the Singapore economy in recent years. [25]

Similarities and Differences

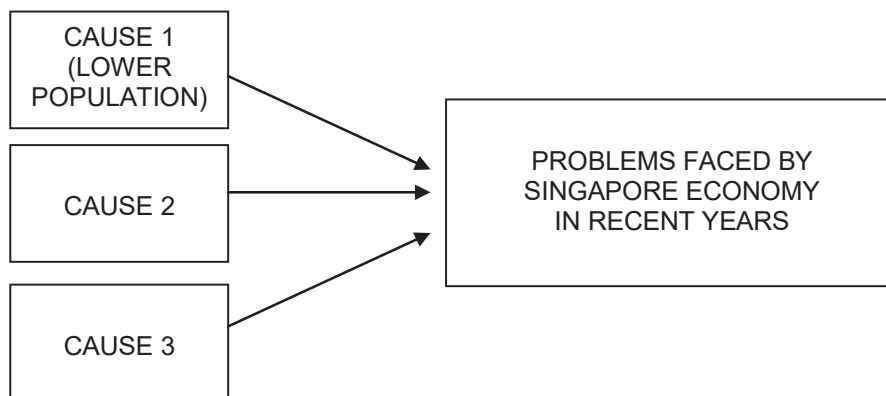
Both questions need explanation about how a lower population can theoretically cause problems for the Singapore economy. In the process, we will need to explain how a lower population may affect the aims of the government.

However, Question A is looking at effects of an event. It is asking 'whether and to what extent the lower population in recent years **will cause** problems for the Singapore economy'. We need to analyse the extent of these effects/problems under different economic conditions, and the likelihood of some of these effects/problems happening under different economic conditions. The two aspects of the answer will be 'Yes: a lower population can cause problems for the Singapore economy under certain conditions', and 'No: a lower population may not cause problems under other conditions'.

¹ A Comprehensive Guide to Writing Economics Essays, Gilbert Lee (2011)
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On the other hand, Question B is looking at causes of an event. It is asking 'whether and to what extent the problems faced by the Singapore economy in recent years **is caused by** a lower population. We will need to discuss other potential causes of Singapore's recent economic problems. Thereafter, we need to compare the lower population against these other reasons, and offer an opinion about which is the major cause of those problems.



(ii) Conditions

- requires the fulfillment of certain condition(s) before an outcome is attained
- need to first identify and explain the condition(s) for the attainment of an outcome/state
- then explain how the non-fulfillment of these condition(s) will lead to non-attainment of the outcome
- finally summarise and conclude that the condition(s) are indeed necessary for the attainment of the outcome
- e.g. Explain the conditions necessary for.... Or explain how can be achieved*

(iii) Processes

- a type of cause and effect question but it has only one cause and one effect
- need to explain the process of how the one cause leads to the one effect
- e.g. Explain how the multiplier works*

(iv) Attributes

- looks at the attributes/characteristics/features of economic concept(s)
 - description of attributes:
 - explain each feature of a concept in turn, with use of examples to illustrate point
 - e.g. Explain what is meant by.... Or Explain the key features of*
 - similar/contrasting attributes
 - contrast between the 2 concepts by comparing each feature across both concepts
 - e.g. Distinguish between ... Or Explain the key differences between A and B*

Both part (b) essay and 25-mark essay contain an issue to be correctly identified and discussed.

The issues to be discussed can be categorized into 5 main groups:

(i) Causes Question

- focuses on examining the causes of an event
- need to identify and explain the potential causes of an event
- need to evaluate which cause is likely to be the most important/main cause of an event by relating to the given/assumed context in the question
e.g. *Discuss whether cause A is the major/most important reason for event B*
Discuss whether cause A or cause B is more likely to result in event C

(ii) Effects Question

- need to discuss the effects of an event(s)
- the effects of the event(s) can be positive or negative, short run or long run, micro or macro, or different for different economic agents
- first identify and explain the effects under a set of underlying assumptions
- then discuss how these effects may be altered, both in direction and in magnitude, when each of these assumptions change
- write in a new paragraph(s) for each assumption that is altered
- finally draw a conclusion on the most likely effects of the event(s) as well as the most likely extent of these effects based on the given context (e.g. prevailing characteristics or economic conditions) in the question
e.g. *Discuss the effects of rise in population on the economy*
Discuss how the economy may be affected by a rise in population
Discuss whether A is more likely to affect P or Q
Discuss and compare the effects of A on P and Q

(iii) Policy Question

- need to assess the effectiveness and/or desirability of a policy/action
- 4 elements present: somebody using a policy/action to solve some problem/achieve some goal based on some criteria to judge the desirability of the policy/action
- policy effectiveness questions need to be approached using the 'Thesis-Antithesis-Evaluation' structure
- need to be clear about what the thesis statement and anti-thesis statement are before coming up with arguments to support the 2 stands
- answer must be two-sided and balanced, giving a fair treatment to both sides of the issue
- both thesis arguments and antithesis arguments must make use of theoretical economic analysis/frameworks, diagrams, and application to the given context to back up their stand
- for policy effectiveness questions that focuses on only one policy, give about 3 arguments each to support and to refute the issue
- thesis arguments should focus on the reasons why the policy/action may be effective
- antithesis arguments should focus on the reasons why the policy/action may not be so desirable/effective by assessing their feasibility (can it be carried out?), effectiveness (extent to which the policy can solve the problem), appropriateness (is the policy tackling the root cause of the problem?), side effects (any negative effects on other objectives?), and time lags (does it take a long time to be effective?)
- for evaluation and conclusion, there is a need to make a decision as to whether the policy is effective in solving the stated problem by taking a stand and supporting with reason(s)

- for policy effectiveness questions that looks at more than one policy, need to explain in turn how each policy works to solve the problem as well as the limitation(s) of that policy itself, before giving evaluation and conclusion
- for the evaluation and conclusion of such questions, need to make a decision as to which policy is the best choice, supporting with valid reason(s)

e.g. *Discuss whether policy A is effective in tackling B*

Assess the extent to which policy A is more effective in solving problem X than policy B Or Policy A is the best way to tackle problem X. Discuss. Comment on whether adopting policy A is necessarily the best measure to tackle problem X

(iv) State of Affairs

- need to assess the extent to which a given state of affairs is desirable/undesirable or realistic/unrealistic
- question may sometimes require student to compare the relative desirability or realism between 2 or more states of affairs
- can be approached using the Thesis-Antithesis-Evaluation structure
- need to be clear about what the thesis statement and anti-thesis statement are before coming up with arguments to support the 2 stands
- answer must be two-sided and balanced, giving a fair treatment to both sides of the issue
- for state of affairs questions that focuses on the desirability/realism of only one given state, give about 3 arguments for each stand
- thesis arguments should focus on why the given state may be desirable or realistic
- antithesis arguments should focus on why the given state may be undesirable or unrealistic
- for evaluation and conclusion, there is a need to make a decision as to whether the given state is desirable or realistic, with supporting with reason(s)
- for questions about desirability, there is a need to consider different perspectives/viewpoints, while for questions about realism, contextual knowledge is necessary
- for state of affairs questions that involve the relative desirability or realism of 2 or more states, need to explain with about 2-3 valid reasons why each state is desirable/realistic before giving evaluation and conclusion
- for the evaluation and conclusion of such questions, need to compare the different given states to determine which state is more desirable or realistic, supporting stand with valid reason(s)

e.g. *Discuss whether high/low population growth is necessarily always bad/desirable for the economy*
Discuss whether A or B is a more realistic model to ...

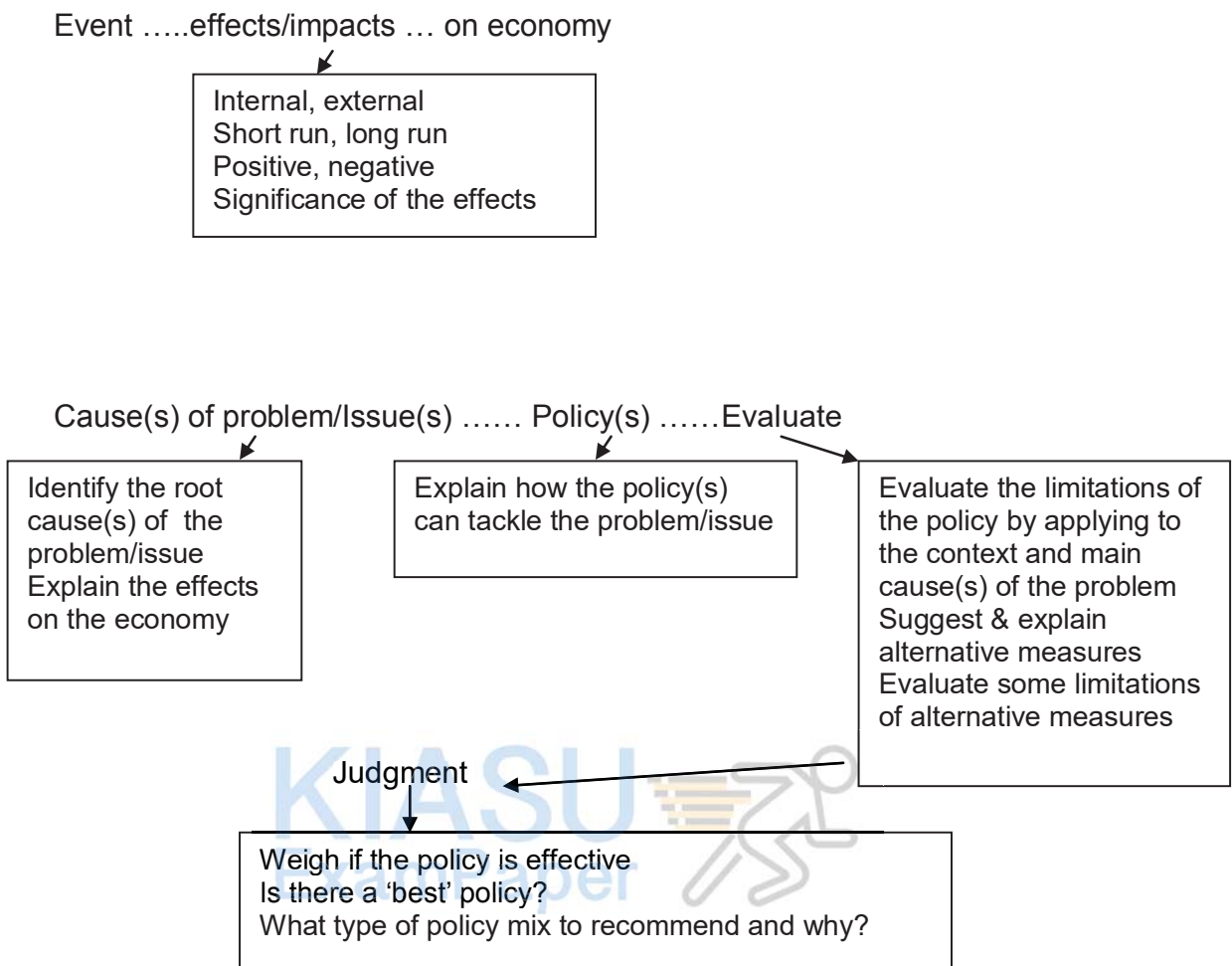
(v) Relevance of concepts

- need to assess the relevance/usefulness of economic concepts in explaining some economic phenomena, or assessing the effectiveness of a policy/strategy used by certain groups
- may be required to determine the relative usefulness of 2 or more concepts in explaining some economic phenomena or explaining the effects of some events or actions of some economic agents

- can be approached using the Thesis-Antithesis-Evaluation structure
- for relevance of concept questions that focuses on the usefulness of only one concept, give about 3 arguments for each stand
- thesis arguments should focus on the situations where concept is useful/relevant while antithesis arguments should focus on situations where concept is not useful or has limited relevance
- for evaluation and conclusion, there is a need to make a decision as to whether the concept is useful or relevant, with supporting with reason(s)
- for relevance of concept questions that involve the relative usefulness or relevance of 2 or more concepts, need to explain with about 2 valid situations when/why each concept is useful/relevant before giving evaluation and conclusion
- for the evaluation and conclusion of such questions, need to compare the different concepts to determine which concept is more useful or more relevant, supporting stand with valid reason(s)

e.g. Discuss the extent to which the concepts of A and B are relevant/useful in determining the effectiveness of policy X
 To what extent is A and B useful in measuring/explaining X..
 Discuss the relative significance of A and B in explaining the effects of X and Y on the economic performance of a country

Suggested templates



5. Key elements to be included in each paragraph for the body portion

(i) <i>Topic sentence</i> or <i>main point</i> of argument for the paragraph - each paragraph should contain only one main idea - state clearly and succinctly to the examiner the idea/point you are presenting in the paragraph	Illustrates knowledge and comprehension skills
(ii) <i>Elaboration</i> or <i>explanation</i> of the topic sentence or main point raised - justify point above by explaining what you mean (elaborate) and why the examiner should agree with you (justification) - provide both a reason and a reasoning process based on the economic concepts/principles learnt	
(iii) Substantiation or supporting theory, framework or tool of analysis with real-life examples or evidence - Substantiate or illustrate your point by using the context provided, examples from within the given context, or other real world examples	Illustrates analysis and application skills
(iv) Explicitly <i>link</i> ideas raised here to the key issue of the question	
(v) Explore assumptions made underlying the abovementioned analysis*	Illustrates skills of evaluation and creativity

* the necessity of this component depends on the issue & may not be required by all arguments raised

6. Mark structure for Essay

All essays are marked on a grand total of 25 marks. There will be a variety of mark splits for essays in terms of 10 marks/15 marks; 12 marks/13 marks or even full 25 marks.

The marks awarded for the Levels of Response are as follows:

Breakdown of marks in Levels					
	Mark Split		Mark Split		Estimation
	Part (a)	Part(b)	Part(a)	Part(b)	
Levels of Response	10 Marks	15 Marks	12 Marks	13 Marks	25 Marks
L3 Analysis	7-10	9-11	9-12	7-9	15-21
L2 Application & Understanding	5-6	6-8	5-8	5-6	10-14
L1 Knowledge	1-4	1-5	1-4	1-4	1-9
E2 Judgement based on analysis	-	3-4	-	3-4	3-4
E1 Evaluative comments only	-	1-2	-	1-2	1-2

7. Meaning of direction words

Examiners report that many students under perform because they fail to interpret the direction words of question. Below is a glossary of some of the most frequently used direction words with suggestions for interpretation:

'Account for...'

Explain how a particular event or situation came about i.e. 'Which factors would have led a large retailing company to...'

'Analyze ...'

Find the main ideas and break down the argument or information into component parts and identify ways in which these parts are related. Always recognize the underlying assumptions, any relationships and their importance.

'Analyze the extent to which ...'

Show judgment over the relevant importance of different arguments or events.

'Assess ...'

'Make some kind of judgment on the relative importance of a particular aspect of business studies, discussing the influence of other factors or events that influence the topic.

'Compare ...'

Describe two or more situations and show the difference and similarities between them.

'Contrast ...'

Compare by showing difference between things.

'Comment on/ Criticize ...'

Present an opinion on a particular argument, point of view or theory, based on the evidence available. Give the pros and cons.

'Define ...'

A simple statement is not enough. Use appropriate examples or formulae to illustrate and elaborate on your precise definition of a concept.

'Describe ...'

Usually more than a mere description is expected, instead a critical review of some particular set of circumstances or events is usually expected.

'Discuss ...'

Consider the arguments for and against the issue raised in the question.

'Distinguish ...'

Candidates need to show that they understand the differences between two (probably frequently confused) concepts. Similarities and differences need to be discussed and illustrated in distinguishing between the two concepts.

'Do ...' or 'Does ...'

Make a judgment on whether on set of circumstances is preferable to another.

'Explain ...'

Interpret the meaning of a particular concept with an example to illustrate understanding.

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'Evaluate ...'

Give own/ expert's opinion of the truth importance.
Advantages/ Disadvantages, positive/ negative points
Judgment about which outweighs the other and why
Give the purpose of the evaluation
Identify the criteria or yardstick for evaluation
Identify the characteristics of what is to be evaluated
See how the characteristics meet the criteria/ yardstick

'Examine ...'

Candidates need to unravel the events that led to a particular set of circumstances or the validity of the reasoning that underlies a particular point of view. Stress the relative importance of the different arguments and their relevance to the basic issue under consideration.

'Illustrate ...'

Explain by using examples, comparisons, analogies and diagrams.

'Interpret ...'

Explain the meaning with examples. Identify and explain relationships.

'Outline ...'

Only a brief description is required. Usually there are follow up parts to this question.

'Summarize ...'

Give concise account of main/ key points. Leave out details or examples.

'To what extent ...'

This implies there is no definite answer to the question posed. Present both sides of the argument and exercise judgment by stressing the strength of some arguments over others.



C. CASE STUDY

1. Approach to Case Study

In order to do well for the case study, it is important for you to understand the data given. However, superficial, undirected reading of the information provided will not give you the level of understanding required. You must therefore read the data with a purpose.

A detailed understanding of the case study data requires the student to fish out the underlying economic concepts and implications so as to fulfil the requirements of the questions (which you have to answer).

The following are some suggested steps, which you should follow, especially when you are still learning how to tackle case studies.

- ***Step #1: Read for information in numerical data, charts, graphs***

“Looking out” does not simply mean recognizing the existence of the data, charts and graphs.

Rather, it is making a note of the important information displayed with the data, charts and graphs, such as:

- Headings/titles that accompany the data, charts and graphs
- The ‘x’ and the ‘y’ axes of the charts and graphs
- Dates
- Sources

Jot down main idea(s) at the end or side of the table/chart.

- ***Step #2: Thoroughly read the case study text, making notes of any relevant economic concepts and implications.***

This is the most important step, as this will help you to gain a detailed understanding of the case study text. Once you have a detailed understanding of the text, you will find it easier to answer the questions.

How do I thoroughly read the case study text?

First, before going deep into the text, take note of the heading that accompanies the extract. The heading usually summarises the gist of the extract.

Second, read each paragraph and “fish out” economic concepts that you could possibly find. However, these economic concepts may not be present in each paragraph so please do not be exasperated if you cannot find any in some paragraphs!

While “fishing out” these economic concepts, identify any implications that you can derive from reading the passage.

NOTE: Remember to be **non-judgemental** in your reading. In other words, do not filter out any information, which you perceive are not helpful in answering the questions. What you perceive as not useful may actually be useful for you to answer the questions.

**Economic concepts refer to a specific concept you learnt. These concepts can be “fished out” from the text. For example, when price increases, the quantity demanded decreases (law of demand). Another example, if pollution imposes a cost onto third parties, the economic concept is identified as external costs i.e. negative externalities.*

**Implications require the student to analyse and personally form your own judgement about a particular situation. Hence, implications cannot be easily found in the text. For example, if prices of Coke were to increase, what would happen to the demand for Pepsi?*

While reading each paragraph in the extracts, annotate important information using a pencil or highlighter. Jot down main ideas of the case material in point form at the end or side of each extract.

- **Step #3: Examine questions**

This step requires you to briefly take note what the questions are asking you to do. Focus on the key words, concepts, direction words and mark allocation. It is most helpful if you could write down any economic concepts that are required in the questions.

Note the type of question and determine whether each question tests your ability to read/manipulate data, explain economic phenomena, evaluate sufficiency/reliability of data, or to evaluate an issue.

Take note of the mark allocation to get an idea of how much time is required to write the answer.

Questions are typically asked in logical sequence. Read ALL questions first before answering to check for any related parts or issues between questions.

- **Step #4: With reference to the questions, note any related economic concepts and implications to help you answer the questions**

This is the last step before you hit the questions. This is a short step that requires you to quickly glance through and check if the notes you had jotted down earlier would be helpful in answering the questions.

Write down the question number next to the paragraph if the notes you had written are related to that question.



- **Step #5: Write your answers**

Writing the answers require you to be exam smart.

- Check the weightage of marks and allocate the correct proportion of time to it. For example, answering a four-mark question would definitely take a shorter time compared to answering an eight-mark question.
- Check that you are making use of the data provided when thinking of the answer
- Take note of direction words
- Important instructions like 'with reference to..' or 'with the aid of a diagram..', etc are crucial clues
- Determine the thesis and anti-thesis arguments when answering evaluative questions; explain and elaborate on both sides of the argument before making a stand

2. Understanding the requirements of the questions

Data Response Type of Questions versus Case Study Type of Questions

Usually, data response type of questions has a lower mark allocation and they belong to the lower-order thinking category.

However, the case study type of questions has a higher mark allocation and they require the students to employ higher order thinking questions. In other words, case study type of questions requires students to answer at the 'Analysis & Evaluation' level (L3 & E1/2). As such, students need to allocate more time in answering the case study type of questions, which are usually the last few questions in the case study.

Essentially case studies can be broken down into 4 types of questions:

(a) Data analysis questions (1-2 marks)

This type of question test students' ability to summarise simple computations of data, to describe trends and to compare trends.

For *trend description questions*,

- recognise the *general direction of the trend*, whether it is increasing, decreasing or fluctuating.
- provide a meaningful enhancement to the description of the trend by commenting on the *rate of change, exceptions, reversals or change to the level of volatility*

For *trend comparison questions*,

- If questions requires comparison, answers should include comparative words like *higher, lower, faster, slower, more or less*
- Identify one *similarity* and one *difference* between the variables being compared if possible, e.g. "the 2 variables increased in tandem over the period except for 2009".

Look out for some pitfalls like:

- ♦ *Levels vs changes* – data is sometimes provided in percentage change while question requires a description or comparison of the level, so a conversion is required, and vice versa.

- ♦ *Time period considered* – data provided may be for a longer time period than the question focused on.
- ♦ *Units of measurement* – note the units of measurement when analysing data provided
- ♦ *Index numbers* – when comparing index numbers, only changes (in percentage terms) can be compared as the absolute levels are not known

(b) Questions that test ability to apply economic concepts into context or data (2-4 marks)

Identify two reasons why....	}	Identify the reason only
Suggest one reason for		
Explain two reasons	}	Provide & explain reason using economic terminology
Explain the factors that cause		

(c) Questions that test ability to evaluate data (4- 6 marks)

Students are expected to evaluate either the quality of data or the credibility of data, or both.

Quality of data refers to whether the data is sufficient to draw a given conclusion or view.

Students are advised to follow the following structure:

- *Thesis* – explain how the data allow students to conclude on a given view
- *Anti-thesis* – explain what other data may be required and/or explain why the author of the data/source may have reason to present a biased opinion
- *Evaluation* – state own view and justify the view

(d) Questions that test ability to evaluate issues (8-12 marks)

Every case study is an extended argument. In the argument, there is a point the arguer is trying to make, to convince readers. This argument, which is a view or an opinion, or a set of policy recommendations, can be found in the extracts provided. Often, there may be more than one view. In the last question or two, students will be asked to evaluate one of the views.

Students are advised to follow the following structure:

- *Thesis* – explain in support of the view by making explicit use of economic analysis; explain in the context of the case study
- *Anti-thesis* – explain against the view
- *Evaluation* – weigh the two sides of the argument & take a stand on the issue, then justify your stand, backed by economic analysis

Note: Evaluation marks can range from 2 (for 6-8 mark questions) to 4 marks (for 10-12 mark questions)

Discussion Questions:

Tutors may use the following questions for discussion purposes for the first two tutorials.

Objectives are :

- to stimulate student's interest in the subject.
- to provide opportunities for students to articulate their perspectives

Question 1

BEIJING, Sept. 12 (Xinhua) -- Hundreds of Carrefour and Wal-Mart stores in China are pulling Sanlu milk powder off shelves. The withdrawal came after both the health authority and Sanlu confirmed the milk to be contaminated with a toxic chemical. The government is encouraging mothers to breastfeed their children to avoid the contamination.

Discuss the economic benefits and economic costs of breastfeeding.

Question 2

A report on the use of Genetically Modified (GM) crops was released in the autumn of 2003.

Supporters of GM technology pointed out that it showed GM technology did have a future; detractors hailed the report as a victory for them claiming it confirmed the suspicions they had about the potential damage GM crops could cause.

Would farmers and consumers benefit from the growing and consuming of GM crops?

Question 3

SINGAPORE – Under a \$4.5 billion Jobs Credit Scheme announced in the recent Budget, the government will pay 12% for the first \$2500 of the wages of citizens and permanent residents. This will give employers direct cash grants to subsidise their wage bills, and keep their workers.

Discuss the benefits and costs of the government's Job Credit Scheme.

Question 4

"Hotels taking fresh sheets off room-service menu,"

- USAToday, 25 July 2005.

Hotel chains are beginning to act environmentally responsible: They're not changing sheets as often. It's also a good business decision, as their costs fall as a result. But some travellers aren't happy with the trend: They want fresh sheets every night.

A USA Today poll indicated that many hotel chains (14 out of 25 surveyed) don't change the sheets every night, but rather every third night or so for those clients who stay. Of those hotels who don't, though, all said that they would change the sheets if a client requested it.

Hotels argue that changing sheets less often is not only a good business decision, it also makes little to no difference to most of their customers, since they don't change their sheets at home every night, so there's no reason to expect the sheets to be changed every night at a hotel.

Do you think this practice of not changing the bedsheet everyday will adversely affect their business? Discuss the possible effects of the hotels' decision above on various related groups.

Question 5

SINGAPORE: Consumer prices rose at their fastest pace in 16 years in October as food, housing and transport costs all accelerated their rate of increase. The pain of rising living costs will be felt for some time as dairy products, eggs, meat and poultry became more expensive, making eating out 3.2 per cent more costly. Housewives are resorting to cooking more often at home to keep expenses down.

Analyse the effects of fewer families eating out.

Question 6

In July last year, the High Court of Kolkata responded to public interest litigation and ordered that older model auto-rickshaws running mostly on toxic adulterated fuel would have to be replaced by Jan 1 this year by newer models running on compressed natural gas (CNG), a cleaner fuel.

Allowing the city's 60,000-odd auto- rickshaws to carry on polluting would exact a heavy penalty on Kolkata's environment and the health of its residents.

Kolkata's campaigners are attempting to 'save' the smoke-belching three-wheeler auto-rickshaws by holding violent demonstrations and burning buses

Whether in Detroit or Kolkata, saving jobs, profits and political patronage trumps saving the environment. Do you agree with the above statement?



SECTION 1 –Concept Reinforcement

Learning Objectives:

Students will be able to:

- ✧ Differentiate between microeconomics and macroeconomics
- ✧ Understand the basic economic terms used
- ✧ Apply the concept of opportunity cost

Part 1: Microeconomics and Macroeconomics, Basic Economic Terms and Opportunity Cost

1. Which of the following are macroeconomic issues and which are microeconomic ones?

(a) The level of government spending	Macro
(b) A grant given by the government to the Singapore film industry	Micro
(c) The level of investment in the UK by overseas firms	Macro
(d) The price of cotton cloth	Micro
(e) The rate of inflation	Macro
(f) The average wage rate paid to textile workers	Micro
(g) The total amount spent by UK consumers on clothing and footwear	Micro
(h) The amount saved last year by households	Macro

2. Which of the following is not classified as a factor of production?

(a) Bricklayers for a local construction firm	
(b) The cement mixer used by the bricklayers	
(c) The building site they are working on	
(d) Wages paid to the bricklayers at the end of the month*	

3. The ceteris paribus, or everything else held constant, assumption is used in economics

(a) To make the theory more complicated	
(b) To isolate the important variables when formulating the theory*	
(c) To indicate that no other assumptions are being made	
(d) Because economic theory is an accurate reflection of the real world	

4. The central problem of all economic societies is how to
- Achieve an equitable distribution of income and wealth
 - Ensure that resources are fully utilized
 - Allocate resources between competing uses***
 - Resolve the conflict between equity and efficiency
5. To an individual, the problem of scarcity is usually seen as
- Limited income but unlimited wants***
 - Unlimited income and unlimited wants
 - Limited income but limited wants
 - Unlimited income but limited wants
6. Which of the following would be most likely cause lemonade to cease being regarded as an economic good?
- Lemonade producers all decided to give their product away free.
 - All lemonade drinkers started to prefer orangeade.
 - The government banned the consumption of lemonade.
 - The sky began to rain lemonade instead of water.***
7. Mr Lucky pays \$2 for a ticket in a raffle and wins a day-trip to France. The usual price for this trip is \$400, but the organizers of the raffle are offering a cash sum of \$200 to the winner as an alternative to the trip itself. What will be the opportunity cost to Mr Lucky if he chooses to go on the trip?
- (a) \$1 (b) \$100 **(c) \$200*** (d) \$300
8. The workers in a factory currently earn \$120 for a 40-hour week. The management offers them a choice between either a straight 20% wage rise or an increase in the weekly wage to \$130 coupled with a reduction in hours from 40 to 39 hours. What is the opportunity cost to each worker of opting for the 39-hour week?
- (a) \$12 (b) \$3 **(c) \$14*** (d) \$6
9. A consumer spends the whole of his income on two goods X and Y as shown in the table.

<u>Good</u>	<u>Quantity (units)</u>
X	10
Y	100

The consumer's money income is \$250 and the opportunity cost to the consumer of consuming 10 units of X is 25 units of Y. What is the price of good X?

- (a) \$2.50 **(b) \$5.00*** (c) \$10.00 (d) \$25.00

Part 2: The Production Possibilities Curve

Learning Objectives:

Students will be able to:

- ✧ Construct a production possibility curve
- ✧ Associate the concepts of scarcity, choice and opportunity cost with the production possibilities curve
- ✧ Account for the shifts of the PPC curve.

Question 1

Consider two goods that most schools have need for—1) New math textbooks and 2) New computers. The following chart represents the amount of computers and math textbooks that could be produced (purchased) all resources available in the economy.

Allocation	Computers	Math Text Books	O/C of an additional computer
A	0	190	-
B	1	180	10
C	2	168	12
D	3	154	14
E	4	138	16
F	5	120	18
G	6	100	20
H	7	78	22
I	8	54	24
J	9	28	26
K	10	0	28

Questions:

- (a) Calculate the opportunity cost of an additional computer and fill up the last column in the above table.
- (b) Use the table above to draw the production possibilities curve for computers and math textbooks for this high school. Place computers on the x-axis and Math textbooks on the y-axis.
- (c) How are the concepts of scarcity, choice and opportunity costs illustrated in this model?

Scarcity : unattainable points outside PPC

Choice : different points on PPC, movements along PPC

Opportunity Cost : slope of PPC and downward negative slope

- (d) What is the opportunity cost of increasing the number of computers purchased from two to three? **14 textbooks**
- (e) What is the opportunity cost to this school of increasing the number of textbooks purchased from 100 to 120? **1 computer**
- (f) Assuming that there is an improvement in the level of technology, what will happen to the original production possibilities? Draw a new diagram to illustrate your answer. Explain why your new diagram is drawn this way.

PPC shifts out further. More funds to purchase both textbooks and computers.

Part 3 – Challenging Questions

1. How could an economy consume outside of its PPC? [3]

By trading with a country that has higher opportunity cost in producing a particular good and purchasing imports from country that has a lower opportunity in producing goods than the economy.

2. What role can a government play in trying to move from a point inside the PPC to a point on the PPC? [5]

A point inside the PPC represents unemployment and under production. To encourage production, the government has to encourage production as well as consumption of goods. In other words the government must encourage Consumption, investments and perhaps even raise its own expenditure and even find means to raise exports and lower imports.

To raise C : Cut personal income tax, raise wages (cut employees CPF rates), improve accessibility to credit, cut interest rates, increase transfer payments.

To raise I : Cut corporate taxes, improve infrastructure to attract Foreign investments, lower interest rates.

To raise G :More expenditure by gov't . e.g on infrastructure.

To raise Exports : Ensure country produces good quality products, depreciate the country currency.

To lower Imports : Depreciate currency, impose quotas, raise or impose import taxes.



3. Recommend policies to shift Singapore's PPC outward. [5]
 PPC can only be shifted outward by having more resources or better quality resources. Resources comprise land, labour, capital and entrepreneurship.

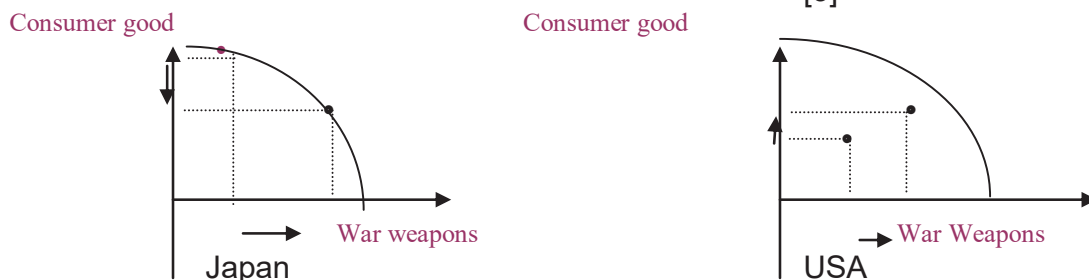
Hence answer to this question can be found by examining how the government can influence these resources.

4. Statement 1: At any point in time, with full employment prevailing, production of more of one good will result in less of another good being produced
 Statement 2: With the passage of time, with full employment prevailing, production of more of one good will be accompanied by an increase in the production of another good

Explain the difference between the two statements.

Statement 1 implies an economy that is already producing on its PPC, fully utilizing resources. However, statement 2 implies that, with the passage of time, the economy can push out of its PPC via increase in technology, discovery of new resources or rise in labour productivity, enabling the economy to produce more of both goods.

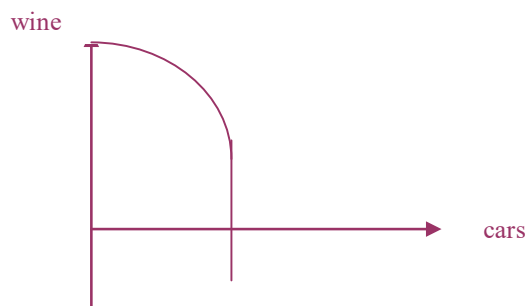
5. During the Second World War, an increase in the production of war weapons by Japan was followed by a fall in the production of consumer goods. On the other hand, an increase in the production of war weapons by the USA was accompanied by an increase in the production of consumer goods.
- (a) Sketch the production possibility curves for Japan and USA to reflect the situation above. [2]
 (b) Explain the difference in behaviour of the 2 countries stating clearly any assumptions you made to arrive at the answer. [3]



Japan – already producing on its PPC, fully utilizing all resources. Hence, an increase in production of war weapons means an opportunity cost needs to be incurred in the form of less production of consumer goods.

USA – not producing on its PPC but inside it, underutilizing resources. Hence, an increase in production of war weapons need not incur any opportunity cost. Instead, it could be accompanied by production of more consumer goods.

6. Suppose that an economy produces only 2 goods, wine and cars. At some point on its PPC, there was no way that the country could use its wine-producing resources to produce additional cars.



7. “Only poor countries experience the problem of scarcity and this problem will be eliminated once they have achieved substantial economic progress.”

Is the statement true or false? Explain.

Both rich & poor countries cannot escape from the problem of scarcity as human wants are unlimited but resources are limited. Rapid economic growth rate will alleviate the problem of scarcity [help to improve their SOL] but it cannot eliminate the problem.





NYJC

2013 JC1 H1 & H2 ECONOMICS

Resource Allocation in Competitive Markets: 4. Demand & Supply (In Product Market)

Review on: Demand & Supply

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Demand & Supply		Tick								
1. In economic theory, what are the assumed goals of consumers and producers when they participate in the product market?	<ul style="list-style-type: none">• Consumers – to maximize utility or satisfaction• Producers – to maximize revenue or profits									
2. Explain why the demand curve is downward sloping and the supply curve is upward sloping.										
3. What are the factors affecting the demand and supply for a product/labour/Singapore's exports/Singapore dollar?										
4. Distinguish between 'changes in demand/supply' and 'changes in quantity demanded/quantity supplied'.	<table><tr><th>Changes in Demand</th><th>Changes in Quantity Demanded</th></tr><tr><td><ul style="list-style-type: none">• Caused by an increase/decrease in income, prices of complementary goods, population size etc. (non-price factors)</td><td><ul style="list-style-type: none">• Caused by an increase/decrease in the price of the good (price factor)</td></tr><tr><td><ul style="list-style-type: none">• Represented by a rightward/leftward shift in the dd curve with a given ss curve [diagram]</td><td><ul style="list-style-type: none">• Caused by a movement up/down the same dd curve due to a leftward/rightward shift in ss curve .[diagram]</td></tr><tr><td><ul style="list-style-type: none">• At the same price, more will be dded → shortages → Pe & Qe rises – Eqm Qty is higher compared to original.• Conversely, at the same price, less will be dded → surpluses → Pe & Qe falls – Eqm Qty falls compared to original.</td><td><ul style="list-style-type: none">• At the same price, less will be ssed → shortages → Pe rises but Qe falls – Qd is lower compared to original.• Conversely, at the same price, more will be ssed → surpluses → Pe falls & Qe rises – Qd is higher than original.</td></tr></table>	Changes in Demand	Changes in Quantity Demanded	<ul style="list-style-type: none">• Caused by an increase/decrease in income, prices of complementary goods, population size etc. (non-price factors)	<ul style="list-style-type: none">• Caused by an increase/decrease in the price of the good (price factor)	<ul style="list-style-type: none">• Represented by a rightward/leftward shift in the dd curve with a given ss curve [diagram]	<ul style="list-style-type: none">• Caused by a movement up/down the same dd curve due to a leftward/rightward shift in ss curve .[diagram]	<ul style="list-style-type: none">• At the same price, more will be dded → shortages → Pe & Qe rises – Eqm Qty is higher compared to original.• Conversely, at the same price, less will be dded → surpluses → Pe & Qe falls – Eqm Qty falls compared to original.	<ul style="list-style-type: none">• At the same price, less will be ssed → shortages → Pe rises but Qe falls – Qd is lower compared to original.• Conversely, at the same price, more will be ssed → surpluses → Pe falls & Qe rises – Qd is higher than original.	
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<p>4. Distinguish between ‘changes in demand/supply’ and ‘changes in quantity demanded/quantity supplied’. (continued)</p> <table border="1"> <thead> <tr> <th>Changes in Supply</th><th>Changes in Quantity Supplied</th></tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> Caused by an increase/decrease in prices of factor inputs, prices of related goods, state of technology, etc. (non-price factors) </td><td> <ul style="list-style-type: none"> Caused by an increase/decrease in the price of the good (price factor) </td></tr> <tr> <td> <ul style="list-style-type: none"> Represented by a rightward/leftward shift in the ss curve with a given dd curve [diagram] </td><td> <ul style="list-style-type: none"> Caused by a movement up/down the same ss curve due to a leftward/rightward shift in dd curve .[diagram] </td></tr> <tr> <td> <ul style="list-style-type: none"> At the same price, more will be ssed → surpluses → Pe falls & Qe rises – Eqm Qty is higher compared to original. Conversely, at the same price, less will be ssed → shortages → Pe rises & Qe falls – Eqm Qty falls compared to original. </td><td> <ul style="list-style-type: none"> At the same price, less will be dded → surpluses → Pe & Qe falls – Eqm Qty is lower compared to original. Conversely, at the same price, more will be dded → shortages → Pe & Qe rises – Eqm Qty is higher than original. </td></tr> </tbody> </table>	Changes in Supply	Changes in Quantity Supplied	<ul style="list-style-type: none"> Caused by an increase/decrease in prices of factor inputs, prices of related goods, state of technology, etc. (non-price factors) 	<ul style="list-style-type: none"> Caused by an increase/decrease in the price of the good (price factor) 	<ul style="list-style-type: none"> Represented by a rightward/leftward shift in the ss curve with a given dd curve [diagram] 	<ul style="list-style-type: none"> Caused by a movement up/down the same ss curve due to a leftward/rightward shift in dd curve .[diagram] 	<ul style="list-style-type: none"> At the same price, more will be ssed → surpluses → Pe falls & Qe rises – Eqm Qty is higher compared to original. Conversely, at the same price, less will be ssed → shortages → Pe rises & Qe falls – Eqm Qty falls compared to original. 	<ul style="list-style-type: none"> At the same price, less will be dded → surpluses → Pe & Qe falls – Eqm Qty is lower compared to original. Conversely, at the same price, more will be dded → shortages → Pe & Qe rises – Eqm Qty is higher than original. 	
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<p>5. Explain how equilibrium price and output are determined in a market.</p>									
<p>6. Explain how equilibrium price and output change when either demand or supply changes, or when both demand and supply change.</p>									
<p>1. What are consumers’ and producers’ surpluses? How do these influence the decisions made by the economic agents?</p> <ul style="list-style-type: none"> Consumers’ surplus (CS) is the dollar value excess of consumers’ ability/willingness to pay and the price actually paid for the product in question Producers’ surplus (PS) is the dollar value excess of the price the producer/supplier receives and the price the producers were willing to receive/supply the product at As long as CS/PS is positive, theoretically consumers/producers would be willing to buy/supply additional units of the product (marginalist principle) until the CS/PS becomes zero. 									



SECTION 1 - Concept Reinforcement

1. Using appropriate and clearly explained illustrations, analyse the effects the four statements would have on the market (price and quantity) for:

(i) condominiums

- (a) an increase in wages of construction workers.
- (b) a substantial decrease in price of public housing.
- (c) that the country is in economic recession.
- (d) government eases rules on foreign ownership of condominiums.

(a) an increase in wages of construction workers.

- increase in wage will lead to an increase in cost of production → leftward shift in the supply curve, with demand for condominium remaining unchanged (movement up along the dd curve), → **an increase in price and a fall in quantity.**
- diagram

(b) a substantial decrease in price of public housing.

- substantial decrease in price of public housing will lead to a rise in quantity demanded for public housing → a decrease in demand for condominium as both are substitutes, with supply remaining unchanged (movement down along the ss curve), **price and quantity will fall**
- diagram with explanation

(c) that the country is in economic recession.

- economic recession → fall in income → fall in purchasing power → fall in demand for condominium [normal good], with supply remaining unchanged (movement down along the ss curve), **price and quantity will fall.**
- diagram

(d) government eases rules on foreign ownership of condominiums.

- population of consumers having preference for condominiums rise → rise in demand for condominiums, with supply remaining unchanged (movement up along the ss curve), **price and quantity will rise**
- diagram

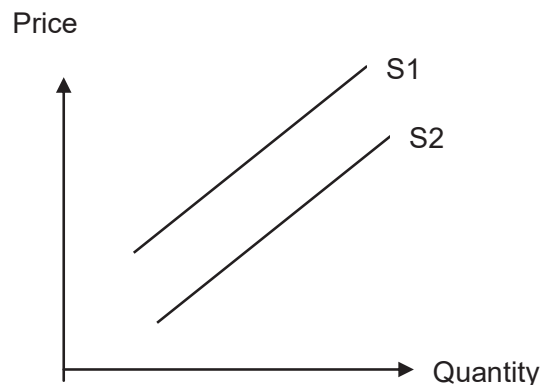


- (ii) crude oil
- (a) At the beginning of the Persian Gulf War, both Iraqi and Kuwaiti oil was removed from the market.
 - (b) Later, OPEC members especially Saudi Arabia and Venezuela increased their oil production.
 - (c) Infrastructural development and growth of Emerging Economies (like Brazil, Russia, India and China) is rising at a rapid pace.
 - (d) Many of the wells in the United States have been tapped out with vertical drilling. Producers have had to use more expensive horizontal drilling equipment. As a result, the costs of production are higher in the United States than in Saudi Arabia. (Show the U.S and Saudi oil markets)
- (a) At the beginning of the Persian Gulf War, both Iraqi and Kuwaiti oil was removed from the market.
 - The Gulf War lead to a fall in the number of oil producers in the mkt → assuming no ss increase of the remaining producing countries, leftward shift in the supply curve, with demand for oil remaining unchanged (movement up along the demand curve) → **an increase in price and a fall in quantity.**
 - diagram
 - (b) Later, OPEC members especially Saudi Arabia and Venezuela increased their oil production.
 - Increase production by OPEC members → rightward shift in the supply curve, with demand for oil remaining unchanged (movement down along the demand curve), → **a decrease in price and a rise in quantity.**
 - Diagram
 - (c) Infrastructural development and growth of Emerging Economies (like Brazil, Russia, India and China) is rising at a rapid pace.
 - Population of consumers requiring oil as its energy resource rise → rise in demand for oil, with supply remaining unchanged (movement up along the ss curve), **price and quantity will rise.**
 - Diagram
 - (d) Many of the wells in the US have been tapped out with vertical drilling. Producers have had to use more expensive horizontal drilling equipment. As a result, the costs of production are higher in the US than in Saudi Arabia. (Show US and Saudi oil markets)
 - Increase in equipment cost in the US will lead to an increase in cost of production → leftward shift in the supply curve, with demand for US oil remaining unchanged (movement up along the demand curve), → **an increase in price and a fall in quantity of US oil.**
 - Shift in preference for Saudi Arabian oil → rise in demand for Saudi Arabian oil, with supply remaining unchanged (movement up along the ss curve), **price and quantity will rise for Saudi Arabian oil.**
 - Diagrams

2. Which of the following will most likely cause the demand curve for holiday packages to Germany to shift to the right?
- (a) Removal of sales tax on hotel accommodation coupled with an increase in the wages of chambermaids in the German hotel industry
 - (b) An increase in fuel surcharge of German airlines
 - (c) A fall in the foreign exchange value of German Deutschmark***
 - (d) Relaxation in the planning controls on hotel construction in Germany
3. The table shows a competitive market in equilibrium in two different periods of time. What can explain the change from period 1 to period 2?

<u>Period</u>	<u>Market Price</u>	<u>Quantity Traded</u>
1	\$3.00	15 000 units
2	\$1.50	10 000 units

- (a) An decrease in the price of a complement
 - (b) An decrease in the price of a substitute***
 - (c) A subsidy has been given by the government
 - (d) Imposition of minimum price of \$1.50 in period 2
4. The diagram shows 2 industry supply curves for product X.



Which of the following could explain the change in supply from S1 to S2?

- (a) An increase in the price of a good in joint supply with X***
- (b) A decrease in the number of firms in the industry
- (c) An increase in income
- (d) An increase in the costs of producing X



5. A firm increases its expenditure on advertising and in order to pay for the increased spending, simultaneously increases the price of its product.

Assuming the advertising campaign is successful, what will be the overall effect on the demand for the product and on the quantity demanded?

	Demand	Quantity Demanded
(a)	Increases	Increases
(b)	Increases	Uncertain*
(c)	Uncertain	Increases
(d)	uncertain	Uncertain

6. The table below shows the maximum price a consumer would be willing to pay for successive cans of fruit juice.

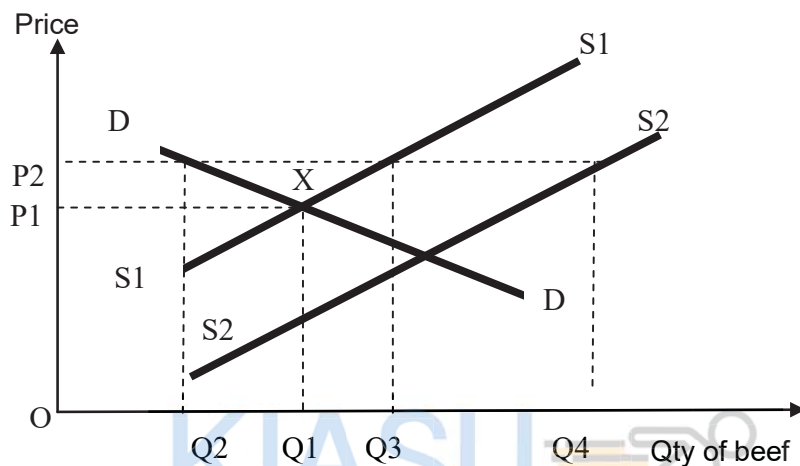
Cans	First	Second	Third	Fourth	Fifth
Price (\$)	14	10	6	4	3

If the price of a can of fruit juice is \$4 and the consumer buys four cans, what is the monetary value of his consumer surplus?

- (a) \$2 (b) \$12 **(c) \$18*** (d) \$30

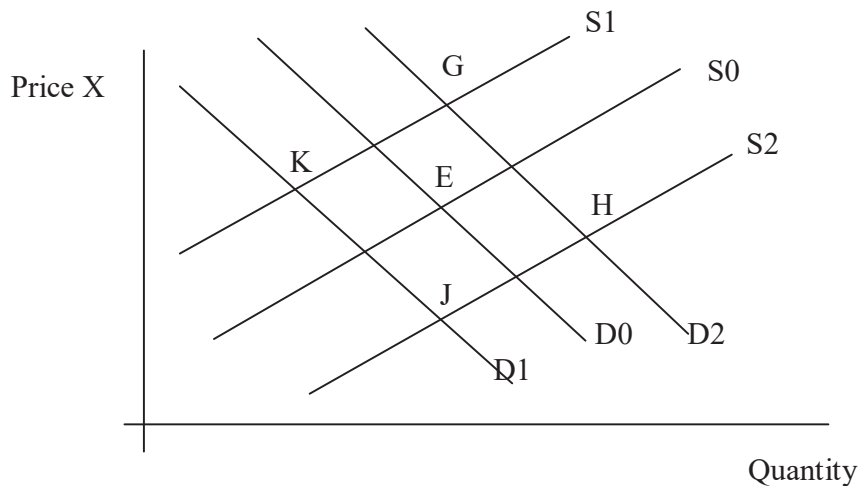
7. The market for beef is currently in equilibrium at X where S1S1 is the supply of beef and DD is the demand for beef. In year 1, the government introduces a minimum guaranteed price of OP2 at which it will buy up any surplus beef production. In year 2, beef production increases to S2S2.

What is the quantity of beef that the government will have to purchase from farmers in year 2?



- (a) Q2Q4*** (b) Q2Q3 (c) Q3Q4 (d) Q1Q3

8.



The above diagram shows the demand and supply of Good X. The initial equilibrium is given by point E. Suppose there is a rise in the price of Good Y. Assume that Good X is a complement to Good Y. At the same time entrepreneurs rate the risks associated with the production of Good X more highly than before. The new equilibrium would therefore be

- (a) G (b) H (c) J **(d) K***



APPLICATIONS OF PRICE AND OUTPUT DETERMINATION

Article 1: STRAITS TIMES JAN 11, 2004

Too cowed to eat beef? Prices of Australian and New Zealand beef are expected to rise following the ban on US beef

By [Teo Pau Lin](#)

NEWS of a suspected case of mad-cow disease in the United States may have unnerved its US\$27-billion (S\$46-billion) beef industry, but it has raised only a whimper in Singapore. The Republic, along with more than 30 countries like Japan and Hong Kong, banned US beef after the discovery was announced two weeks ago.

Mad-cow disease eats holes in the brains of cattle. People who eat contaminated beef could develop a brain-wasting illness.

In Singapore, the impact of the six-year ban has been muted since only about 5 per cent of the 18,393 tonnes of beef imports last year came from the US. The Agri-Food and Veterinary Authority says beef here comes mainly from Australia, New Zealand and Brazil. Singapore also imports from Argentina, China, Sweden and South Africa.

Beef is only the fifth most popular meat here, after chicken, fish, pork and duck, says the AVA, so it is not on the daily diet for most Singaporeans. US beef is famous for its fat marbling, which gives a tender texture and rich flavour. Considered premium-quality meat, it is sold mainly in gourmet delis here.

Supermarkets like Cold Storage, Shop N Save, NTUC FairPrice and Carrefour do not carry stocks of it. 'It doesn't sell in large quantities because it's just too expensive,' says Ms Fabiane Mendes Braga, owner of Latin deli Espirito Santo in Upper Thomson Road. US beef is priced up to 75 per cent more than that from Australia and New Zealand. It makes up less than 10 per cent of the range of beef in her store.

The ban is affecting mainly fine-dining gourmands, the restaurants that serve them, and the importers which supply the meat. Most restaurants, like Lawry's, Angus Steak House, Garibaldi and Saint Pierre are turning to higher-grade Australian beef as substitutes. At Coq & Bull Rotisserie and Grill in Greenwood Avenue, only Australian beef steaks will be served after its current US stock runs out.

The sudden surge in demand for Australian and New Zealand beef suggests that prices will increase. Mr Loke Beng Fong, managing director of food importer Angliss, says prices of Australian and New Zealand beef have already increased by 15 per cent.

Ms Raudaschl says Australian beef prices have gone up by as much as 40 per cent. 'It's not possible for prices to remain the same. When you have a fixed supply, the goods will go to the highest bidder,' she adds.

KIASU
ExamPaper

Read the article and answer the following questions:

1. Identify the factors contributing to the rise in the price of Australian and New Zealand beef and illustrate it graphically. What assumptions were made in your analysis?

Factors: Since Australian and New Zealand beef are substitutes to US beef, demand for Australian and NZ beef increases, resulting in a rightward shift in demand, and hence a rise in their price.

Assumption: Australian and New Zealand beef are substitutes to US beef .

2. How will the following be affected by the ban?
(a) beef consumers (b) eateries

(b) beef consumers

The ban has resulted in an increase in price of Aust and NZ beef. How beef consumers will react depends on their tastes and preferences. If they are very used to eating beef, they will not be affected too greatly by the increase in the price of beef. However, if these beef consumers are also eating different types of meat like chicken or pork, they will consume less beef and more of the other substitutes (chicken, pork). For these consumers, demand for beef will decrease (the dd curve shifts leftwards.)

(c) eateries

Fine-dining gourmands: They will turn to Aust and NZ beef and incur a higher cost of production since the price of these beef has increased. If this increase in price is sustained in the longer term, the price of beef dishes in these restaurants may eventually increase.

Non fine-dining gourmands: They may stop supplying beef dishes especially if they are not the eateries' specialty dishes. This is in response to the mad-cow disease may lead to Singaporeans abstaining from beef until it is safe to eat beef again.

3. Imagine you are the owner of a top-end restaurant, which uses US prime beef in your dishes. How would you cope with the Singapore ban on US beef?

Use the beef from Aust or NZ. Allay the customers' fears by informing them that they are only using the beef from Aust and NZ. To further encourage more Singaporeans to consume beef, perhaps promotions could be given so that they will patronize the restaurant. Another form of drawing the customers in is to provide good service. This is important, as good service is the point of differentiation between the top-end restaurant and other common restaurants. In this way, customers would continue to return to the top-end restaurant even if they are not eating any beef dishes. (Students are also free to suggest any relevant ideas.)

SECTION 2 – Case Studies

Mini Case Study

CSQ 1:

The Price of Palladium

Palladium is an essential metal in the production of mobile telephones and computers. It is also used in anti-pollution systems for car exhausts and the chemical industry. In April 1998, it reached a then record price of \$417 an ounce. This made it more expensive than platinum, to which it is closely related, and gold. While either palladium or platinum can be used in car exhaust systems, platinum is important in jewellery production, while palladium is not. The following information highlights some aspects of the market for palladium in 1996 and 1997.

Diagram 1

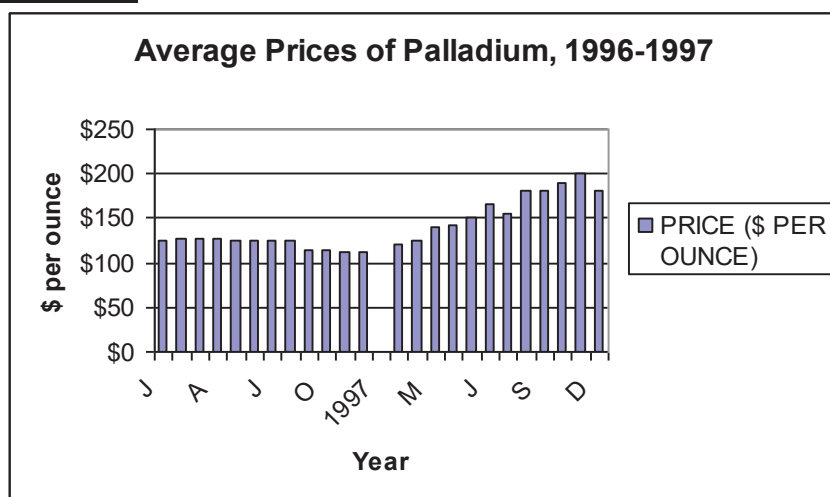


Table 1: Palladium Supply and Demand ('000 ounces)

	1996	1997
Supply	7,840	7,250
Demand	6,150	7,460
Movements in stocks	+1,690	-210

Table 2: Palladium Demand by Application ('000 ounces)

	1996	1997
Car Exhaust Systems	2,215	2,955
Dental	1,320	1,350
Electrical	2,020	2,510
Other	595	645
Total Demand	6,150	7,460

Table 3: Palladium Supply ('000 ounces)

	1996	1997
South Africa	1,690	1,810
Russia	5,600	4,800
North America	455	545
Others	95	95
Total Supply	7,840	7,250

Questions:

- a) (i) Describe the main trends in the price of palladium during 1996 and 1997. [2]
- (ii) With the aid of a diagram, use the information in Table 1 to show how changes in supply and demand for the metal have influenced its price between 1996 and 1997. [4]
- (b) Using Tables 2 and 3, identify the main causes of change on the demand side and on the supply side and give a possible explanation in each case. [4]
- (c) Using economic concepts, analyse the relationship between palladium and platinum in their use in (i) car exhaust systems and (ii) jewellery. [4]
- (d) Discuss how you would expect buyers and sellers to react to the higher price of palladium [6]

Suggested Answers:

- (a) (i) 1996 – decreasing average prices. 1997 – increasing average prices. [2]
- (ii) Demand rise, supply falls, driving prices up and decreasing stocks. Diagram. [4]
- (b) Demand side – Overall rise in demand for palladium in production of anti-pollution systems for car exhaust systems, dental, electrical and other uses.

Largest rise in demand for anti-pollution systems (car exhaust systems) of approximately 33.4%. Could be due to rise in incomes because of economic growth.

Supply side - Supply fell because of large fall in supply from Russia (approximately 14.3%). Could be due to political crisis or disasters in Russia that disrupted supplies there. The supply from other suppliers rose in fact or remained the same. [4]

- (c) For car exhaust systems – Palladium and platinum are substitutes, so both metals can be used. Relationship between price of palladium and dd of platinum is positive.

For jewellery – Palladium and platinum are not related at all.
Only platinum is used to make jewellery. [4]

- (d) Question asks for method and effectiveness of method adopted by buyers and sellers.

Buyers – Method is to decrease Q_d to counter price rise. Effectiveness depends on availability of substitutes (price elasticity of demand).

For producers of mobile phones and computers, palladium is an essential fop, and there are no substitutes (demand is price inelastic). Q_D falls less than proportionate to price rise. Not so effective.

Producers of car exhaust will look for cheaper substitutes like platinum.
So Q_D falls more than proportionate when price rise. Demand is elastic.
Effective method.

Sellers – Price rise, Q_S rises to earn more profits. Producers take advantage of the higher prices and the possibility of earning more profits to increase qty.

Effectiveness depends on time period (price elasticity of supply).

In short run, Q_s cannot rise easily, hence method not so effective compared to long run. [6]



B. Full Case Study

CSQ 1:

Challenges Facing the Movie Industry

Extract 1: Revision of Ticket Prices in Singapore

Golden Village Multiplex announced that it will raise its ticket prices at all nine multiplexes. The new rate will take effect on 27th March 2008. The ticket prices adjustment will be introduced through a 50 cents increase in the basic tier of ticket prices. Earlier in January, Cathay Cineplexes also revised their ticket prices. For Cathay, the general ticket prices are upped by 50 cents while a new Blockbuster tier has been introduced where tickets to selected movie titles will be increased by an additional 50 cents. Movie titles which fall under the Blockbuster category will need to satisfy at least two criteria before they can thus be categorized. These conditions include an A-List cast or director, be a part of a successful franchise, have a production budget of more than US\$100 million and opening date in Singapore coinciding with same day and date release in the USA. Both firms cited that the price increase 'is an inevitable consequence of current market situation'.

Source: Cathay Organisation & Golden Village 2008

Extract 2: Movie Pirates Using Cellphones to Record Shows

High-end mobile phones have emerged as the recording device of choice for movie pirates in the region, with more than 30 people nabbed in cinemas this year for recording the latest blockbusters this way. Those nabbed were turned over to the police. Since Motion Picture Association (MPA) began its crackdown in late 2004, the organization and police in the Asia-Pacific region has conducted 7,400 raids, arrested more than 4,300 people and seized almost 30 million pirated discs.

According to a 2005 MPA study, piracy had cost movie studios more than US\$6 billion in lost revenue.

Mr Edward Neubronner, MPA's Asia-Pacific director for operations, said that the use of mobile phones to record movies in cinemas is a relatively recent phenomenon. Pirates previously used camcorders to record the shows. The video quality of the current generation of high-end mobile phones had almost caught up with that of camcorders. And improved storage capacity, via memory cards, allowed mobile phones to record for hours.

But compared with a theatrical release or a genuine DVD, the playback quality of movies recorded by cellphones remains questionable, said Mr Neubonner. While it is hard to differentiate between films recorded by cellphones and those by camcorders, industry sources tell The Straits Times that some movies recorded using mobile phones had already appeared in illegal file-sharing networks and on pirated discs.

Source: The Straits Times July 2007

Extract 3: Hollywood Faces New Piracy Threat

Apart from stiff competition from other firms in the movie industry and other movie industries in other countries, Hollywood is now facing a bigger threat from piracy. Movie fans downloading free pirated films are no longer Hollywood's worst nightmare but that's only because of a newer menace: cheap and equally illegal subscription services.

Foreign, often mob-run businesses compile illegally obtained movies into "cyberlockers" similar to Internet storage sites used by individual consumers to squirrel away pirated video. But the for-profit version of this phenomenon has spawned an array of sophisticated and seemingly reputable sites selling unlimited digital movie files for as little as \$5 a month.

"Cyberlockers now represent the preferred method by which consumers are enjoying pirated content," Paramount Pictures chief operating officer Fred Huntsberry said.

Huntsberry detailed the evolution of professional piracy methods. Commonly, Hollywood movies are made available via illegal for-profit sites within days of theatrical release, while the advent of global releasing now allows the proliferation of individual titles into an array of language dubs within the first month of a theatrical debut. When movies are released on DVD and Blu-ray Disc, the sites upgrade the quality of video offered from camcorder images to pristine digital copies. Cyberlocker-based businesses operate from Russia, Ukraine, Colombia, Germany, Switzerland and elsewhere.

On a grander scale, the motion picture industry is combating the situation with country-by-country campaigns for tougher laws against video piracy.

Source: www.abcnews.go.com, June 2010

Extract 4: Combating Film Piracy

Danny Boyle, *Slumdog Millionaire* director suggested a fresh tactic in the war against film piracy: cut the ticket prices.

Speaking at the launch of National Schools Film Week, Boyle conceded that many parents found that a trip to the cinema costs "too much" and suggested that cinema operators adopted "more aggressive marketing techniques to do with price". One way of combating internet piracy, he added, was to encourage more young people to visit the cinema.

"There has always been this feeling of a special occasion when you go to the movies," said the *Slumdog Millionaire* director. "I think there's something wonderful about sitting in the dark. It is very built into the DNA of the cinema."

Source: www.guardian.co.uk, 2009



Table 1: Cinema Capacity in Singapore

Year	2003	2004	2005	2006	2007	2008
Cinema Screens	147	147	146	167	175	174
Seating Capacity ('000)	38	38	36	38	40	37
Attendance ('000)	14,644	15,877	15,084	15,588	17,956	19,058

Source: Singapore Department of Statistics

Figure 1: Golden Village Revised Ticket Price

Cinema Type	Days	Before 5pm	After 5pm	Sneaks/ Seasonal Sneaks*
Regular Cinema Halls	Monday	\$7.50		\$8.50/10.00
	Tuesday			
	Wednesday			
	Thursday	\$7.50	\$8.50	\$10.00
	Friday	\$8.50	\$10.00	
	Saturday	\$10.00		
	Sunday			
	Eve of Public Holiday	\$8.50 <i>Mon-Fri</i>	\$10.00	
		\$10.00 <i>Sat-Sun</i>		
	Public Holiday	\$10.00		
Cinema Europa	All Days	\$10.00		
	Students	\$8.00 <i>Mon-Fri except Eve off/and Public Holiday</i>		
Gold Class	Mon-Thu	\$25.00		
	Fri-Sun, Public Holiday and Eve of Public Holiday	\$30.00		

*Seasonal sneaks applies to the eve of/and public holidays, seasonal May, June, July, November and December Holidays.

*Gold class cinemas are equipped with plush recliner seats with call buttons for faster and more discreet service. Seating capacity is 24-28.

Source: Golden Village



Questions

- (a) (i) With reference to Table 1, describe the trend of cinema attendance in Singapore from 2003 to 2008. [1]
- (ii) To what extent does the data in Table 1 indicate that the price increase of movie tickets 'is an inevitable consequence of current market situation'? [3]
- (b) Using economic analysis, explain why the price increase of blockbuster movie tickets was twice the price increase for general movie tickets? [4]
- (c) To what extent does Figure 1 exhibit the practice of price discrimination of movie tickets? [4]
- (d) (i) Explain the economic relationship between pirated movies and movies screened in cinemas. [2]
- (ii) Discuss the threats posed by film piracy to the movie industry. [6]
- (e) Assess whether reducing prices of movie ticket is the best strategy to tackle film piracy. [10]

Suggested Answers:

- (a) (i) With reference to Table 1, describe the trend of cinema attendance in Singapore from 2003 to 2008. [1]

Increasing trend

- (ii) To what extent does the data in Table 1 indicates that the price increase of movie tickets 'is an inevitable consequence of current market situation'? [3]

Table 1 shows that cinema attendance has been increasing and this reflects the increase in demand for movies over the years. As such, tickets prices increase. However, there was no supply side reason in Table 1 to explain why price of movie tickets increase since no costs was given. It could be due to higher cost of production that leads to higher prices of movie tickets.

- (b) Using economic analysis, explain why the price increase of blockbuster movie tickets was twice the price increase for general movie tickets? [4]

The first reason is that the production cost of a blockbuster movie is much higher than a regular movie. This translates to higher rental cost for the movie operators when they rent blockbuster movies. Hence, the price increase of blockbuster is higher than that of regular movie to cover the higher costs. The second reason is that the demand for a blockbuster movie is generally more price inelastic than that of a regular movie because of the popularity of the cast and franchise. Hence the price increase is larger.

- (c) To what extent does Figure 1 exhibit the practice of price discrimination of movie tickets? [4]

Definition

Price discrimination is the practice by producers in charging different prices for the same products to consumers, not due to cost reasons.

Thesis

From Figure 1, there are examples of price discrimination where the prices for movie tickets in weekend are higher than those in weekdays (\$10 versus \$7.50) since demand is more price inelastic in weekends. Since the movies and cinema screens are essentially the same, the cost of providing the service should be the same as well.

Anti-thesis

However, in the case of higher movie ticket prices for Gold Class compared to regular cinema halls, it is not price discrimination as the service rendered in Gold Class is much better e.g. recliner seats and call button for personalized service. This will lead to higher costs of production thus higher prices.

- (d) (i) Explain the economic relationship between pirated movies and movies screened in cinemas. [2]

Pirated movies and movies screened in cinemas are substitutes or positive cross elastic.

This means that when the price of pirated movies falls, quantity demanded for pirated movies increases, hence the demand for movies in cinemas falls.

- (ii) Discuss the threats posed by film piracy to the movie industry. [6]

The threat posed by film piracy to the movie industry is that it erodes the profits of the movie industry in the short run (i.e. US\$6 billion loss in revenue in extract 2). Pirated movies and cinema screened movies provide essentially the same service to consumers, hence pirated movies acts as a substitute and can erode the profits levels of the movie makers.

The main issue is that pirated movies are sold at a very low price compared to movies screened in cinemas or genuine DVDs. Hence, it may cause a huge fall in demand for the latter group resulting in a large fall in revenue and profit for the movie industry. This is because film pirates do not need to bear the initial high cost of producing the movies from scratch as they only need to bear copying and distribution costs.

Moreover, from extract 2 and 3, the quality of pirated movies have improved, due to more advanced recording devices, which makes it almost as good as watching the real products.

The increasing accessibility of pirated movies by the consumers due to developments in Internet technologies and distribution techniques by film pirates as seen in the case of 'Cyberlocker' in extract 3, also makes it easier for consumers to enjoy these cheaper products at their convenience.

All these posed further threats to the movie industry in terms of further fall in demand and profit levels in the future.

In the long run, the low profitability of making movies may lead to a fall in numbers of movies produced and creative output of movies which hurt consumers eventually and leads to stagnation or even collapse of the movie industry. Hence the movie industry has to constantly innovate and evolve new technologies in screening movie to differentiate itself from pirated movies.

L3	Threats to the movie industry were explained and its extent (degree of impact, short vs long term) was evaluated based on economic reasoning.
L2	Threats to the movie industry were explained but there was no evaluation.
L1	Mere listing of threats

- (e) Assess whether reducing prices of movie ticket is the best strategy to tackle film piracy? [10] (can be left to dd & ss elasticity topic)

1) Thesis: Explain how reducing the prices of movie ticket can tackle film piracy

Since movies screened in cinemas and pirated movies are substitutes, by reducing the prices of movie ticket, it will increase its quantity demanded. Moreover, with pirated films, the demand for movies in cinema is price elastic, hence a price reduction will lead to a more than proportionate increase in quantity demanded, leading to higher revenue.

Consequently, this will lead to a fall in demand for pirated movies too. . This will help to increase the revenue (price x quantity) of cinema operators. This can be implemented in the short term to boost cinema consumption.

2) Evaluation: Evaluate the effectiveness of reducing prices of movie ticket as a strategy to tackle film piracy.

However, this may not be sustainable in the long run since cinema operators are not able to decrease price of movie ticket to as low as pirated films since they incur higher costs of production. Hence, there is a need to implement other strategies as well.

3) Anti-thesis: Explain how the movie industry and cinema operators may adopt other strategies (notably non-price strategies) to tackle film piracy.

4) Evaluation: Evaluate the effectiveness of the other strategies.

In fact, in order to differentiate movie screened in cinemas from pirated movies, cinema operators need to enhance the experience of movie watching e.g. in extract 4, the feeling of a special occasion when watching a movie. Hence they need to focus more on non-price competition to enhance product differentiation compared to pirated films.

Innovation and product development

One such development can be 3D movie screening which consumers are unlikely to enjoy from pirated movies due to the high costs and quality of equipment for such entertainment. By development a new product through watching 3D movies, the cinema operators will be able to attract more consumers and charge a higher price as well. Movie producers can earn higher profits from screening fees.

Evaluation:

Such product innovation is able to rekindle the demand for movie in cinemas again, resulting in a higher demand. Due to the higher cinematic quality, cinemas are able to charge higher prices and earn higher profits. However, with technological advancement, consumers may be able to get cheaper equipment for such form of viewing over time.

Campaigns against piracy

Movie producers and cinemas operators can work with together government authorities to run campaigns to educate the public against piracy and how it is a form of intellectual property theft and that it is illegal. Disincentives such as fines can deter consumers from purchasing pirated movies. A fall in demand for pirated films will lead to an increase in demand for movie in cinemas.

Evaluation:

It will take a long time to educate people about intellectual property rights and it is also costly to monitor piracy. Moreover, piracy can be done in private homes and hence makes it difficult to monitor. As a result, consumers may not respond to the disincentive significantly.

Conclusion:

The movie industry and cinema operators have to continually innovate and enrich the experience of watching movie in cinemas rather than in front of the computer screen. They have to sell this experience of movie watching together with the movie as a product so as to offer a different product compared to pirated films.

L3	Pricing and other strategies were explained from the perspectives of cinema operators and movie industry. There was adequate application to the case study context.
L2	Strategies were explained with some application to the context of piracy. Low L2 if only pricing strategy is discussed.
L1	Mere listing of strategies
E2	Evaluation with economic analysis with conclusion. Pricing and other strategies were evaluated.
E1	Evaluation without economics analysis

SECTION 3 – Essays

SECTION 3A – Lower-Order Skills

1. “Motorists face more misery at petrol pumps as oil prices hit record high. The government has proposed to use price controls and subsidies to curb the problem.”

(a) Explain why the price of oil would increase.

[10]

Suggested Answer:

- 1(a) **Analysis of Question** (to be done in 1-2 mins)
Explain why the price of oil would increase.

[10]

Command word:

Explain - requires you to select and apply economic concepts and principles (in this case dd/ss analysis) to analyse the rise in price of oil

Key word:

Price – to look at demand and supply factors that would cause the price to increase

Key word:

Increase - Note to talk about a rise in the price of oil

Question requirement

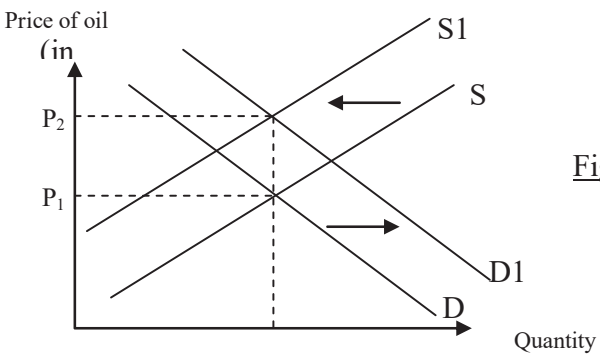
This question requires you to clearly explain how the **causes** (dd and ss factors) lead to the **effect** (**increase in oil price**), (**Causal Link**)



Schematic Plan (to be done in 2-3 mins)

	Increase in oil price	
Increase in demand		Fall in supply
- global expansion		- depletion of oil resources
- rising national income in emerging countries		- political tension in the Middle East has limited oil production
- expectations of future increase in prices		- OPEC cut back SS to increase price
	Price of oil increase	

Write out full essay (to be done by following closely to the outline in 15 mins)

Thinking Process	Content / Analysis / Evaluation
Introduction: Define key concepts	The price of a commodity like oil is determined by demand and supply conditions. Therefore, changes in demand and supply conditions will cause changes in the price of oil. A rise in the price of oil can either be caused by an increase in demand for oil or a decrease in supply for oil or both. Referring to figure 1 below, the initial price is at P_1 . A rise in demand for oil would cause the demand curve to shift right from D to D_1 while a fall in supply would cause the supply curve to shift left from S to S_1 , resulting in a new equilibrium price of P_2 which is higher.
Give appropriate diagram as tool of analysis	 <p style="text-align: right;">Figure 1</p>
Body: Factor 1 – Global expansion (DD)	The global expansion has seen strong economic growth in many countries. The global economic growth has led to an increase in demand for fuel to power production in most countries. As a country's output and production increase, the demand for a raw material like oil would increase as well since oil is needed to run the machinery in the plants and factories. Rising national income and strong economic growth would in turn induce optimism in investors who would increase their investment, thus increasing production and the demand for oil. These would thus lead to an increase in the demand for oil, causing the demand curve to shift right.

Body: Factor 2 – Rising national income and industrialisation (DD)	The world has also witnessed the phenomenal growth of emerging countries like China and India in the recent years. The rising income in such emerging countries, especially with the expansion of the middle class, would result in a rising demand for private transport like cars, which is a luxury good and is likely to be income elastic. The rise in income would thus result in a more than proportionate increase in the demand for cars. This would lead to rising demand for petrol, which in turn drives up demand for oil. Rapid industrialisation in these countries has also caused production to increase, thus increasing the demand for oil, causing the demand curve to shift right.
Body: Factor 3 – Speculation (DD)	Expectations about the future changes in the price of oil would also affect its demand now. If speculators expect the prices of oil to increase in the future, they would buy more oil now and increase the demand for oil. This is so that when the price of oil does increase in the future, these speculators would be able to make a profit by selling their stocks. The increase in demand would thus cause the demand curve to shift right.
Body: Factor 1 – Depletion of oil resources (SS)	Besides demand factors, changes in supply would also affect the price of oil. The continuous extraction of oil might have resulted in a depletion of oil sources as oil is a non-renewable resource. Bad weather conditions like hurricanes and typhoons might also have destroyed oil refinery facilities. These would cause the supply of oil to fall and the supply curve to shift left.
Body: Factor 2 – Political tension (SS)	Most of the oil production in the world takes place in the Middle East. The violence and the political tension taking place in the Middle East would have disrupted or limited oil production in these countries. Such security concerns may increase the COP or hamper the production of oil, causing a fall in supply and the supply curve to shift left.
Body: Factor 3 – OPEC (SS)	OPEC is the international cartel which controls the supply of oil and thus supplies oil to the rest of the world. OPEC might be reluctant to increase production levels in order to maintain high prices for oil. Alternatively, OPEC might be cutting back or hoarding the supply of oil to push up the price. The increase in price of oil would increase their total revenue as the demand for a raw material like oil is inelastic and thus an increase in price would also result in a less than proportionate fall in the quantity demanded.
Conclusion	In conclusion, the rise in the price of oil is a combination of both demand and supply factors. However, the recent increase in the price of oil is largely demand driven due to the huge increase in demand of oil from countries like China and India. The supply factors serve to exacerbate the increase. The demand for oil is fairly inelastic as it is a raw material needed in production processes and its supply is inelastic as well since it takes time and a lot of effort to extract oil. With inelastic PED and PES, the increase in price of oil is even more significant.

Level	Descriptor	Marks
L3	Clear explanation of both demand and supply factors causing the increase in oil prices and application of current real world examples to explain price changes. (2D and 1S factors or 2S and 1D factors)	7-10
L2	Explanation of demand and supply factors increasing prices but explanation is not contextual. (At least 1 demand and 1 supply factor)	5-6
L1	For an answer that shows some knowledge that prices are determined by demand and supply intersection. Mere listing of the demand and supply factors.	1-4

2. The current global recession has led to a drastic reduction in airfares and air traffic volumes. Many of the world's airliners eventually grounded some of their airplanes.

(a) With the aid of diagrams, explain how the recession and the grounding of the airplanes affected prices and output in the airline market. [10]

Suggested Answer:

How would the recession affect the demand for air travel?

- Definition of global recession – fall in global output and income
- Derived demand – air travel demand is affected by demand for leisure & business travel
 - Recession – fall in household incomes → fall in demand for luxuries like holidays (air travel is assumed to be a normal good)
 - Recession – fall in business activities → fall in demand for business travel
 - Fall in demand for both business & leisure travel → fall in demand for air travel
 - DD for air travel shifts left → fall in airfares & vol of air travel, cp

How would the grounding of airplanes affect the supply of air travel?

- Fall in airfares – revenue cannot cover variable costs for some flights → airlines withdraws the flight → unused airplanes are grounded
- Grounding of airplanes → supply of flights shift left and becomes steeper → volume of air travel fall further although airfares may recover somewhat

What is the overall effect on prices and output?

- With both DD & SS shifting to the left, output will definitely fall
- The overall effect on price remains uncertain – depends on the magnitude of the shifts in DD & SS
 - If DD shifts more than SS → price will fall
 - If SS shifts more than DD → price will rise
- Diagrams

Level 1	Definition of recession & recognition that recession & grounding of airplanes causes mkt dd and ss to fall respectively	1-4
Level 2	Explanation of why air travel is derived demand. Illustration & explanation of how falling demand & supply affects equilibrium price and output	5-6
Level 3	Analysis that accounts for why airlines would want to ground their planes Analysis that recognizes that demand falls first, followed by supply Analysis accounts for the overall effect on prices & output	7-8

3. A look at global unit sales makes clear that no region is being spared the sharp decline in automobile markets, especially luxury cars.

<http://motoring.asiaone.com>, 19 Jun 2009

- (a) Using demand and supply analysis, explain why there is a sharp decline in the luxury car market in 2009. [10]

Suggested Answer:

Introduction

- Briefly explain the meaning of sharp decline in automobile markets
- ☐ Sharp decline in automobile markets sector → lower sales → lower output exchanged
- Assuming the sector operates in a free market economy, forces of demand and supply will determine the equilibrium price and output of cars.
- ☐ Briefly explain laws of demand and supply and equilibrium.
- ☐ Explain that output can fall with several possibilities. Firstly decrease in demand or/and decrease in supply. Secondly, decrease in demand greater than increase in supply. Lastly, decrease in supply greater than demand.

Main Body

Decrease in demand

- Fall in income: global economic slowdown → for luxury cars → a fall in income will lead to fall in demand for luxury cars. The demand curve for luxury cars will shift to the left → output fall. (Illustrate with diagram).
- ☐ Expectation of future income: With the general economy not doing well → consumers expect further fall in income → fall in demand for luxury cars → fall in output.
- ☐ Prices of related good: Relatively cheaper alternatives such as other brands of car → consumers will switch from luxury cars to its substitutes → fall in demand for luxury cars → output fall.
- ☐ Other possible factors include change in taste and preferences, government policies, size and composition of population, prices of related goods etc.

Decrease in supply

- Higher cost of production: with the increase in prices of inputs for making luxury cars → higher cost of production → fall in supply of luxury cars → fall in output.
- ☐ Smaller number of distributors in Singapore: bigger market overseas such as China → distributors are reallocating to China → reduction in the number of sellers in Singapore → fall in supply of luxury cars → fall in output.
- Other possible factors include change government policies, producers' expectation of price, technology and so on.
- ☐ Draw diagram to illustrate that decrease in demand and supply of Porsche will lead to a fall in equilibrium output of the Porsche cars.

Conclusion

- Hence the automobile sector, especially luxury cars, has shrunk due to the factors as mentioned.
- Economic analysis should take into consideration the perspectives of both demand and supply.

Level 1	Answer is mostly irrelevant and only consists of a smattering of valid points. Basic theoretical errors may be made such as the explanation of the relevant demand and supply factors	8-10
Level 2	Answer shows attempt to explain the relevant demand and supply factors and their respective effects on the luxury cars market, is unbalanced and with or without diagrams.	5-7
Level 3	Answer shows a thorough and complete explanation of relevant demand and supply factors, the relative shifts and elasticities and provides accurate and developed explanation of their respective effects on the luxury cars market using diagrams.	1-4



SECTION 3B – Higher-Order Skills

1. (a) Are demand or supply factors more critical in explaining housing prices in Singapore? Justify your answer using relevant economic concepts and diagrams. [12]
- (b) Comment on the economic impact of government provision of public housing on the Singapore economy. [Optional] [13]

Suggested Answer:

(a)

- 1. Define demand and supply**
- 2. Explain how equilibrium price is determined in a free market**
- 3. Explain the demand factors (min 2) that affect housing prices in Singapore**

- Economic Growth/Real Income
- Interest Rates / Availability of mortgage finance
- Consumer confidence
- Demographic factors
- Speculation to make capital gains / Investment in anticipation of higher rentals
- Government policies for example related to use of CPF for purchases of houses, etc

- 4. Explain the supply factors and its effects on housing prices with changing demand Supply side Factors**

Short Run

In the short run, supply of housing is fixed because it takes time to build houses. Therefore in the short run changes in demand affect prices more than supply

Long Run

In the long Run the supply of housing is affected by many factors:

- Release of land by government for residential purposes
- Cost of inputs e.g. sand or labour
- Level of technology

In the long run, as supply of housing increases, housing prices can ease. Shift of supply to the right and the elasticity of supply of housing could increase (e.g. with improvement in technology). Thus, dampening the impact of rising demand on housing prices.

Note:

Regardless of time period, the more inelastic the supply of housing in a particular area (limited land space to build any houses), then an increase in demand will lead to a large increase in price. Thus demand becomes an important factor to determine prices.

Use examples and diagrams to explain and illustrate.

5. Conclusion

- In the short run, demand for housing is more critical in determining the prices rather than supply. Given an inelastic SS, a rising demand will cause large increases in the prices of housing. However, in the long run, the rising prices of housing can be dampened by increasing supply of housing.
- Considering a land scarce Singapore, there is a limit to how much the Singapore government can do to increase supply and the extent of the increase in quantity supplied in response to price rises. Thus the government may then have to moderate the rise in demand with it being a more critical factor in affecting the housing prices.

Note: Above is just one possible approach. Accept other logical approach to the question.

Level 1	Listing of points Shows knowledge of basic demand and supply factors that can affect prices	1-4
Level 2	Only able to explain demand or supply factors of housing prices well (max 6m) Explain demand and supply factors that can affect housing prices with no or weak attempt in explaining which are the more critical factors Explanation is without use of relevant diagrams	5-8
Level 3	Well developed explanation of both demand and supply factors that affect housing prices making appropriate reference to housing in S'pore Able to make sound justification to the choice of critical factors that affect housing in Singapore	9-12

2. According to the United Nations (UN) Food and Agricultural Organization (FAO), wheat has doubled in price; maize is nearly 50% and rice is 20% more expensive than a year ago. Record world prices for most staple foods have not only led to food price inflation in many countries but have had major impact on the market for fertilizers and meat products.

Adapted from The Guardian, 3 November 2007

- (a) Explain the likely reasons for the record rise in staple food prices in recent years.
[10]

- (b) Assess how the markets for fertilizers and meat products might be affected by these price increases.
[15]

Suggested Answer:

(a)

[Candidates are expected to use demand & supply analysis to explain rising prices of staple food in recent years. The best candidates should be able to not only explain rising prices ie. **account for the direction & magnitude** of demand & supply shifts but also to **use concepts of elasticities** to explain record rise in prices of staple food]

- Price of a good is determined by the interaction of demand & supply of that good.
- Demand is the willingness & ability of buyers to pay a particular price for a particular quantity of a good while supply is the willingness & ability of seller to offer different quantities of a particular good at different prices.
- Higher prices of staple food such as rice, wheat & maize or corn can be the result of an increase in demand (a rightward shift in demand curve from D1 to D2 in Fig 1. due to any non-price determinant of demand) and/or a decrease in supply (a leftward shift in supply curve from S1 to S2 in Fig 1. due to any non-price determinant of supply)

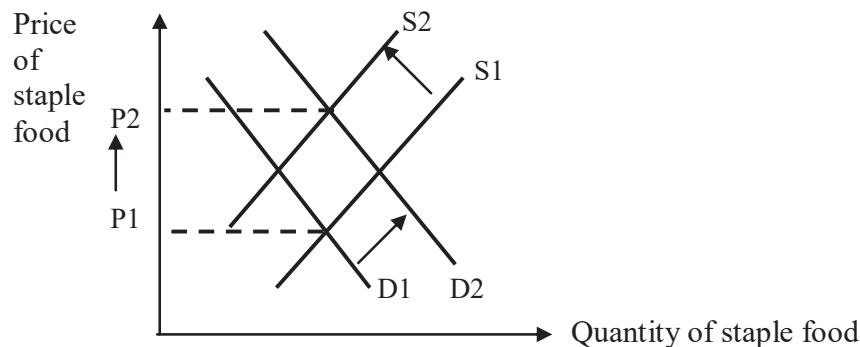


Fig1: Market for staple food

- Possible non-price determinants of increased demand:
 - Rising population & income especially in newly emerging economies such as China & India has led to an increase in demand for staple food like rice, wheat & maize.
 - Rising affluence has also led to an increase in demand for meat products whose production requires some food crops as animal feed → competitive demand for food crops.
 - Expectations of higher future prices leading to hoarding or speculative attempts at profiteering from rising prices and hence an increase in demand.
 - Rising demand for bio-fuel as an alternative to fossil fuel has also increased the demand for maize or corn to produce corn-based bio-ethanol.

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- Possible non-price determinants of decreased supply:
 - Poor weather conditions & natural disasters have caused a decrease in supply of food crops in recent years.
 - Disruptions due to political uncertainties in rice producing countries have also decreased supply.
 - Less maize are sold as food as farmers find it more profitable to supply crops for the production of biofuels. Less land allocated to produce staple food crops thus decreasing supply.
 - Higher cost of fertilizers & labour also account for the decrease in supply.
- Factors determining price elasticities of demand & supply of staple food crops & how it accounts for the record rise in prices.
 - Inelastic demand for staple food because they are necessities with no substitutes.
 - Inelastic supply of food because it takes time to grow crops.
 - A combination of inelastic demand & supply will result in record rise in price when demand increases & supply decreases as illustrated in the diagrams below.

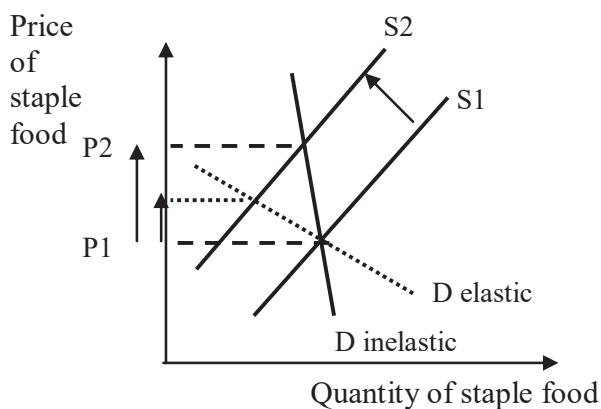


Fig 2: Demand elasticity

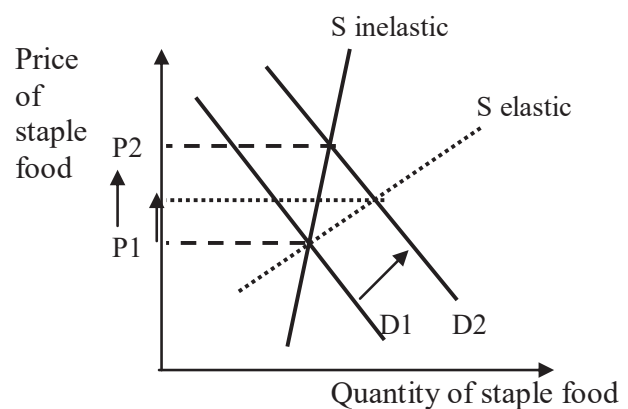


Fig 3: Supply elasticity

Level	Knowledge, Application, Understanding and Analysis
L1	For an answer that has some basic facts about demand, supply & price determination.
L2	For an answer that provides an undeveloped or incomplete explanation of rising prices of staple food using either demand & supply analysis.
L3	For an answer which is able to use demand & supply analysis together with concepts of elasticities to provide a comprehensive explanation of the record rise in staple food prices.

- b) Assess how the markets for fertilizers and meat products might be affected by these price increases. [15]

Suggested Answer:

[Candidates are expected to use demand & supply analysis to link the record price increase of staple food to the markets for fertilizers & meat products. The best candidates should be able to:

- Identify the various aspects of a market (i.e. buyers /consumers & sellers/ producers)
- Use concepts of elasticities to assess the likely short run & long run impact on the market for fertilizers & meat products
- Assess the competitive behaviour of firms in both markets
- Discuss the likely impact & response of the govt. to ensure food affordability.]

Impact of price increases of staple food on the market for fertilizers

Analysis:

- Fertilizers being a necessary factor input in the cultivation of food crops has a derived demand i.e. its demand is dependent on the demand for food crops to feed people & livestock.
- Increase in staple food prices → farmers have greater incentives to increase supply of food crops → farmers need to increase demand for fertilizers to produce more food crops (demand curve shifts rightwards from D1 to D2 in Fig. 4) → increase in equilibrium price of fertilizers from P1 to P2 but a less than proportionate increase in quantity supplied of fertilizers from Q1 to Q2 given that the supply of fertilizers is inelastic in the short run period.

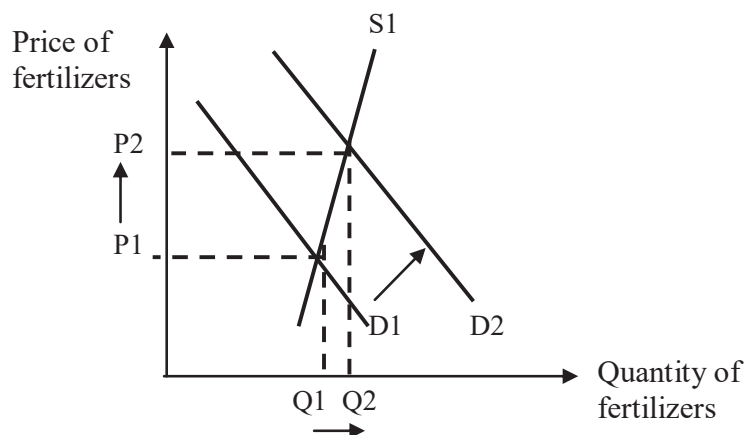


Fig 4: Market for fertilizers in SR



Assessment of impact & evaluation:

- Increase in price of fertilizers → increased revenue earned by firms producing fertilizers but increased cost of producing food crops to farmers
- Farmers will increase price of food crops to protect their profit margin → consumers worse off due to food price inflation → govt. may intervene in the market by giving farmers a subsidy for fertilizers → help to reduce COP for farmers & curb food price inflation.
- If govt. subsidy is given to producers of fertilizers → reduce COP & increase supply of fertilizers (supply curve shifts rightwards from S1 to S2 in Fig. 5) → Equilibrium quantity increases but price will be indeterminate depending on the relative shifts in demand & supply.
 - If increase in demand > increase in supply → price increases (Fig. 5)
 - If increase in demand < increase in supply → price decreases
 - If increase in demand = increase in supply → price remain constant

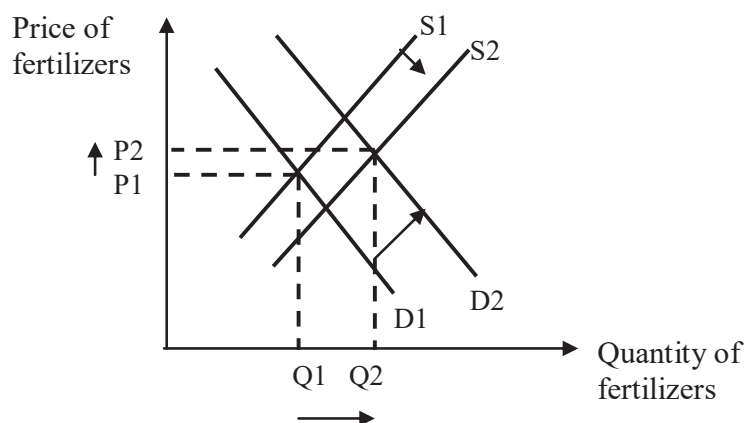


Fig 5: Market for fertilizers in LR

- The global fertilizer market is generally fragmented with limited product differentiation. Strong regional presence & closeness to customers in the different markets are key success factors, requiring an extensive distribution & sales network. The production process is highly capital intensive & economies of scale are important in reducing fixed costs & achieving general cost competitiveness.
- Given that the market for fertilizers is likely to be imperfect & oligopolistic, dominated by a few large firms (mostly state-owned in some countries) supplying the product & existence of strong barriers to entry to keep out potential rivals, firms supplying fertilizers are likely to face minimal competition. Being price setters with strong market power & a highly inelastic demand, there will be a lack of incentives for firms to increase supply. They will most likely restrict output to maintain high prices so as to earn supernormal profits.

- The extent of the increase in price of fertilizers also depends on the price elasticity of supply which is determined by factors such as the existing capacity utilization of the fertilizer industry. Moreover, firms are also facing higher natural gas prices & therefore higher COP which reduces profit margin. Thus the price of fertilizers is likely to be high even in the long run period.

Impact of price increases of staple food on the market for meat products

Analysis:

- Meat products provide the necessary proteins in the human diet. Thus the demand for meat products as a category of food to ensure a balanced diet will be generally inelastic due to a lack of substitutes.
- Increase in staple food prices → farmers increase supply of food crops to feed people & produce bio-fuel → farmers reduce supply of food crops to feed animals → increase COP of meat products → less meat supplied (supply decreases from S1 to S2 in Fig.6) → increase in equilibrium price of meat products from P1 to P2 but a less than proportionate decrease in quantity demanded of meat products from Q1 to Q2 given that the demand for meat products is inelastic in the short run period (meat is an essential part of our diet & no time to look for substitutes in short run)

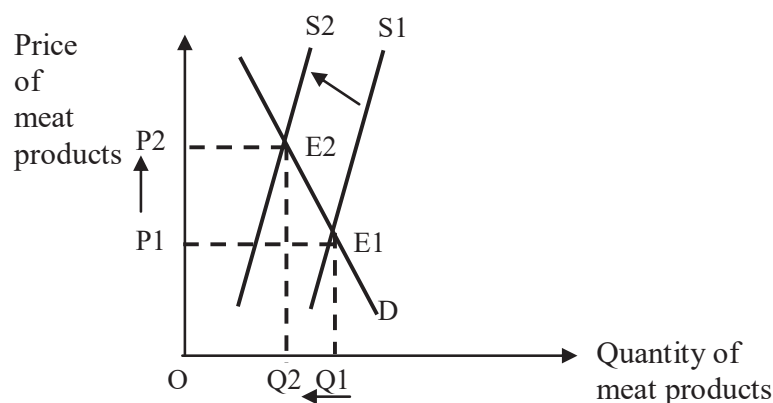


Fig 6: Market for meat products in SR

Assessment of impact & evaluation:

- With an inelastic demand for meat, an increase in price of meat products → increased revenue ($OP_2E_2Q_2 > OP_1E_1Q_1$ in Fig. 6) earned by meat producers but increased consumer expenditure on meat products
- Some meat consumers may substitute with fish & vegetables & eat less meat (demand curve shifts leftwards from D1 to D2 in Fig.7) → Equilibrium quantity decreases but price will be indeterminate depending on the relative shifts in demand & supply.
 - If decrease in supply > decrease in demand → price increases (Fig.7)
 - If decrease in supply < decrease in demand → price decreases
 - If decrease in supply = decrease in demand → price remain constant

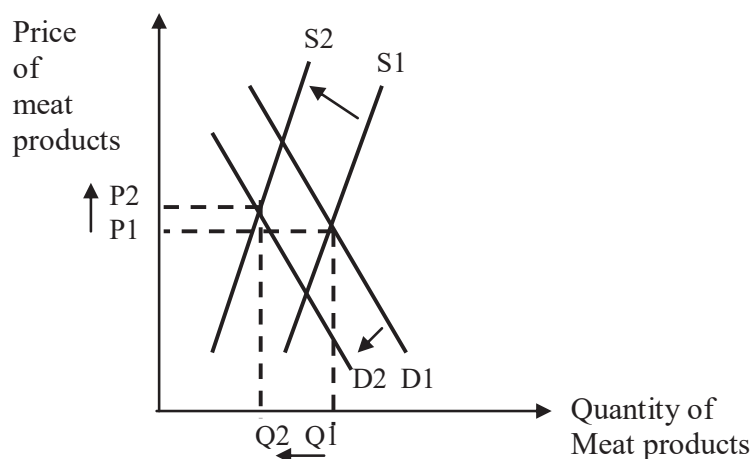


Fig 7: Market for meat products in LR

- Given that the market for meat products is also likely to be oligopolistic, suppliers of meat products are also price setters most likely to restrict output to raise prices so as to earn supernormal profits.
- The extent of the increase in price of meat products also depends on supply side factors such as the rising cost of rearing livestock & the frequent outbreak of epidemics.
- Thus the price of meat products is likely to be high even in the long run period unless the govt. intervenes to restrict market power of such firms.

Conclusion:

The record rise in prices of staple food has directly or indirectly impacted the market for fertilizers & meat products depending on the time period under consideration, the extent of market power enjoyed by firms as well as possible govt. intervention through various policies to influence the markets.

Level	Knowledge, Application, Understanding and Analysis
L1	For an answer that shows a vague knowledge of the link between record price rise of staple food to markets for fertilizers & meat products. Answer contains conceptual errors or incorrect linkage.
L2	For an answer that shows some understanding of the linkage between the specified markets but an undeveloped or incomplete analysis of the impact of rising prices of staple food on the market for fertilizers & meat products.
L3	For an answer which shows a thorough analysis of the impact (both SR & LR) of record rise in staple food prices on the markets for fertilizers & meat products using concepts of elasticities & assessing the competitive behaviour of firms & response of govt.

E1	Mainly unexplained judgment
E2	Judgment based on analysis



NYJC

2013 JC1 H1 & H2 ECONOMICS

Resource Allocation in Competitive Markets: 5. Elasticity of Demand & Supply

Review on: Elasticity of Demand & Supply

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Elasticity of Demand & Supply	Tick
1. What price elasticity of demand, price elasticity of supply, income elasticity of demand and cross elasticity of demand?	
2. How do you interpret the signs and magnitudes of the different elasticity concepts?	
3. What are the factors influencing the PED, YED & XED of a product?	
4. What is the relationship between price elasticity of demand and total revenue?	
5. What role does PED and PES play in deciding the tax burden between consumer and producer when the government imposes indirect taxes?	
6. How is PED, YED and XED useful for a firm?	
7. How does a government make use of elasticity concepts in making decisions to tax as well as to undertake macroeconomic policy?	



SECTION 1 – Concept Reinforcement

A. Price Elasticity of Demand

1. Assess whether the demand for the following items is price elastic or price inelastic. Explain your answer.

(a) Cigarettes

*Price inelastic to a 'chain-smoker' as it is habitual consumption.
Price elastic to a 'social' smoker who is not addicted to the product.*

(b) The price charged for a single short-message (SMS) sent on a mobile phone.

Price inelastic because price represents a small proportion of total income or provisions within the total subscription plan.

(c) Motorcars

Price elastic because it could be a luxury good (degree of necessity is lower) as well as there is availability of other substitutes to the means of getting around. In addition the initial price of buying as well as maintaining the car may take a large proportion of the consumer income. However, demand may be price inelastic to those who do not consider other means of transport as a substitute and considers it highly necessary.

d) Brand 'X' washing powder

Price elastic because there is availability of other substitutes. Many different brands of washing powder. However, demand may be price inelastic to those who considers brand 'X' as the only washing powder for them because of brand loyalty, would not consider other brands as a close substitute.

2. Suppose the price elasticity of demand for coffee is -0.3 , what will be consequence of a 15% reduction in its price? Explain your answer.

*Percentage change in qty demanded = $0.3 \times 15\%$
= 4.5%*

Qty demanded will increase by 4.5%.

→ A 1% price reduction leads to a 0.3% increase in quantity demanded.

3. Jacob spends \$30.00 on premium chocolates when the price was \$10.00 per kg. When the price of premium chocolates fell to \$5.00 per kg, his expenditure on it increased to \$40.00. Comment on his price elasticity of demand for premium chocolates.

*Original qty of chocolates bought = 3 kg
New qty of chocolates bought = 8 kg.
Percentage change in qty demanded = 166.67%*

Percentage change in price = 50%

*PED = 166.67% / 50%
= 3.33*

Jacob's demand for premium chocolates is price elastic – he is likely to buy 3% more of chocolates for every 1% price fall.

4. A shop sells durian cakes at \$20.00 each and secures an average weekly sales of 1000 cakes. In an effort to expand sales, it reduces the price to \$18.00 each. If the price elasticity of demand is 2, the shop's average weekly revenue from its durian cake sales must have
- (a) risen by \$2000
(b) risen by \$1600*
(c) fallen by \$200
(d) fallen by \$1100
5. A 5% increase in a firm's output results in a 5% increase in its sales revenue. What can be deduced about the price elasticity of demand for the firm's product?
- (a) It is equal to unity
(b) It is perfectly elastic*
(c) It is perfectly inelastic
(d) Nothing without information about the change in price
6. In the table below, suppose the government imposed a tax of \$2 per unit on this good.

Price (\$)	Quantity Demanded (ones per annum)	Quantity Supplied (ones per annum)
1	100	40
2	90	50
3	80	60
4	70	70
5	60	80
6	50	90
7	40	100

What is the incidence of tax borne by the producer?

- (a) \$60*** (b) \$80 (c) \$70 (d) \$140

7. Given that the demand for cigarettes is price inelastic, what is the likely effect of the imposition of a tariff on cigarettes in a country?

- (a) Sales of cigarettes will cease
- (b) The price of cigarettes will rise by an amount greater than the tariff
- (c) Domestic production of cigarettes will increase less than proportionate
- (d) Expenditure on cigarettes will increase***

B. Income Elasticity of Demand [H2 only]

1. The table shows the quantity of three goods bought in which the prices of all goods did not change but the consumer incomes rose.

Consumer's income (\$)	Demand for Good A	Demand for Good B	Demand for Good C
40	10	10	10
100	40	10	6

(a) Other things being equal, what is the income elasticity of demand for all three goods?

Percentage change in income = 150%

YED for good A = 300% / 150% = 2.0

YED for good B = 0% / 150% = 0

YED for good C = -40% / 150% = -0.27

(b) Identify which good is an inferior good. Explain why.

Good C. It has a negative YED, implying that as income increases demand for this good decreases. This could be attributed to the fact that there are 'better' substitutes in the eyes of the consumers that would be within their reach should there be a rise in incomes.

(c) Identify which good has an income elastic demand. Explain why.

Good A. It has a positive YED. As income increases, demand for Good A also increases. Also, the percentage change in demand is more than the percentage change in income. This implies that any change in income is likely to result in the demand for this product to rise by a significant amount – fairly responsive demand.

2. Which of the following would you expect to have a demand that is income elastic or inelastic? Explain your answer.

(a) Rice

Depending on the context, rice is a necessity good (definition of a good) to Asians as it is part of their staple diet. Thus when income rises the higher purchasing power leads to an increase in demand for rice. However, as income increases, the demand for rice increases less than proportionately because consumers are not likely to demand a significantly higher amount of rice due to consumption limits at a certain point in time. Thus the demand is expected to be income inelastic.

(b) Designer clothes

This is a luxury good (definition of a good) so the demand is income elastic. As income increases, the demand for designer clothes increases more than proportionately. It could be said that the demand for these are likely to be positively related to income change.

However, the extent of the demand increase depends on the proportion of the income increases relative to the price of the designer clothes. To the rich, this may be regarded as a normal good (or even a necessity good where the demand is income inelastic) because it is an essential part of their make up of their rich lifestyle. But to the middle-income, this may be regarded as a luxury good since the designer clothes may not be a large part of their existing wardrobe – thus the responsive demand when income changes (income elastic).

(c) Public bus rides

Being a normal good, the demand is likely to rise when income rises. Depending on how much of the original income has risen, the demand for public bus rides can be expected to rise significantly (especially for income increase low income earners) - income elastic. As income increases, the demand for public bus rides increases more than proportionately.

However, if the original and the rise in income is quite significant, then a rise in income may lead to less of public bus rides taken up instead more taxis, trains or even more cars being demanded. Thus, demand may not be very responsive to income changes (income inelastic) in fact, it may also lead to a fall in demand for public bus rides (ie. an inferior good)

3. Check for understanding:

- | | |
|---|-----|
| a) Is a luxury good regarded as a normal good? | Yes |
| b) Is a necessity good regarded as a normal good? | Yes |
| c) Is an inferior good a normal good? | No |

4. In what ways does income level play a determining role/factor in an elasticity measure?

- Proportion of income spent at a point in time → determines steepness of the demand curve → PED
- Response to changes in existing income levels → determines shifts of demand curve → YED

C. Cross Elasticity of Demand [H2 only]

1. For each of the following pairs of goods, indicate the sign of XED value (positive/ negative/ zero) and its relationship (substitutes/ complements/ no relationship) and its likely magnitude of the XED value (large/ small/ zero).

	Pair of Goods	Sign	Relationship	Magnitude
(a)	Petrol and cars	Negative	Complements	Large
(b)	Salt and Petrol	Zero	No relationship	Zero
(c)	Cars and bicycles	Positive	Substitutes	Small
(d)	McDonald's and KFC	Positive	Substitutes	Large
(e)	McDonald's and Subway Sandwiches	Positive	Substitutes	Small

2. The table gives estimates of own-price and cross-price elasticities of demand for tea and instant coffee.

Commodity	Elasticity with respect to the price of:	
	Tea	Instant Coffee
Tea	-0.48	+0.11
Instant Coffee	+0.13	-0.67

Other things being equal, what would be the change in the quantity of instant coffee demanded as a result of a 1% decrease in the price of tea?

- (a) +0.67% (b) +0.13%
 (c) **-0.13%*** (d) -0.11%

3. For which pair of commodities are the cross price elasticities of demand most likely to be positive?

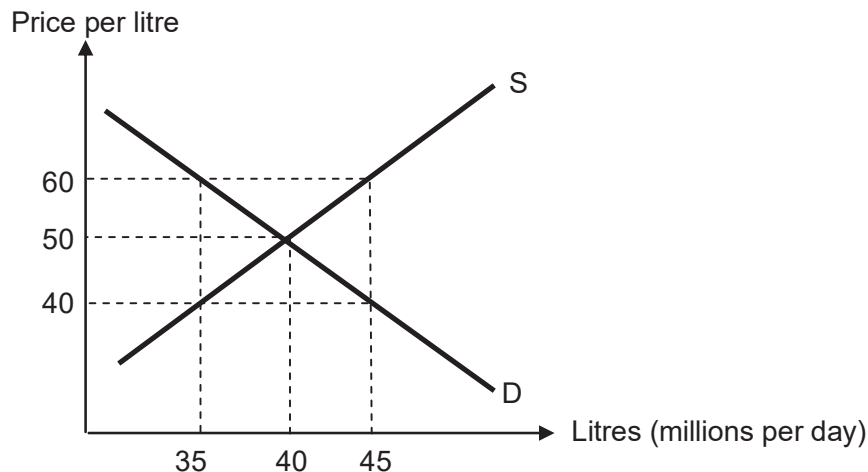
- (a) **margarine and butter***
 (b) petrol and cars

(c) salt and sugar

(d) pen and ink

D. Price Controls

1. The figure below shows the demand and supply for petrol. The market is initially in equilibrium with a price of 50 cents per litre and sales of 40 million litres per day.



- (a) Assume that the government is worried about inflation and decides to set a maximum price for petrol. What will be the effect if it sets this price at:

(i) 40 cents?

*Shortage of 10 million litres per day (45 – 35).
TR of suppliers would fall but the consumer surplus of buyers who are able to get access to petrol would rise.*

(ii) 60 cents?

No effect. Maximum price (price ceiling) has to be set below the equilibrium price. If 60 cents is the maximum price, consumers and producers would still prefer to trade at the equilibrium price of 50 cents – thus the price ceiling is said to be ineffective.

- (iii) In which case [(i) or (ii)] is a black market in petrol likely to emerge? Explain your answer.

In case (i) where the maximum price is 40 cents. Since there is a shortage, there exists some consumers who are willing to pay a higher price than 40 cents to satisfy their demand. Therefore, a black market is likely to emerge as there would be profit-making individuals who are willing to sell of their petrol at a higher price. However, a black market for petrol is likely to be difficult to exist in reality as the sources of supply are not easy to be detected. Hence, there would be some difficulties for the black marketers to obtain supply of petrol easily.

- (b) Assume now that, worried about the effect of excessive fossil fuel consumption on global warming, the government passes a law forcing companies to sell petrol at 60 cents per litre, but agrees to buy (at 60 cents) any surplus and put it into store.

- (i) What will be the effect on consumer expenditure?

Original expenditure at 50 cents: \$20 million (\$0.50 X 40 million litres)

New expenditure at 60 cents: \$21 million (\$0.60 X 35 million litres)

Consumer expenditure has increased.

- (ii) How much will the government have to spend to buy up the surplus from the petrol companies?

Surplus : 10 million litres

Amount spent: \$6 million (\$0.60 X 10 000 000)

- (iii) How much revenue will the petrol companies earn?

*Total revenue = \$21 million + \$6 million
= \$27 million*

2. Give three problems that can occur when the government imposes maximum prices (price ceilings).

*1) Shortages occur. Unless there is rationing, some consumers will not be able to obtain the good at all.
2) A black market may emerge. Queues may result and this is time consuming.
3) Producers' income will be reduced and supplies of the good may also be reduced. Due to a reduction in profits, producers may be discouraged from investing and thus, future supplies would also be reduced.*

3. Give three problems that can occur when the government imposes minimum prices (price floors).

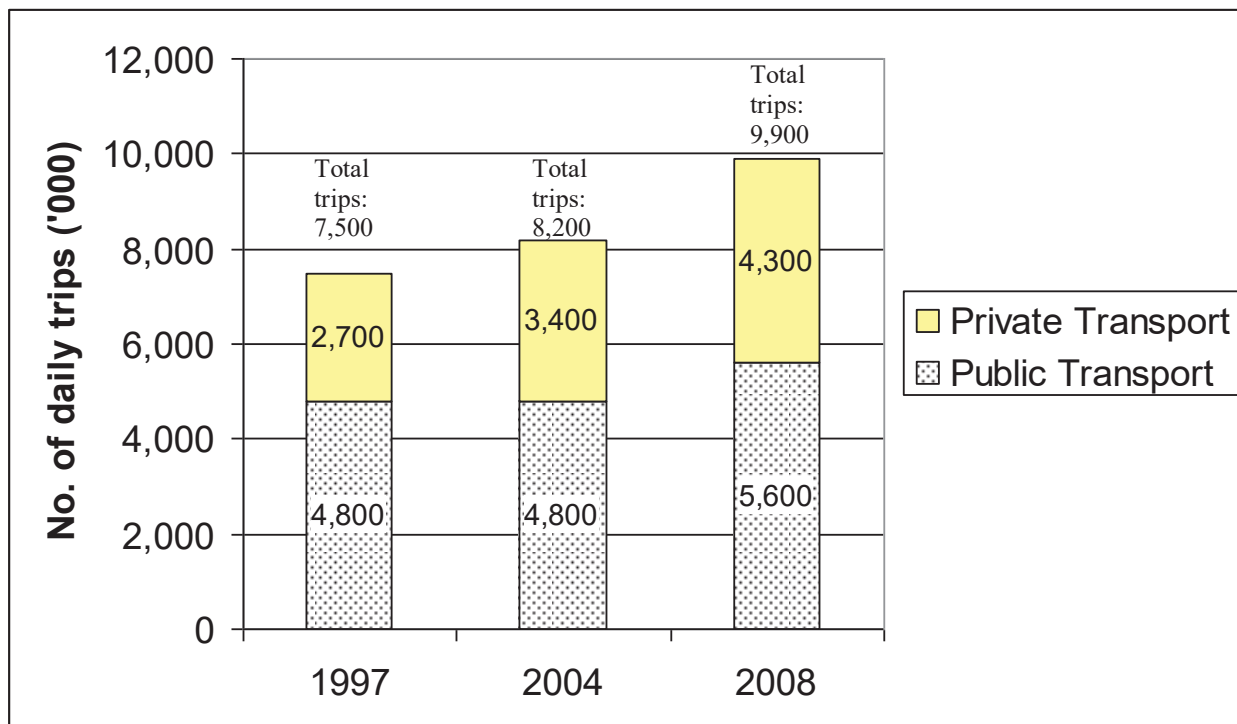
*1) Surpluses occur. This could be regarded as a waste of resources, especially when there is no productive use for them or the items are perishable.
2) Government may have to spend taxpayers' money to buy up the surpluses.
3) High prices may result in some firms being complacent and thus inefficient. Firms may feel less need to find more efficient methods of production and to cut costs.*

SECTION 2 - CASE STUDIES

CSQ1: [2010 AJC H1][H1 only]

Land transport in Singapore

Figure 1: Daily Trips Generated (1997, 2004, 2008)



Note: Numbers are rounded off

Table 1: Singapore Population, GDP per Capita, Economic Activities and Daily Trips Made

Year	Population (mil)	GDP per capita (\$'000 at 2000 prices) ¹	Resident unemployment rate ²	Daily trips per capita
1997	3.8	36.2	3.5% ³	1.98
2004	4.2	44.2	4.4%	1.97
2008	4.8	48.3	3.2%	2.18

Note: Numbers are rounded off

¹ From Singapore Department of Statistics website

² From Ministry of Manpower's website

³ This is 1998's unemployment rate as the 1997 figure is not available.

Source: Land Transport Authority, Journeys, May 2010

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Extract 1: Ensuring Singapore is not a city in a carpark

A good public transport system in itself will not ensure that our roads are free-flowing. Without an effective traffic management system, our roads will still be congested. This is why, in addition to the various measures that we pursue, such as road building and a better public transport system, we also need Electronic Road Pricing (ERP) or congestion charging. Of all the different measures to deal with congestion, ERP is the only one that deals directly with the problem by requiring individuals to take into account the costs of congestion caused by their driving to others.

Furthermore, with the introduction of ERP in 1998, the Government has been able to rely more on car usage charges and less on car ownership taxes to manage traffic demand. Vehicle ownership taxes have been reduced and, as a result, annual vehicle ownership revenue fell from \$3.4 billion in 1997 to \$1.7 billion in 2006 compared to about \$90 million in annual ERP revenue collected during that period. ERP has thus proven to be a more effective approach to managing traffic demand, and it costs motorists much less overall. Indeed, ERP is meant to be a congestion and not a revenue measure, so if motorists drive less and the roads are smooth-flowing, the Government will be happy to collect less. In effect, ERP rates can be adjusted down, as much as up, depending on the traffic speed on the roads.

Adapted from Minister for Transport Mr Raymond Lim's speech, 25 August 2007

Extract 2: Small Cars COE Down 30%

The Certificate of Entitlement (COE) policy has sought to cap the annual increase in the car population to around 3 per cent. The supply of COEs is based on projections of how many vehicles will be scrapped in the current year.

COE prices for small cars plummeted 30% yesterday to \$9,501, hitting their lowest levels in over a year. The fall follows months of softening demand which dealers say has been driven by soaring inflation. They blamed rising prices for everything from rice to fuel, along with a growing number of Electronic Road Pricing (ERP) gantries, for keeping budget-conscious small car buyers out of showrooms.

'This group of buyers is the hardest hit by the softening economy so they may reconsider big purchases like a car,' said Mr Vincent Ng, the product manager for Kah Motor in Ubi.

In the latest bidding results released yesterday, the COE for cars under 1,600cc dropped from \$13,289 to \$9,501. It was the lowest mark since August last year, when it dove to \$8,118. Some analysts blamed high petrol prices, currently at \$1.963 a litre for 92-octane fuel. That is roughly a 30% rise over this time last year. Motorists have also faced about a 10% rise in parking charges over the last year.

The president of the Motor Traders Association of Singapore said new ERP gantries and a recent increase in charges may have also discouraged potential small car buyers. 'Perhaps some marginal buyers have decided not to buy a car,' said Ms Tan Kheng Hwee.

In July, several gantries were opened near the Singapore River and the Government announced plans to build another six across the island by November. The move was part of a wide-ranging plan to relieve congestion and encourage more Singaporeans to use public transport.

The rising costs seem to be encouraging people to hang onto their cars for longer. In the first six months of this year, about 22,400 small cars were taken off the roads, compared with over 25,800 during the same period last year. Next month, the Government is expected to reduce the COE supply to compensate for the fact that fewer cars are being taken off the roads. Industry watchers say that will likely result in higher prices.

Adapted from The Straits Times, 4 September 2008

Extract 3: The New COE system

It is easy to forget the core purpose of the Certificate of Entitlement (COE) system, with feelings boiling over following last week's unprecedented increases in premiums.

The system, implemented in 1990, has one purpose and one purpose only: to control vehicle population growth so Singapore does not become a giant carpark.

The system has been fine-tuned over the years, with the latest tweak announced two weeks ago. In the past 10 years, the supply of COE was based on forecasting the number of vehicles taken off the road in a particular year. With the change, the supply of COEs will be determined every six months, with each allotment determined largely by the number of vehicles actually taken off the road in the preceding six-month period.

The Government also took the opportunity to correct an oversupply of certificates that persisted in the previous system, which was based on forecast deregistration numbers. The previous system resulted in an almost 25% increase in the vehicle population to more than 930,000 in the past five years.

With the new supply formula, as well as the adjustment for oversupply, the new COE quota kicking in next month will be nearly 30% smaller. The impact is the worst for the category of cars up to 1,600cc. This mainstay of car buyers will see a 40% shrinkage.

Adapted from The Straits Times, 30 March 2010



Questions:

a	(i)	With reference to Figure 1, describe the main features in the generation of trips between 1997 and 2008.	[2]
		The number of trips grew rapidly with private transport trips growing faster than public transport trips.	
	(ii)	Using Table 1, suggest possible reasons for the features observed.	[4]
		<ul style="list-style-type: none"> Increase in population. According to Table 1, Singapore's population had grown from 3.8 million to 4.8 million between 1997 and 2008, a 26 percent increase. This has led to increase in total ridership. Economic growth. Real GDP per capita grew by 33 percent between 1997 and 2008. Private transport is perceived to be more of a luxury good than public transport. With higher income, the increase in demand for private transport is greater than the increase in demand for public transport. Hence, this explains why private transport trips grow faster than public transport. <p>Note: 1 reason for the general rising trend, 1 reason for the more rapid increase in private transport trips.</p>	
(b)		With the help of a demand and supply diagram, account for the change in the price of Certificate of Entitlement (COE) in Extract 2.	[6]
		<p>Price of COE fell. In particular it fell by 30% for small cars (Extract 2, para 2).</p> <p>Demand for COEs falls</p> <ul style="list-style-type: none"> Fall in demand for cars due to soaring inflation, rise in cost of car usage (fuel, parking charges, ERP) (Extract 2 para2) → demand for COEs also falls. <p>Supply of COE is perfectly price inelastic and unchanged</p> <ul style="list-style-type: none"> Supply is perfectly price inelastic. The total number of COEs allotted is based on projections of how many vehicles will be scrapped in the current year (Extract 3 para 1) of which a certain number would be released every month for bidding It is <u>unchanged at the moment</u> because it would only be next month that the supply of COE be adjusted by the Government (Extract 2 para 7). <p>Diagram to show</p> <p>Note: Supply curve needs to be <u>vertical</u> to reflect the fixed amount of COEs supplied (0m for the diagram if the supply curve is upward sloping)</p> <p>Illustrate with diagram.</p>	

(c)	(i)	What is meant by price elasticity of demand?	[2]
		<p>Price elasticity of demand measures the degree of responsiveness of quantity demanded of a good to a change in its own price, ceteris paribus.</p> <p>It is measured by taking the ratio of the percentage change in quantity demanded of the good to the percentage change in the price of the good itself.</p>	
	(ii)	To what extent is the car sellers' revenue affected by the new COE quota?	[6]
		<p><u>Thesis: The new COE quota would affect the car sellers' revenue based on the price elasticity of demand of cars</u></p> <p>In Extract 3, the new COE quota would be nearly 30 per cent smaller. This translates to higher prices of cars.</p> <p>For motor traders of smaller cars, a rise in the price of cars is likely to reduce their total revenue. Demand for smaller cars (less than 1600cc) tends to be price elastic. This is because buyers of smaller cars are likely to be less affluent. As such, the cost of buying a car takes up a much larger proportion of their income. Hence, with a rise in the price of cars, the quantity demanded for smaller cars will fall more than proportionately leading to a fall in total revenue for the motor traders.</p> <p>For motor traders of larger cars, a rise in the price of cars is likely to increase their total revenue. Demand for larger cars (1600cc and above) tends to be price inelastic. As buyers of such cars are richer, the cost of buying a car takes up a relatively smaller proportion of their income. Hence, with a rise in the price of cars, the quantity demanded for larger cars will fall less than proportionately, leading to a rise in total revenue for the motor traders instead.</p> <p><u>Anti-thesis: Car sellers' revenue can also be impacted by other factors</u></p> <p>However, there can be other factors, besides the new COE quota (hence higher car prices) that can affect car sellers' revenue. These are factors that shift the demand curve and are due to changes in tastes and preferences and income levels.</p> <p>With a softening economy (Extract 2 para 3), the level of income falls. This would cause the demand curve to shift to the left hence reducing total revenue for all the motor traders. However, motor traders of smaller cars are likely to be impacted more as demand from buyers of smaller cars is likely to fall relatively more since this group of buyers are the hardest hit.</p> <p>Moreover, there can be changes in tastes and preferences towards driving. With more new ERP gantries and a recent increase in parking charges (Extract 2, para 5), people may have shifted their preferences towards public transport instead. This would reduce the demand for cars and subsequently total revenue for all the motor traders.</p> <p><u>Evaluation</u></p> <p>In conclusion, the impact on car sellers' revenue has to be analysed from many factors, not just the new COE quota.</p>	

(d)	Evaluate the relative effectiveness of the COE system and Electronic Road Pricing in managing traffic congestion in Singapore.	[10]
	<p><u>Why manage traffic congestion in Singapore? [Brief]</u></p> <ul style="list-style-type: none"> • Correct market failure due to congestion <p><u>Explain how COE and ERP work</u></p> <p>COE:</p> <ul style="list-style-type: none"> • Quota system which limits the growth of the car population based on the number of vehicles taken off the road in the preceding six-month period (Extract 3) • Targets at car ownership to reduce traffic congestion • It is a lump-sum payment to increase the fixed cost of driving. It does not vary with number of trips made. <p>ERP</p> <ul style="list-style-type: none"> • Works by charging drivers an amount when they enter congested areas/roads during peak hours • Targets at car usage as it allows people to own cars but only penalises those who enter congested roads • It is a pay-per-use principle to increase the private marginal cost of driving • Illustrate with externalities diagram how ERP works to bring the level of road usage closer to the socially optimal level <p><u>COE is more effective than ERP in managing traffic congestion</u></p> <ul style="list-style-type: none"> • COE directly controls the car population in Singapore. On the other hand, ERP does not control the car population in Singapore. It merely reduces traffic congestion in areas with ERP and diverts the problem to other roads along alternative routes not covered by ERP, hence causing traffic congestions elsewhere. • It is easier to determine the allotment of COEs as there is a “formula” to follow. On the other hand, it is difficult to estimate the extent of external marginal cost for ERP and thus the tax rate may not be accurately determined. • Relatively lower cost of implementing COE system as opposed to high costs of setting up the gantries • As price of the COE is of a much larger amount, people are more likely to be deterred from buying a car. On the other hand, once a car is bought, the amount deducted by ERP may seem relatively “insignificant” and people may not feel the pinch. Hence, demand for travel on affected roads becomes price inelastic after a while as the convenience outweighs the ERP charge. This results in a less than proportionate fall in quantity demanded for road usage given a rise in ERP charges. <p><u>ERP is more effective than COE in managing traffic congestion</u></p> <ul style="list-style-type: none"> • COE does not control the usage of cars (which is the main cause of congestion) as car owners may view COE as a fixed cost and may wish to spread out the cost over more trips. It may encourage more usage. On the other hand, ERP is more effective as it tackles the root of the problem which is excessive usage of some roads. • Moreover, the determination of allotment of COE can be flawed. The previous 	

system of allotting COE had led to an almost 25% increase instead of the target annual 3% increase in vehicle population in the past five years. On the other hand, ERP is a more flexible and responsive instrument which can be periodically adjusted down or up depending on the traffic speed on the roads (Extract 1)

Evaluation

Both methods have their strengths and weaknesses. But in controlling congestion, it would be more effective if we were to target car usage and to reduce the incentive for commuters to travel by car or if they still wish to travel by car, to choose to go by a different route instead. Moreover, as mentioned in Minister's speech, ERP is the only one that deals directly with the problem by requiring individuals to take account the costs of congestions.

However, this does not mean that these are the only methods to manage traffic congestions. The government need to supplement these with road building/widening and better public transport system.

Marks Scheme for part (d)

Knowledge, Application, Understanding and Analysis		
L3	For an answer with well-balanced approach and clear comparison of relative effectiveness of the two methods with thorough explanation. There is good reference to case evidence	6-8m
L2	For an answer that is balanced with some evidence of comparison between the two methods but limited/underdeveloped explanation. There is some reference to case evidence	4-5m
L1	For an answer that shows an understanding of COE and ERP but not able to explain how they manage traffic congestion. NO comparison between the two for relative effectiveness.	1-3m
Allow up to 2 additional marks for Evaluation		
E2	Evaluative comments with justification.	2m
E1	Evaluative comments, unexplained.	1m

[Total : 30]



A. MINI CASE STUDY/DATA RESPONSE [H2 only]

The data below give estimates of the elasticity of demand for selected foods in the UK.

Income elasticity of demand	
All foods	0.10
Beef	0.26
Margarine	- 0.22
Fresh potatoes	- 0.43
Fruit juices	0.95
Bread	- 0.18
Price elasticity of demand	
Beef	- 1.24
Bread	- 0.25
Fresh potatoes	- 0.14
Fruit juices	- 0.65
Margarine	- 0.37
Cross elasticities of demand for beef and pork	
Beef with respect to the price of pork	0.10
Pork with respect to the price of beef	0.25
Source: 'Household Food Consumption Expenditure', Annual Report of the Food Survey Committee, 1987, HMSO	

- (a) With reference to the data, explain why: [2]
- (i) all the price elasticities of demand are negative; [2]
 - (ii) some income elasticities of demand are positive and some are negative; [2]
 - (iii) beef has a high price elasticity of demand but a relatively low income elasticity of demand. [4]
- (b) (i) Explain what is meant by the term 'cross elasticity of demand'. [2]
- (ii) Comment on the values shown in the table for the cross elasticity of demand for beef and pork. [4]
- (c) It is expected that levels of income in the UK will rise. It is likely that large food retailers will wish to take account of the data on elasticities in their marketing decisions.
- (d) (i) Explain, with examples, what uses might be made of the data by large food retailers. [4]
- (ii) Comment on the likely limitations of the data for their purposes. [2]

[Total: 20 marks]

Suggested Answers:

- a) i) According to the Law of DD, price and quantity demanded are inversely related. Since price elasticity of demand is given by the formula :

$$E_d = \frac{\% \Delta Q_d}{\% \Delta P}$$

the change in price (denominator) and the change in qty demanded (numerator) would be in opposite directions and therefore carry opposite signs $\Rightarrow E_d$ is negative.

- ii) Income elasticity of demand is measured by the formula :

$$E_y = \frac{\% \Delta Q_d}{\% \Delta Y}$$

If a rise in Y induces a rise in consumption (Q_d) then the good is deemed to be a normal good. Since the numerator and the denominator carry the same signs $\Rightarrow E_y$ is positive. E.g. Beef and fruit juices.

If a rise in Y induces a fall in consumption (Q_d) then the good is deemed to be an inferior good, e.g. there exists superior substitutes for margarine, fresh potatoes and bread. Since the numerator and the denominator carry opposite signs $\Rightarrow E_y$ is negative.

- iii) Beef has a high price elasticity of demand because there are easily available substitutes (e.g. pork, mutton). Hence a small increase in P_b will result in a more than proportionate fall in Q_d for beef as consumers switch to these substitutes.

Beef has a relatively low income elasticity of demand as it is a food item. Human capacity for beef consumption is limited. E.g. if income were to double, consumers cannot be expected to consume twice as much beef as before. Consequently, as income increases, beef would take up a smaller proportion of income (Engel's law).

- bi) Cross elasticity of demand measures the responsiveness of quantity demanded for a good to a change in price of another good.
(Do not accept answers which merely state the formula without giving the definition.)

- bii) The coefficient of cross elasticity is positive \Rightarrow beef and pork are substitutes (although not very close ones as the values are quite low).

Given $E_{bp}=0.10$. E.g. If the price of pork were to double (i.e. increase 100%), beef consumption would only increase by 10%. On the other hand, given $E_{pb}=0.25$, a similar doubling of the beef price (increase by 100%) would induce an increase in consumption of pork by 25%.

It appears that in UK, consumers are more sensitive to changes in the price of beef while consumers are less sensitive to changes in the price of pork, i.e. beef appears to be a weaker substitute for pork as dd for beef did not rise a lot when price of pork rose – could be due to religious reasons, tastes, etc.

- ci) Income in UK levels are expected to rise.
 - Retailers may want to stock up supplies of items with +ve income elasticities (e.g. beef, fruit juices).
 - Also, retailers may consider **stocking up on items which are complements** to these goods and **bundling** them together in order to promote sales (e.g. bundling beef marinade, BBQ sauces and other beef-related products together with beef or bundling cereal with fruit juices).
 - Modify image of commodities by changing tastes of consumers
- ii) Limitations of the data for their purposes:
 - Data assumes ceteris paribus. With the increase in income, tastes may change and consumers' preferences become less predictable. Prices may change, new substitutes may be developed, goods are perishable and cannot be stocked up for long periods of time, etc
 - Items in the data are very broadly classified and only rough indicators of consumers' preferences. In reality, there are different cuts of meat, brands/types of bread, margarine, etc.

B. Full Case Study

Question 1: The Case of Missing Taxis

With the liberalization of the taxi industry in January 2003, there are now several taxi companies in Singapore. Each company maintains its own fare and surcharge structures but the differences between them are minimal. The liberalization of the industry allows the taxi operators the flexibility to provide differentiated services to better meet the demands of passengers. The Land Transport Authority (LTA) has also put in place a licensing framework for taxi companies to comply with a set of Quality of Service (QoS) standards to ensure that service standards in the industry are upheld.

Extract 1: Taxi Fare Revision

A stronger economy, an improved taxi booking system and one of the wettest weathers in recent years resulted in a record number of call bookings for ComfortDelGro taxis last year. In all, over 17 million taxi bookings were received for Comfort, CityCab and Yellow-Top taxis in 2006 - 20% more than in 2005.

On average, commuters who call in the system wait 30 seconds for a taxi number and are picked up within 6 minutes of the confirmation. But demand during peak periods and rainy days usually surges. As a result, some commuters may have had to wait longer than usual for a taxi. It is a common complaint among commuters that they are unable to get a cab from the city area during evening peak hours. One reason for this is that many taxis leave the city centre for the suburbs and drivers find little incentive to drive all the way back to the city to pick new passengers up. This situation is further exacerbated by the fact that demand for taxis generally spikes in the city centre in the evenings.

ComfortDelGro Corporation is revamping its taxi fare structure to better match the demand for and supply of taxi services at different times of the day. The changes are aimed at making taxis more readily available to commuters when they need it most. Under the new pricing structure, the bulk of ComfortDelGro's taxi passengers – those who travel during off-peak hours, will pay 10% more in fares. The Peak City Area Surcharge will also be raised from \$1 to \$3 and all drivers who are unable to get a passenger within 15 minutes of entering the ERP zone will enjoy an ERP rebate. Thus, passengers are expected to pay between 18% and 49% more, depending on whether they hail a cab from the city or the suburbs.

In addition, the move towards increasing taxi fares comes amid the increase in the operating cost for a taxi driver. This is due to higher taxi rental and an increase in the price of diesel. The price of diesel has increased to \$1.523 per litre which translates to an increase of \$12 to \$15 in daily fuel cost.

The general population had mixed views with regards to the revised taxi fares. Meanwhile, observers agreed that taxi fares here are lower compared to those in developed cities, and increases in fares would help cabbies fight rising costs. One passenger also commented that she did not mind the increase of 30 cents since she is already taking a cab during the peak hour.

Source: Adapted from ComfortDelgro media releases, 2006 - 2007

Extract 2: ComfortDelgro – Big Brother?

In July 2006, ComfortDelGro raised fares for all three operators under its umbrella, and SMRT Taxis and TransCab followed suit. Premier Taxis adjusted its fares differently by only increasing some fare components, while SmartCab chose not to raise its fares at all, resulting in the most marked price differentiation between the companies since deregulation of taxi fares in 1998. One month later, it was reported that these fare adjustments had resulted in a drop of up to 20% in earnings for taxi drivers.

On 10 December 2007, [ComfortDelGro](#) announced another revision in fares with increases ranging from 10% to 49%. It called on other taxi companies to follow its fare structure "as soon as possible". 6 months later, [ComfortDelGro](#) announced the implementation of a \$0.30 fuel surcharge starting from 17 July. Other taxi companies except Prime Taxis followed suit with different implementation dates.

ComfortDelgro launched the free SMS booking system in May 2008. The latest hassle-free SMS taxi booking service is the first of its kind in Singapore because it enables commuters to book a taxi via SMS any time from any location.

Source: Adapted from ComfortDelgro media releases, 2007 – 2008

Extract 3: Review of the Fare Revision

The new taxi fare structure has been effective in ensuring that demand for taxi services is met. It is now much easier to get a taxi in the city during peak periods. The waiting times at taxi stands in the evening have improved substantially in the city area, from 5 to 22 minutes on average before the fare revision to 2 to 6 minutes currently.

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85

Taxi drivers' earnings have also increased. ComfortDelgro's data from a sample of 5,000 taxis showed that the average daily fare collected by taxi drivers had increased from \$307 to \$318 in the 4 weeks after the fare revision. The LTA will continue to monitor the situation as both taxi drivers and passengers adjust to the new fares.

Source: Mr Raymond Lim, Transport Minister, Oral Answer to Parliament Matter, 22 January 2008

Table 1: Fare Comparisons Across Countries

	Average 9-km, Off-peak trip	Average 9-km, Peak trip
Singapore	S\$8.40	S\$14.35
Hong Kong	S\$14.30	S\$14.30
Sydney	S\$28.70	S\$28.70
London	S\$40.15	S\$51.60

Source: Adapted from ComfortDelgro media releases, 2007

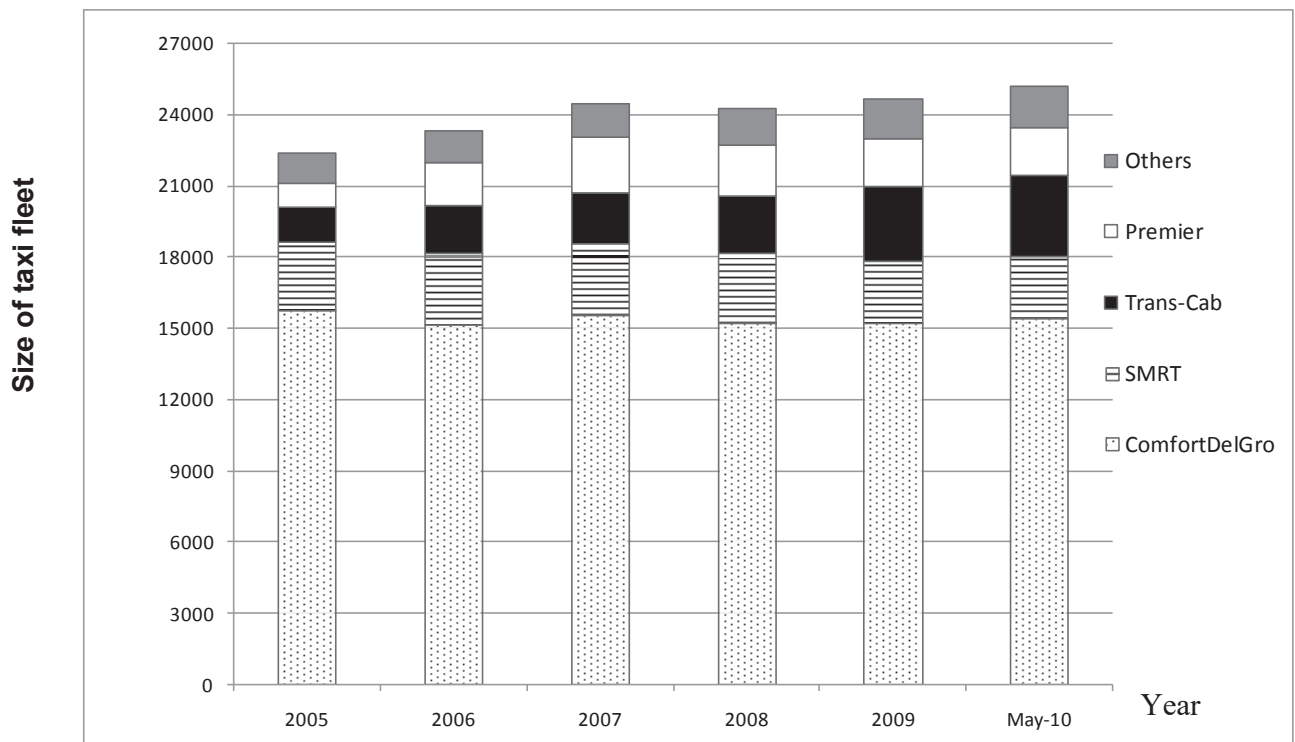
Table 2: Summary of Fare Adjustments

Basic Fare	
Old Fare	Revised Fare
Flag Down: \$2.50 for 1 st km	Flag Down: \$2.80 for 1 st km
Peak Period Premium	
\$2 flat rate	35% of metered fare
Late Night Surcharge	
Staggered surcharge of 10%-50% from 11.30pm to 5.59am	Midnight-05:59am 50% of metered fare

Source: Adapted from ComfortDelgro media releases, 2007



Figure 1: Taxi Population (2005 to 2010)



Source: Land Transport Authority

Questions:

- (a) (i) With reference to Figure 1, describe the changes in the taxi industry over the period 2005 to May 2010. [2]
- (ii) Explain 2 reasons for the change in ComfortDelGro's market share. [4]
- (b) (i) Using appropriate diagram(s), account for the change in taxi flag down fares in 2007. [4]
- (ii) Using the concept of price elasticity of demand, discuss whether taxi drivers or passengers are more likely to bear the burden of the increase in fuel cost during peak and off-peak hours. [6]
- (c) How far can you conclude that the taxi industry in Singapore is a monopolistic market? [Optional] [6]
- (d) If you are an economist in the Ministry of Transport, assess whether the government should intervene in the taxi market to regulate taxi fares. [Optional] [8]

[Total Marks: 30]

a (i) With reference to Figure 1, describe the changes in the taxi industry over the period 2005 to May 2010. [2]

Changes in taxi industry as a whole [1m]: The total number of taxis has increased over time.

Any valid observation with regards to the change in the size of taxi fleet/ market share of any taxi operator – 1m

Taxi population fell in 2008 OR

ComfortDelGro's and SMRT's size of taxi fleet has decreased over the period 2005 to May 2010 while that of Trans-Cab and Premier's size of taxi fleet has increased over the period 2005 to May 2010.

a (ii) Explain 2 reasons for the change in ComfortDelGro's market share. [4]

Fall in ComfortDelGro's market share = Comfort's taxi fleet / Total taxi population	
1. Liberalization of taxi industry [2m] Based on the extract, the liberalization of taxi industry in Singapore in January 2003 has resulted in an increase in the number of taxi companies in Singapore. Liberalization => encourages the entry of new taxi operators such as Prime => increase total taxi population => fall in market share.	2. Fall in Comfort Delgro's taxi fleet [2m] As evident in Figure 1, ComfortDelGro's taxi fleet has decreased over the given period of time. => fall in ss of CDG's taxis in the market => fall in market share

b (i) Using appropriate diagram(s), account for the change in taxi flag down fares in 2007. [4]

Intro:

Taxi flag down fares has increased in 2007 as evident in Table 2. [1m]

Taxi fares are determined by demand and supply forces.

Development:

Demand factors (Any 1 factor that is elaborated) [1m]

Evidence: "A stronger economy, an improved taxi booking system and one of the wettest weathers in recent years".

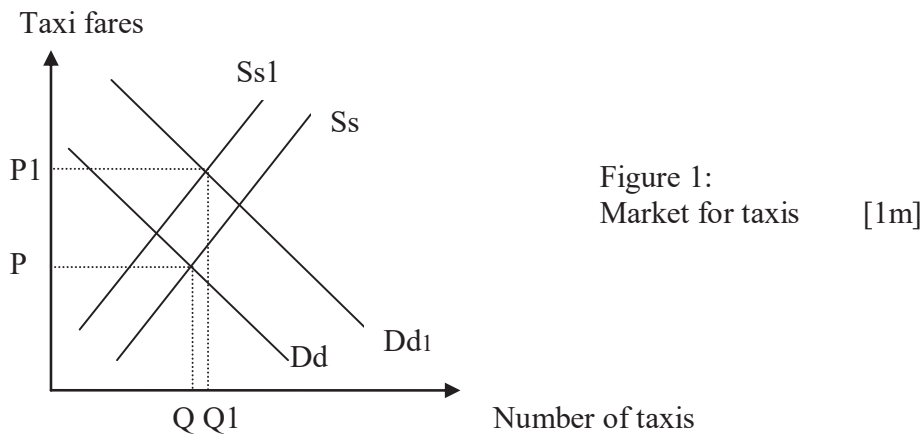
Analysis (Any 1):

A stronger economy would result in an increase in individual's real disposable income. As taxis are deemed as luxury goods, an increase in income would bring about a greater increase in the demand for taxis, ceteris paribus OR an increase in income will lead to an increase in the demand for taxis.

Meanwhile, due to the bad weather in recent years, people are more likely to prefer travelling by taxis instead of public buses as it may be more convenient and accessible.

Thus, the change in taste and preferences would result in an increase in demand for taxis.

An improved taxi booking system would make it more accessible for consumers to get a taxi. As such, this would lead to an increase in the demand for taxis.



Supply factor [1m]

Evidence: “higher taxi rental and an increase in the price of diesel.”

Based on the evidence in Extract 1, the operating cost for a taxi driver has increased due to higher taxi rental and increase in the price of diesel. The increase in the cost of production would result in lower profit per unit. Hence, at each possible price, fewer units of taxis would be supplied. This is represented in Figure 1 where the supply shifts from S_s to S_{s1} .

Conclusion:

The fall in the supply for taxis would not be as extensive as the increase in demand for taxis. This is because some full-time taxi drivers would be willing to absorb the higher operating cost rather than searching for an alternative job. Thus, the changes in the demand for and supply of taxis would reinforce each other, leading to a greater increase in taxi fares from P to P_1 .

*3m max- If students only state both the demand and supply factors without explanation.

- b (ii) Using the concept of price elasticity of demand, discuss whether taxi drivers or passengers are more likely to bear the burden of the increase in fuel cost during peak and off-peak hours. [6]

Intro:

Define PED: Measures the degree of responsiveness of quantity demanded of a good given a change in the price of the good itself, *ceteris paribus*.
The ability of taxi drivers in transferring the increase in fuel cost to their passengers would determine who bears the burden.

a) PED for taxis during off-peak hours >1 [2m]

- During off-peak hours, people are usually not in a rush to reach their next destination/ less crowd on other modes of public transportation => many substitutes available (public buses, MRT) especially for those who travel short distances

As the taxi drivers attempt to pass on the increase in fuel cost by increasing the taxi fare, it would result in a more than proportionate fall in quantity demanded → revenue received by taxi drivers falls → hence producers are more likely to bear the higher fuel cost.

Evidence from Extract 1: Fuel cost has increased by 25% whilst taxi fares for off-peak hours have increased by 10%. As such, it is evident that taxi drivers are more likely to bear the burden of increase in fuel cost during off-peak hours.

b) PED for taxis during peak hours <1 [3m]

- Less substitutes available as passengers would normally be in a rush to arrive at the next destination/ workplace and taxis are the most convenient and fastest mode of transportation

As the taxi drivers attempt to pass on the increase in fuel cost by increasing the taxi fare, it would result in a less than proportionate fall in quantity demanded → revenue received by taxi drivers increases → hence consumers are more likely to bear the higher fuel cost.

Evidence from Extract 2: Taxi fares have increased by 49% whereas fuel cost has increased only by 25%. As such, it is evident that passengers are more likely to bear the burden of the higher fuel cost during peak hours.

Synthesis/Conclusion: [1m]

Overall demand for taxi is likely to be price elastic due to availability of good substitutes given the efficiency of public transport system. Hence taxi drivers are more likely to bear the cost of the increase in fuel cost.

***Optional under Synthesis- Limitations of PED**

- Accuracy of the data
 - ⇒ Figures collected might not be reflective of the current economic conditions => difficulty in obtaining the 'true' value of PED for taxis during peak and off-peak hours => difficult to determine who bears a greater burden of the increase in fuel cost.
- Assumption of ceteris paribus is not applicable in the real world – the demand for taxis could be also influenced by simultaneous changes in other factors.
- Taxi drivers operate through their taxi operators. Thus, the extent of the increase in taxi fare would be determined by their respective operators rather than PED.

L2	Well-developed answers that explains how PED might be relevant, with good reference to case materials and recognizing its' limitations.	4-6
L1	Largely descriptive/ theoretical answers that explains only one side of the argument or lacks depth.	1-3

- c) How far can you conclude that the taxi industry in Singapore is a monopolistic market? [6] (leave out)

Intro – define monopoly	
Thesis: Market for taxi may be monopolistic.	Anti – thesis: Market for taxi may not be monopolistic.
<ul style="list-style-type: none"> Figure 1 indicates that the taxi industry is dominated by 1 firm – ComfortDelgro, who controls more than half of the market for taxi in May 2010. This fulfils the legal definition of monopolistic power (more than 25% of market share), indicating substantial market power of ComfortDelgro. Market leader to dictate taxi fares → Ability to raise taxi fares and other taxi operators follow suit → Extract 2: fare revision in 2007 and 2008 which is closely matched by other smaller operators. Furthermore the presence of large taxi fleet (Figure 1) presents formidable barriers to entry. Potential entrants need to have a substantial size of taxi fleet in order to break into the taxi market successful. This means high setup cost for potential entrants. These barriers to entry enable the firms to make supernormal profits in the long run. 	<ul style="list-style-type: none"> As evident in Fig 1, taxi industry is dominated by 4 players in the market, each holding a sizeable market share → oligopolistic Mutual interdependence – each taxi operator would consider reaction of rivals into account when it makes business decisions → Extract 2: Taxi operators follow pricing decision of market leader – ComfortDelgro → collusive oligopoly whereby price leadership is observed. Extract 2: SmartCab refrain from raising fares while Premier increase its fares less substantially when Comfort Delgro revised its fares upwards → capture customers from Comfort Delgro to increase their revenue → kinked demand theory, pointing to price rigidity Barometric price leadership is observed → ComfortDelgro would be the price leader in the taxi market whose fares is believed to reflect market conditions in the most satisfactory way. E.g fare revision in the face of increasing operating cost. The price leader will seek to set a price which will maximise its own profits. The leader will initiate fare revision which will then be followed by all the other operators in the market.
<p>Conclusion / Judgement:</p> <p>Based on evidence presented, market is likely to be oligopoly, which ComfortDelgro being the dominant firm with monopolistic power, followed by SMRT.</p>	

L2	Discusses the extent to which this conclusion can be drawn and presents points on both sides, making good reference to evidence from the case.	4-6
L1	Explains the features of monopoly or oligopoly to be found in this industry. Answer could be theoretical, superficial or descriptive.	1-3

- d) As an economist in the Ministry of Transport, assess whether the government should intervene in the taxi market to regulate taxi fares.
[8] (leave out)

Intro:	
Basis for govt intervention to control taxi fares from rising: → Prevent exploitation of consumers → Correct mkt failure to achieve efficiency and maximise society's welfare	Regulate taxi fares → Direct intervention: Adopt AC or MC pricing → Indirect intervention: Approval needed for price changes
Development:	
Thesis: Singapore govt should intervene in the taxi industry as there might be evidence of exploitation of consumers & mkt failure	Anti - thesis: Govt need not regulate taxi fares in S'pore
<ul style="list-style-type: none"> Exploitation of consumers: Excessive fare revision within 2 years (Extract 2: up to 49%) that exceeds increase in operating costs → Fare revision exceeds increase in operating costs (\$12 to \$15: 25%) → abuse of market power by the operators → consumer surplus is largely reduced. Taxi industry is characterised by market dominance (oligopoly as evident in Fig 1) → consumers may be exploited and inefficiency results: Allocative and productive inefficiency <ul style="list-style-type: none"> → Allocative inefficiency results profit – maximising output occur at $P > MC$. Define P and MC. Explain why $P > MC$ is allocative inefficient, compared to a perfectly competitive market where $P = MC$ → deadweight loss due to underproduction. → Productive inefficiency: From society's perspective, profit – maximising output occur at the falling portion of LRAC → excess capacity → Diagram to illustrate allocative and productive 	<ul style="list-style-type: none"> No evidence of consumer exploitation: fare revision is a reflection of market condition. <ul style="list-style-type: none"> → Rising dd: Extract 1 – strong growth, wetter weather, improved booking system → Fall in SS: Increasing operating cost as rental and diesel price goes up (Extract 1) → Rise in dd & fall in SS → fare goes up Price mechanism is effective → Fare revision to correct dd and supply imbalances during peak and non peak hours and in city areas <ul style="list-style-type: none"> → Extract 3: fare revision results in shorter waiting time in city area. → Higher fares in city areas will provide incentives for taxi drivers to enter city areas to pick up passengers, eliminating the shortage of taxis → price mechanism has worked to better distribute taxis across the island to eliminate shortage → E.g. Peak Area Surcharge provide incentives for taxi driver to locate to city areas

inefficiency.	<p>→ correcting the excess dd → achieve allocative efficiency → maximise society's welfare</p> <p>→ No justification for government intervention.</p> <ul style="list-style-type: none"> • Consumer welfare is looked after → No evidence of exploitation <ul style="list-style-type: none"> → Extract 2: ComfortDelgro launched SMS booking system → innovations to improve consumer's welfare and greater accessibility to taxis. → In addition, service standards are closely monitored by LTA → comply with QoS to ensure that consumer's welfare is protected. → Taxi fares in S'pore still the cheapest in off peak hours and one of the lowest for peak hours in comparison with other countries.
<p align="center">Conclusion / Judgement:</p> <ul style="list-style-type: none"> • Regulation through MC / AC pricing would mean that taxi operators profits may be limited → leading to difficulty in re-investing into innovation and improved services etc. → loss on consumers welfare; any other forms of intervention in the price e.g. approval would slow down the ability of the taxi operators to react to changes in market conditions • No strong evidence to justify government intervention in the taxi industry in S'pore. Government should maintain a monitoring role at the present moment. 	

L3	Balanced view demonstrating careful consideration to case materials in assessing the need for and against govt intervention, displaying clear economic analysis.	7-8
L2	1 sided answer with limited reference to the data or an answer that lacks rigour or sound economic analysis.	4-6
L1	Descriptive points, containing inaccuracies or theoretical answer that does not relate to case material.	1-3



SECTION 3 – Essays

SECTION 3A – Lower-Order Skills

1. “The mania over Apple’s iPhone launch has created stratospheric expectations that are near impossible to live up to. The iPhone is not only a phone, but also a fully fledged iPod, as well as the first device that can really claim to bring the full internet into users’ pockets.”

Adapted from The Economist, 9 July 2007, and USA Today, 26 June 2007

- (a) Distinguish between price elasticity of demand, income elasticity of demand and cross elasticity of demand. [10]

Suggested Answer:

	PED	YED	XED
Definition	Measures degree of responsiveness of QD to a change in price of good itself	Measures degree of responsiveness of demand to a change in income	Measures degree of responsiveness of demand to a change in price of another good
Formula	$\frac{\% \text{change in QD}}{\% \text{change in price}}$	$\frac{\% \text{change in dd}}{\% \text{change in income}}$	$\frac{\% \text{change in Qa}}{\% \text{change in Pb}}$
Cause of change in Qty	Price of good itself change	Income change	Price of related good change
Effect on dd curve	Represented by movement along original dd curve	Represented by shifts if original dd curve	Represented by shifts of original dd curve
Significance of sign	Always negative because P & QD always change in opposite directions	Can be +ve, -ve or 0 depending on type of good, whether normal, inferior or essential good YED +ve – normal gd YED –ve – inferior gd	Can be +ve, -ve or 0 Depending on relationship between the 2 goods, whether substitutes (+ve XED), complements (-ve XED) or unrelated (XED=0)
Significance of size	Can vary from 0 to 1 to α PED > 1 – price elastic dd where $\% \Delta Q_d > \% \Delta P$ PED < 1 – price inelastic dd where $\% \Delta Q_d < \% \Delta P$	Can vary from 0 to 1 to α YED > 1 – income elastic dd where $\% \Delta dd > \% \Delta Y$ YED < 1 – income inelastic dd where $\% \Delta dd < \% \Delta Y$	Can vary from 0 to 1 to α XED > 1 – high XED where $\% \Delta Q_x > \% \Delta P_y$ (good substitutes or complements) XED < 1 – low XED where $\% \Delta Q_x < \% \Delta P_y$ (poor substitutes or complements)

L1	Recognise the various elasticity concepts (definition, formula)	1-4
L2	Mere listing of characteristics of the different elasticities, without demonstrating the differences across all three concepts.	5-6
L3	Clear detailed explanation of the differences across three elasticity concepts and ability to use examples and/or diagrams.	7-10

2.(a) Explain the concepts of price elasticity of demand and income elasticity of demand, indicating why elasticities are different for different products.

[10]

Price Elasticity of Demand (PED) definition and explanation of concept:

- o measures the degree of responsiveness of quantity demanded to a change in the price of the product itself, *ceteris paribus*
- o sign for PED is always negative; represents the inverse relationship between P and Q
- o $PED > 1$ means demand is price elastic, $PED < 1$ means demand is price inelastic

Income Elasticity of Demand (YED) definition and explanation of concept:

- o measures the degree of responsiveness of quantity demanded to a change in the level of income, *ceteris paribus*
- o $YED < 0$ means the good is an inferior good, $0 < YED$ means that the good is a normal good
- o $0 < YED < 1$ means that the good is a necessity, $YED > 1$ means that the good is a luxury

Different factors that influence PED:

- o Availability and closeness of substitutes (e.g. Nike sport shoes vs. shoes), proportion of income spent on the product (e.g. cars vs. salt), whether the good is habitually consumed (e.g. cigarettes), the number of uses of the product (e.g. electricity), and the time period under consideration

Different factors that influence YED:

- o Degree of necessity of good (e.g. rice in Asian societies vs. branded bags), inferiority of good (e.g. discman), proportion of income spent on good

L1	Shows descriptive knowledge of the concepts of price elasticity of demand and income elasticity of demand.	1-4
L2	Shows descriptive understanding of the concepts of price elasticity of demand and income elasticity of demand, with some attempt to explain why elasticities are different for different products.	5-6
L3	Uses relevant analysis and examples to explain the concepts of price elasticity of demand and income elasticity of demand, and why elasticities are different for different products. Teachers' note: While both concepts should be explained, at least one of the concepts must be explained in detail in order to attain L3.	7-10

SECTION 3B – Higher-Order Skills

1. Microsoft has announced a price cut to its Xbox gaming console as well as introduce the new black Elite version. These measures are meant to counter the fall in the price of its competitor (Sony Playstation 3) and reverse falling Microsoft sales as a result of previous defects in its Xbox.

(a) Explain the factors affecting the demand for the Microsoft Xbox.

[10]

Discuss how an understanding of price elasticity of demand, income elasticity of demand and cross-elasticity of demand might be helpful to the manufacturer of the Xbox.

[15]

Suggested Answer:

(a)

The demand for the Microsoft Xbox is the quantity of Xbox game consoles that consumers are willing and able to buy at a given price, over a particular period of time, holding other things constant. Its demand is affected by its price, as well as other non-price factors such as tastes and preferences of consumers, the prices of related goods and household incomes.

The quantity demanded Microsoft Xbox is inversely related to its price, in accordance with the **Law of Demand**. Therefore, the downward adjustment in price of the Xbox by Microsoft would cause an increase the quantity demanded, *ceteris paribus*. This is reflected by a movement along the demand curve for the Xbox.

The demand for Xbox is strongly affected by **consumer tastes and preferences**. The recent defects have resulted loss in consumer confidence, and caused consumers to shift their preferences away from the Xbox. There is a fall in the demand for the Xbox and this is reflected by a leftward shift of the demand curve. Hence, the quantity demanded of the Xbox declines, resulting in flagging sales, although its price remains unchanged.

The **prices of related goods** are also important determinants of the demand for the Sony Xbox. Related goods include both substitutes and complements to the Xbox. Complements to the Xbox, such as the electronic games that are played on it, are used in conjunction with it (joint demand). Substitutes to the Xbox goods refer to goods that can be used in place of it (competitive demand). The demand for the Xbox is inversely related to the price of its complements, and directly related to the price of its substitutes. The Sony Playstation is close substitute to the Xbox and a fall in its prices would cause consumers to switch to this relative cheaper alternative instead. Demand for the Xbox falls as a result.

Household income would also affect the demand for the Xbox. As global income levels rise, households are more willing and better able to afford to pay more for entertainment and recreation. As such, the demand for Xbox would increase, *ceteris paribus*.

As global incomes continue to rise and standards of living improve, the market for more technologically advanced forms of entertainment such as gaming is likely to continue expanding. However, to increase demand and improve its sales of the Xbox, it is vital

that Microsoft caters to consumer taste and preferences, and remains competitive with its close substitutes. Thus, the new Elite version of the Xbox would appeal to the consumers who yearn for new, exclusive models. The lower price would also make it more competitive with the Sony Playstation and reduce the impact of falling Playstation prices.

Marking Scheme for part (a)

Level	Description	Mark
L1	Sketchy answers/ mere listing of the different factors of demand, <u>or</u> Generic answer on demand factors of a good with no reference to Xbox/gaming consoles	1-4
L2	Generally clear explanation of some factors affecting the demand for Xbox. Answer may not be well organized or lack linkage to the preamble.	5-6
L3	Clear explanation of factors affecting demand for Xbox with appropriate examples drawn from the preamble.	7-10

(b)

- Elasticity of demand measures the responsiveness of quantity demanded or supplied to a change in its determinants. Namely price of the good itself, income and the price of related goods
- Assume that manufacturer of the Xbox, Microsoft, is to maximise total revenue given his current operating costs.

Price Elasticity of Demand, PED

- Price elasticity of demand measures the degree of the responsiveness of quantity demanded to a change in price, ceteris paribus.
- In this aspect, the concept of PED would be relevant as Microsoft is able to implement appropriate pricing policies when he understands the relationship between PED and total revenue (TR).
- Demand for Xbox is price elastic ($PED > 1$) because it has a low degree of necessity, has many available substitutes and its expenditure takes up a large proportion of consumers' income
- Thus the manufacturer can lower price by increasing supply so that QD rises more than proportionately, thereby raising total revenue. Elaborate with diagram.
- But for certain groups of consumers like the rich (small proportion of income), younger generation (trendy) or consumers who have a habit or are addictive to playing computer games, demand is price inelastic ($PED < 1$). Hence Xbox manufacturer can raise price as the QD will fall less than proportionately and TR will rise.
- Manufacturer can also try to reduce the PED by launching new models of the Xbox like the Elite version which contains features that competitors do not have. The latest models usually contain more advanced or unique features. Thus it would have few substitutes and the demand for the Xbox is likely to be price-inelastic, hence a high pricing policy would be appropriate.

- In some markets, a large proportion of consumers may have developed a loyalty to the brand. To such consumers, there are few substitutes and a high level of necessity for the good. Again, Microsoft should also adopt a higher pricing policy. However, if a large number of substitutes are available in the country, demand for the Xbox is more price-elastic and Microsoft adopts a lower-pricing policy instead.
- However above strategies are possible if assumptions like other competitors do not take any actions, tastes and preferences remain constant, etc, hold

Income Elasticity of Demand, YED

- YED measures the responsiveness of quantity demanded of a good to a change in the level of income.
- The concept of income elasticity of demand would be of use to Microsoft to enable it to make output & marketing decisions and adjust supply accordingly as general level of income changes so as to raise total revenue.
- The Microsoft Xbox is considered a normal good whereby a rise in income levels would lead to a rise in its demand. It is generally considered a luxury good, with a YED value that is positive and > 1 . This indicates that a rise in income causes a larger than proportionate increase in its demand.
- Thus, Microsoft should expand its output in developing countries where income levels are rising rapidly, fuelling the demand for the Xbox. It should stock up more supplies and window-dress the product so that sales and revenue rise.
- In times of economic expansion and rising income levels, Microsoft may also choose to launch luxury versions of the Xbox, such as the new Elite model, which are even more income elastic. This would allow it to take full advantage of rising income levels and increase total revenue.

Cross Elasticity of Demand, CED

- Cross elasticity of demand measures the degree of the responsiveness of quantity demanded of a good to a change in price in its related good, cp.
- Knowledge of cross elasticity of demand enables Microsoft to estimate the effects in the demand of his services when prices of related goods and services change, and to respond accordingly.
- As the demand for Xbox is positively related to the price of its substitutes, CED values of the Xbox are positive with respect to changes in the price of its substitutes. The converse is true in the case of complements. The closer the substitute/complement, the higher the magnitude of the CED.
- For example, a rise in the price of Xbox games would cause a more than proportionate fall in the demand of the Xbox as it is a close complement (CED is high and negative).
- On the other hand, the Sony Playstation is a close substitute of the Xbox. Thus CED of the Xbox with respect to the price of Playstation is high and positive. Indicating that a fall in the price of the Playstation would cause the Xbox demand to fall more than proportionately, as demonstrated in the preamble.

- Xbox manufacturer can retaliate by lowering its price too to match rival's actions but price competition is not effective if the CED is very high.
- In this case, Microsoft can adopt strategies to differentiate the Xbox from its substitutes and reduce the magnitude of its CED. This would reduce the impact of a fall in price of the Playstation and can be achieved through advertising, development unique features, and improved services (product differentiation)
- Manufacturer can also team up with sellers of complements in joint promotions.

Conclusion

- As seen from the above discussion, the three elasticity concepts of demand would be useful to Microsoft in his pricing-policies and business strategies.
- In practice, however, it is difficult to obtain reliable elasticity values. More importantly, the elasticity values are based on a 'ceteris paribus' assumption, and the values might not be useful if more than one factor were to change at the same time.
- The intense competition in the market also means that Microsoft also has to consider the reactions to its strategies from rival firms such as Sony.
- This is further exacerbated as Microsoft cannot base his decisions on elasticity concepts alone as there are other factors that must be considered. These include the costs of operation, the general well-being of the population and technological improvements in the industry.

Marking Scheme for part (b)

Knowledge, Application, Understanding and Analysis		
L1	Generic explanation of the usefulness of PED, YED and CED with little or no application to the given context (Microsoft Xbox)	1 – 5
L2	Generally clear explanation of the usefulness with some application to the Microsoft Xbox	6 – 8
L3	Clear discussion of how Microsoft can make use of the 3 elasticity concepts with appropriate examples.	9 – 11
Allow up to 4 additional marks for Evaluation		
E1	Relative usefulness of the 3 elasticity concepts identified.	1 – 2
E2	Clear explanation of the relative usefulness of the 3 elasticity concepts.	3 – 4



2. “Although food prices have fallen from the highest recorded during the unprecedented spike in the beginning 2008, they have not fallen back to where they have begun.”

Adapted from BBC News, 26th Jan 2009

- (a) Using relevant elasticity concepts, explain the large price fluctuations in the food market. [10]
- (b) Discuss the impact of a price ceiling imposed by authorities in a food producing country. [15]

Suggested Answer:

(a)

The key requirements of the question is to apply the various concepts of elasticity, and how these results in large price fluctuations. There tends to be changes in demand and supply in the food market. Furthermore, as demand and supply tends to be relative price inelastic, any changes in demand or supply would lead to a larger change in price than otherwise.

Basic Answer Structure

There tends to be changes in demand and supply in the food market. This can be explained partly by elasticity concepts.

Income elasticity of demand

- Large changes in income levels over the last few years.
 - o Before 2008, large rise in income, 2008-2009 large falls in income.
- Food is a necessity (YED between 0 and 1)
 - o Demand would rise and fall accordingly as income changes.
 - o Nevertheless, the extent of the rise or fall in demand is proportionately less than that of income.
 - o YED tends to be between 0 and 1.
- Students can also explain looking at different kinds of food. When income rises, for example, the effects on the demand for luxury goods, inferior goods and necessities differ, resulting in fluctuations across different food products.

Cross elasticity of demand & Goods in competitive supply

- Fall in price of crude oil in mid 2008
 - o Leads to fall in demand for biofuels as they are substitutes in demand
- Leads to rise in supply of agricultural products (e.g. wheat) for food
 - o Agricultural products for food and biofuels use the same factors of production
 - o Thus, competitive in SS
- Various food types are substitutes to each other (e.g. rice and noodles)
 - o As a result, the effect of changes in demand or supply of one food type can easily lead to fluctuations in demand of other food.

Other reasons

- Various food types are factors of production to another (e.g. wheat → flour → bread)
 - o As a result, the effect of changes in demand or supply of one food type can easily lead to fluctuations in supply of other food.
- Large change in taste and preference
- Large change in cost of production
- Large change in climate conditions
- Behaviour of firms
 - o Increase competition may lead to price war that leads to fall in prices.

Furthermore, as demand and supply tends to be relative price inelastic, any changes in demand or supply would lead to a larger change in price than otherwise.

Price elasticity of demand for food in general tends to be more inelastic.

This is because:

- ☐ ☐ Strong degree of necessity
- ☐ ☐ Broad definition of good

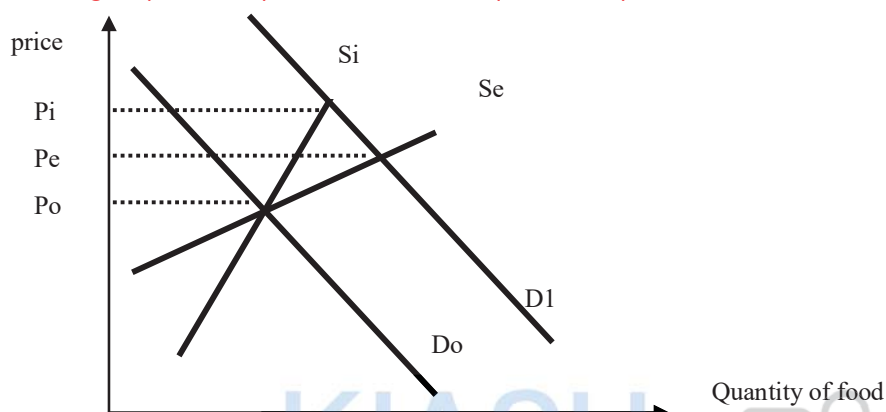
Price elasticity of supply for food in general tends to be more inelastic.

This is because:

- ☐ ☐ Difficulty of switching production quickly due to factor immobility
- ☐ ☐ Time required to produce food

Given the relative price inelastic demand and supply of the good, any changes in demand or supply would lead to larger price changes.

With reference to Figure 1, when demand increases from D_0 to D_1 (e.g. due to an increase in income), the increase in price would depend on the price elasticity of supply, *ceteris paribus*. Given that supply tends to be price inelastic, the increase in price is thus much larger (P_0 to P_i) than otherwise (P_0 to P_e).



Similarly, with reference to figure 2, as a result of a rise in supply (S_1 to S_0)(fall in price of wheat for biofuels), wheat prices decreases and coupled with a price inelastic demand, the extent of the decrease is much larger (P_0 to P_i) than otherwise (P_0 to P_e).

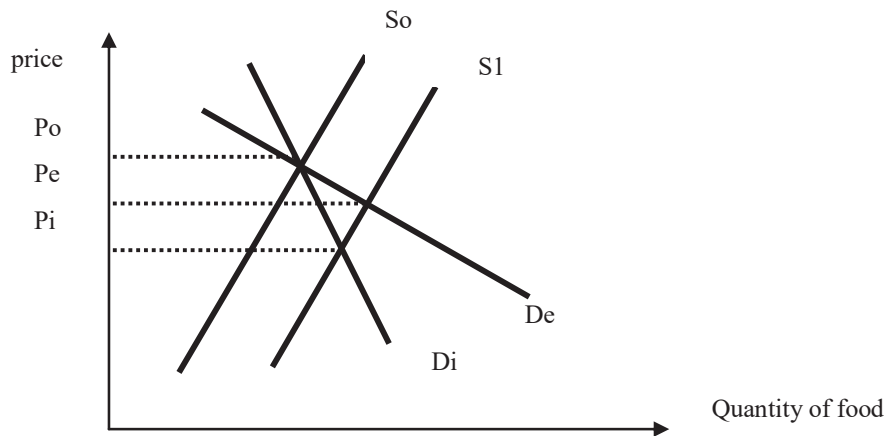


Figure 2

- Fall in prices may not be as large as the increase in prices because of
 - o Magnitude of the fall in demand and rise in supply not as high as the initial change.
- For individual firms, pricing decisions may affect the price level. This could be using PED. For firms who faced a price elastic demand, they may seek to increase prices, ceteris paribus, to maximise revenue.

Level	Marks	Descriptor
L1	1-4	For a largely descriptive answer with poor economic explanations or weak application of elasticity concepts.
L2	5-7	One sided answers that considers mainly why there are large prices increase OR decrease well, or two sided answers that considers price fluctuations but poorly linked to elasticity concepts and fails to consider the large element.
L3	8-10	Answers that shows both explanation of the change in prices due to various elasticity concepts with correct diagrams, with links to the contextual preamble.

(b)

The key requirements of the question is to explain the effects of a price ceiling on consumers and producers, consider the various consequences given a food producing country and evaluate the extent of the effect on the economy.

Basic Answer Structure

The price ceiling is a **legally imposed maximum price** in a market that suppliers cannot exceed.

This may be to

- Prevent the market price from rising above a certain level.
- Protect consumers from paying too high prices, especially necessities
- Reduce income inequality between producers and consumers
- Reduce inflationary pressures in the economy

A price ceiling may be binding or not.

- If imposed above the current market price,
 - o there is no change to market equilibrium.
 - o Only if there are changes in demand or supply such that market price exceed equilibrium price would the price ceiling come into effect.

A price ceiling is binding

- if it is imposed below the market price.

With reference to figure 3, the market equilibrium price is currently at P_0 and output at Q_0 . The government may feel that this price is too high for the poor and thus imposed a price ceiling of P_c .

As a result of the price ceiling, the new market price is at P_c . However, quantity demanded is now at Q_d , while quantity supplied is at Q_s . This results in a shortage of $Q_d - Q_s$ in the market. The actual amount traded in the market is at Q_s .

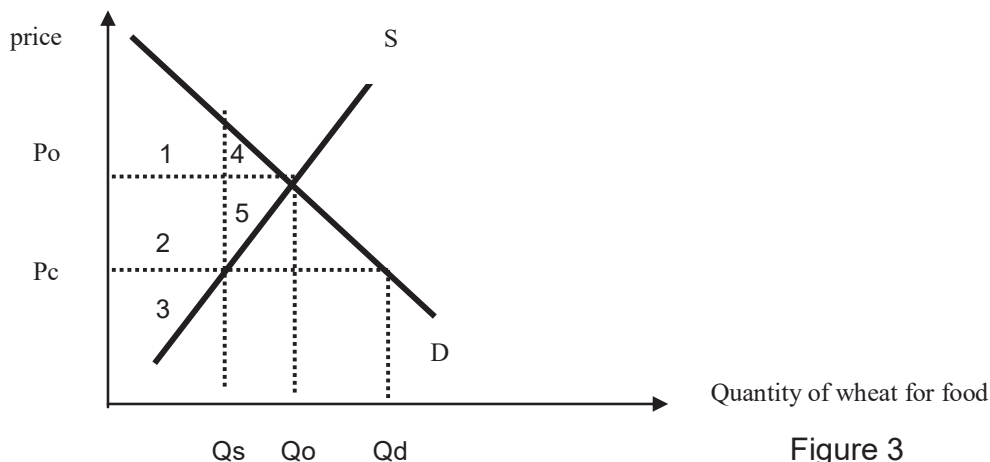


Figure 3

Effects on consumer

- Falling prices from P_0 to P_c → enhance consumer welfare, more people are able to afford
- Fall in actual quantity consumed → reduce consumer welfare, less quantity actually traded in market
- Effect on consumer surplus (CS)
 - o Before price ceiling, at price P_0 and output Q_0 , $CS = \text{Area } 1+4$
 - o After price ceiling, at price P_c and output Q_s , $CS = \text{Area } 1+2$
- The extent of the increase in CS depends on whether 2 or 4 is larger.
 - o This depends on the difference between P_0 and P_c

- o The larger the increase in price, the more likely consumers gain from the fall in price despite the fall in quantity
- o This also depends on the price elasticity of supply
 - o The more price elastic the supply, the more likely for Q_s to fall more, this means that consumers may lose more surplus due to the fall in quantity despite the fall in prices.
- o Overall, given that supply for food products tends to be price inelastic, consumers in general tend to see a rise in CS as long as the gap between price ceiling and market price is relatively large.

Effects on producers

- Falling prices from P_0 to P_c and fall in actual quantity sold → reduction in producers revenue
 - o Likely for profit to also fall, as producers may not be able to produce at the profit maximising price.
- Effect on producer surplus (PS)
 - o Before price ceiling, at price P_0 and output Q_0 , PS = Area 2+3+5
 - o After price ceiling, at price P_c and output Q_s , PS = Area 3
 - o Loss of producer surplus.

Overall effect

- Deadweight loss of Area 4+5

Other effects

As a result of shortage,

Governments may need to ration

- Usually “First come, first serve” or quota per person
 - o May be allocative inefficient.
 - o Those with greatest need may not have all their needs met if suppliers are the distributor
 - o The poor may enjoy a large quantity that otherwise.
 - But may depend on how it is allocated. May still be unequal due to government failure (e.g. imperfect information) or corruption
 - May lead to social problems

Black markets may form.

- o An illegal market in which the normal market price is higher than a legally imposed price ceiling (or maximum price).
- o Price can be anywhere between P_b and P_c (Refer to Figure 3).
- o This informal market is likely to flourish unless the authorities are able to identify and penalise people involved.
- o In the long run, may lead to a larger shortage in the official markets as producers may reduce supply in these markets so as to higher profit in the black markets.

As a result of falling profits of producers

Producers may restrict supply in local markets and sell in world markets if world prices are higher

- o CS may fall as a result
- o Lead to a large shortage in economy if supply falls
- o May lead to improvements in BOP
- o Governments usually tries to prevent these as it reduces effectiveness of reasons for price ceiling

Producers may close down

- o Increase in unemployed resources
- o Reduction in CA of food producing country
- o More result in BOP problems if this also leads to less exports

Producers may switch to alternative production (e.g. biofuels, drugs)

- o May worsen shortage as supply of food in the long run becomes more price elastic
- o May reduce CS.
- o May cause market failure (e.g. production of addictive drugs)

Producers may reduce quality to reduce cost

- o May reduce CS.
- o May cause market failure (e.g. health problems)

Alternative policies

Briefly mention any 1

- o SS side policies to increase SS of food or distribution of food
- o Imports from other countries

Conclusion

A price ceiling may lead to some benefits to consumer, but in the long run, most likely would result in losses for the economy as a deadweight loss is incurred. Furthermore, the aims of the price ceiling may not be met.

Level	Marks	Descriptor
1	1-5	Answer shows some knowledge with some description of the impact of price ceiling but this is poorly explained or analysed.
2	6-8	Answer shows some explanation of the impact of a price ceiling on the producers and consumers, with the aid of diagrams.
3	9-11	Answer shows strong analysis of the impact of a price ceiling on all parties, the correct use of relevant diagrams, and the ability to link to the context of food producing countries.
Level		
E1	1-2	Mainly unexplained judgments pertaining to the effects of price ceiling
E2	3-4	Judgment based on analysis pertaining to the effects of price ceiling

3. In 2005 the rate of Goods and Services Tax (GST) in Singapore rose from 3% to 5%. Incomes rose by approximately 4.5% in 2005.

(a) Explain the likely effect of this change in GST on expenditure by consumers on different types of goods. [10]

(b) Discuss whether the combined effect of the rise in incomes and the rise in GST is likely to cause the quantities of different types of goods sold to rise or fall. [15]

Suggested Answer:

(a)

Introduction - Explain how Equilibrium quantity is determined in the market through interaction of demand and supply.

Shift of demand and/or supply would change equilibrium quantity of different goods in the market.

GST is an **ad valorem tax** which is calculated as a percentage of the sales price of a commodity. Supply curve shift left. Diverging supply curve. Diagram.

The increase in GST will raise the prices of goods and reduce quantity exchanged (purchased) but expenditure ($P \times Q$) by consumers might **rise** or **fall**.

The extent of the change in total expenditure by consumers on different types of goods would depend on the **price elasticity of demand** for the different types of goods.

Define PED and explain that PED values depend on several factors like number and closeness of substitutes, degree of necessity etc)

For goods having inelastic demand, ($0 < PED < 1$) (e.g. necessity goods), the effect of the increase in price (because of raised GST) would cause Qty Dded to fall by a smaller percentage and so total expenditure by consumers would actually **rise**. Explain with diagram.

For goods having elastic demand, ($1 < PED < \text{infinity}$) (e.g. luxury goods) Qty Dded would fall by a larger percentage and total expenditure by consumers would **fall**. Explain with diagram.

Conclusion: The effect of the increase in GST would cause a change in TE by consumers, but the extent of the change in total expenditure depends on the PED of the different types of goods.

However, whether the demand for a product is price elastic or inelastic depends on the various determinants of PED. For e.g. demand for luxury goods may be price inelastic for the rich but price elastic for the poor.

L1	An answer that shows a descriptive knowledge that price will rise or defines elasticity but doesn't use it. If just mention that tax raise price, & PED has an impact but nothing else, this is just knowledge. Only discuss for one good, without using PED concept.	1-3m
L2	An answer that describes the effect or gives an unexplained diagram to show the effect, using relevant elasticity concept. Answer is well-explained but for one good only (max 5m) OR Inadequate explanation for 2 goods without good application of PED concept	4-6m
L3	An answer that uses relevant analysis including PED to show the effect. Show appreciation of how PED makes a difference to extent of price rise and whether TE rise or fall.	7-10m

(b)

Introduction:

Define YED

The effect of the rise in **income** on different types of goods would depend on the YED values (for **normal** goods with positive YED the demand curve would shift to the **right** and for **inferior** goods with negative YED demand curve would shift **left**). Explain with examples and diagrams.

The increase in GST would cause the supply curve to shift left. However the extent of the change in equilibrium quantity would depend on the PED values of different goods.

The **combined** effects of the rise in income and the rise in GST would depend on the PED and YED of the different types of goods.

3/4 possibilities----- Explain with Diagrams.

- Leftward shift of both supply and demand curve for **inferior goods (with YED -ve)** would lead to a **fall** in equilibrium quantity sold.
- For **Luxury goods {YED high +ve, PED > 1}** (leftward shift of the SS curve and rightward shift of the DD curve) **there** would probably be a **rise** in quantity sold as the effect of the increase in income outweighs the tax rise. (must show DD shifts more than the SS shift)
- For **normal /necessary** goods (YED low +ve, PED < 1) the effect is indeterminate. **Leftward** shift of the SS curve and **rightward** shift of the DD curve but the **extent** of the shift of the SS and DD curves would determine the net effect on the equilibrium quantity. The equilibrium quantity may increase, decrease or remain same.

Conclusion: The combined effect of the rise in incomes and the rise in GST is likely to cause the quantities of different types of goods sold change in different ways depending on the PED and YED values of the goods.

However, both the values are **relative**; one person's inferior good might be another person's luxury.

Other factors like tastes and preferences, price of substitutes/complements, etc may not remain the same, and if any of these change, the outcomes will be different.

L1	An answer that shows a descriptive knowledge of price and income elasticities of demand.	1-5m
L2	An answer that shows an understanding or application of PED & YED to determine combined effect of rise in income and rise in GST on a good but explanation is undeveloped	6-8m
L3	An answer that uses analysis of PED & YED to underpin the discussion of how quantities of different types of goods will be affected by a rise in incomes and a rise in GST	9-11m
E1	Unexplained assessment or one that is not supported by analysis Mere summative conclusion about the combined effects of rise in GST & income	1-2m
E2	Evaluative assessment based on economic analysis Consider possibility of different outcomes if assumptions do not hold	3-4m

[H1 Section B Question 2]

In a free market, surpluses cause prices to fall, shortages cause prices to rise. However, this does not happen in the real world when a group of producers fix a price floor.

(a) With the aid of diagrams and examples, explain why prices fall when there are surpluses and rise when there are shortages. [10]

(b) Discuss the use of price elasticities of demand and supply to these producers when deciding to fix a price floor for their product. [15]

Suggested Answer:

Part (a)

Explain the basis of market clearing:

- The principle of the invisible hand asserts that if each individual in the society acts in such a way as to maximize his own interest, the free market will assure maximum possible benefit to society as a whole.
- On the basis of self-interest, the consumers attempt to maximize their satisfaction by being willing to pay the lowest possible prices. The demand curve is downward sloping — law of demand.
- Producers given higher cost of production will try to charge the highest possible prices. The supply curve is upward sloping — law of supply.
- These economic participants send out and receive price signals.

Explain the operation of the price mechanism in eliminating surplus:

- Through the opposing market forces of demand and supply, price is determined.
- This particular price that clears the market is known as the equilibrium price.
- Focus on movement along the curves.
- A good harvest of coffee will raise the supply (also accept a fall in demand leading to surplus). The supply curve shifts rightwards (Figure 1)

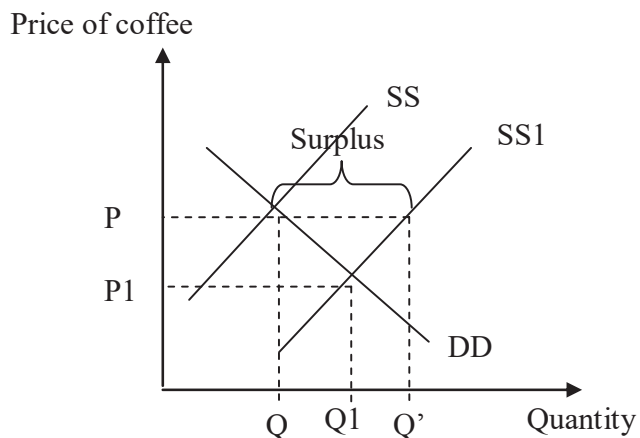


Figure 1

- This will create a surplus in the coffee market of QQ' at price OP . Stocks accumulate.
- To eliminate the surplus, producers will lower price to attract more buyers. The quantity demanded will increase from Q to Q_1 (law of demand) while quantity supplied will fall from Q' to Q_1 (law of supply). As surplus is cleared, new equilibrium is reached. Thus price performs the incentive and allocative functions.

Explain the operation of the price mechanism in eliminating shortages:

- A given increase in demand for a good, say oil, due to say increased industrialization (also accept a fall in supply leading to a shortage).
- Thus the demand curve of oil has shifted rightwards (Figure 2)
- The shortages are cleared when prices rise — incentive and rationing functions

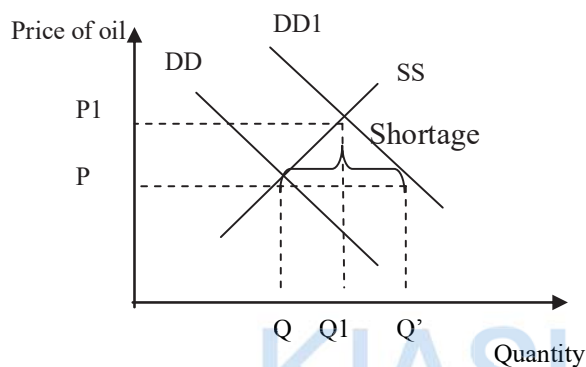


Figure 2

- Example: Oil Market:
- The rightward shift of the demand will create a shortage of QQ' at price OP. In an attempt to satisfy their wants consumers bid up the price. This forces price up and as price rises quantity demanded falls based on the law of demand and quantity supplied rises given the law of supply. When price rises to P1, the market just clears and a new equilibrium is established. Hence the price increase helps to ration the limited supplies as consumers given budget constraint will switch to substitutes. Simultaneously, the rise in price incentivizes oil production (more profitable). This is contingent upon the fact the consumers are willing and able to buy less (law of demand) and producers are willing and able to produce more (law of supply) at a higher price.

Conclusion

- Thus the market is cleared when prices adjust accordingly.
- These automatic price adjustments arise from the self-interest of the consumers and producers.
- However, the market may not always work in this way because of market distortions that result in unstable equilibrium situations or the market may be controlled by producers.

L3	Explain how market clears with relevant examples and diagrams.	8-10
L2	Explain the functions of price in eliminating shortages and surplus.	4-7
L1	Brief explanation of the basis of market clearing and meaning of shortage and surplus.	1-3

Part (b)

Explain the significance of a group of producers:

- Due to frequent changes in demand or supply conditions, price volatility may result in financial losses. Primary producers such as producers of coffee and milk are especially susceptible to such hardships.
- Also the producers require income stabilization to finance capital for expansion.
- Thus firms which are producing the same commodity may then act in unison to control the market price or quantity — i.e. price collusion to guarantee a minimum sale price to help reduce financial losses when the industry prices are low.

Explain the meaning and objective of price floor:

- Also known as minimum price, a price floor is that critical level below which price is disallowed to fall in order to stabilise price at a higher level without compromising revenue.
- To be meaningful or effective, the minimum price must be set above the equilibrium price which may have fallen due to excess supply.
- Objective: to protect income of producers

Apply the price elasticity of demand and supply concepts that must be considered by the group of producers

Demand must be inelastic (Figure 3):

- If demand is inelastic (D1), the setting of price above the equilibrium level will

cause a less than proportionate fall in quantity demanded (Q_1) thereby raising revenue from $OPXOQ$ to OP_mXOQ_1 .

- If demand is elastic (D_2), the minimum price will cause revenue to fall from $OPXOQ$ to OP_mXOQ_2 . This will defeat the purpose of setting a minimum price.

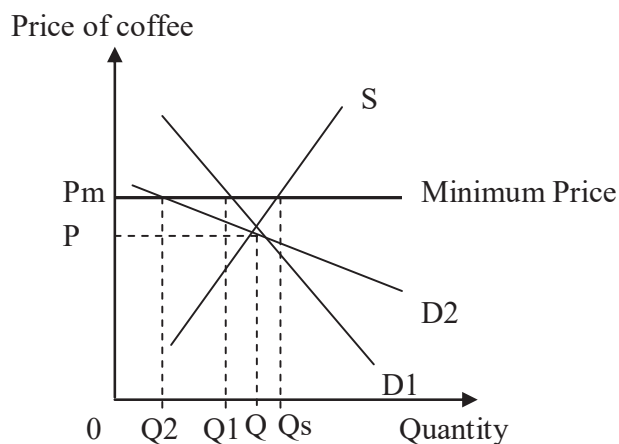


Figure 3

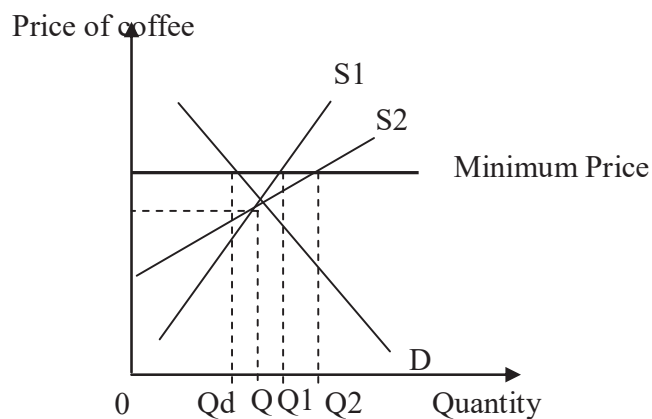


Figure 4

Supply must be inelastic:

- As the minimum price is above the equilibrium price, quantity demanded will fall short of quantity supplied that is a surplus is created.
- The more elastic the supply (S_2), the greater will be the surplus (Q_dQ_2 as compared to Q_dQ_1 if supply is price inelastic (S_1)).
- This greater excess surplus will create a greater downward pressure on price thereby undermining the scheme.
- As this will cause some producers to seek ways to undercut others in order to clear stocks especially when the goods are perishable.

Other factors that could influence the success of price floor

- For demand to be price inelastic, substitutes must not be easily available
- For supply to be price inelastic, the group of producers must abide to agreed production quotas and there must be barriers to enter this industry.
- By implication, price floor works best in the short run as demand and supply tend to become more price elastic in the long run.
- As economies become increasingly globalised, supply tends to be more elastic (with more competition) and hence minimum-price programs (usually involving primary produce) seem destined to fail over time.

L3	Apply and analyse price elasticity of demand and supply	8-11
L2	Apply and analyse either price elasticity of demand or supply	4-7
L1	Explain the meaning of price floor and its objective	1-3
E1	Evaluate by examining other theoretical factors that will influence success of price floor	1-2
E2	Evaluate by examining other real world factors that will influence success of price floor	3-4

SECTION 3 – Challenging Essays

1. In light of the global economic downturn, the Government has announced a personal income tax rebate of 20%. In addition, a 40% property tax rebate is given for industrial and commercial properties to help reduce the cost of running businesses.

Ministry of Finance, Singapore Budget 2009

Discuss the effect on market equilibrium of the above budget initiatives for different types of goods & services. [25]

Suggested Answer:

Introduction

- State that market equilibrium is the situation whereby there is no tendency for change in the market. This occurs when $Q_d = Q_s$ i.e. there is no shortage or surplus in the market.
- Hence, changes in Demand and/or Supply conditions would cause changes in the market equilibrium.

Body

- State that the personal income tax rebate of 20% will result in an increase in disposable income of consumers, hence an increase in Demand for most goods & services.
- With the 40% property tax rebate, there will be a reduction in cost of production for most producers, leading to an increase in Supply of most goods & services.
- The impact of personal income tax rebate of 20% on market equilibrium depends on YED. Candidates are to consider the markets for inferior good, necessities, and luxury goods & services.
- Candidates should elaborate on the workings of the price mechanism for at least one of the markets.
- Moreover, the impact of 40% property tax rebate on market equilibrium depends on how the different producers of different markets are affected.
- The larger the extent of increase in Supply, then the greater the downward pressure on equilibrium prices and vice versa.

In addition, there is a need to consider the PED & PES of the various goods and services.

Conclusion

- Property tax rebate depends on the willingness of property owners to pass on the cost savings
- The impact of the personal income tax rebate depends on whether consumers willingness and ability to spend on the various goods & services.
- The impact on market equilibrium also depends on the extent of market power producers have

Level	Descriptors
Level 3	
19 – 21	<ul style="list-style-type: none"> Answer shows excellent knowledge of demand and supply forces and how these affect equilibrium price <u>and</u> equilibrium quantity, and shows excellent knowledge of market equilibrium (inclusive of: <ul style="list-style-type: none"> market equilibrium condition clear analysis of simultaneous shifts i.e. recognition that equilibrium price or quantity maybe reinforced and the other equilibrium will be indeterminate recognition that extent of shift of demand and supply affects the equilibrium which is indeterminate elaboration of price mechanism). Answer is balanced in consideration of demand and supply forces. Answer includes the different extent of shifts of supply given the property tax rebate. Excellent consideration of elasticity concepts (including YED, PED &/or PES) and its relevance in influencing market equilibrium. Excellent rigour in economic analysis and development. Excellent use of diagrams that is adequately explained. Excellent attempts at contextualisation with a variety of relevant examples.
15 – 18	<ul style="list-style-type: none"> Answer good knowledge of demand and supply forces and how these affect equilibrium price <u>and</u> equilibrium quantity, and shows knowledge of market equilibrium (i.e. includes market equilibrium condition). Answer is balanced in consideration of demand and supply forces. Good consideration of elasticity concepts (i.e. YED <u>and</u> PED &/or PES) and its relevance in influencing market equilibrium. Good rigour in economic analysis and development. Good use of diagrams that is adequately explained (which includes diagrams with simultaneous shifts). Some attempts at contextualisation with some relevant examples.
Level 2	
12 – 14	<ul style="list-style-type: none"> Answer shows adequate knowledge of demand and supply forces how these affect equilibrium price <u>and</u> equilibrium quantity. Answer is balanced in consideration of demand and supply forces. Some consideration of elasticity concepts (i.e. at least one elasticity concept) and its relevance in influencing market equilibrium. Some rigour in economic analysis and development. Relevant diagrams drawn but not well explained or clear explanation in absence of diagrammatical analysis. Minimal or no contextualisation.
10 – 11	<ul style="list-style-type: none"> Answer shows adequate knowledge of demand and supply forces and how these affect equilibrium price <u>and/or</u> equilibrium quantity. Answer lacks balance in consideration of demand and supply forces. Minimal or no consideration of elasticity concepts and its relevance in influencing market equilibrium. Lack of economic analysis and development Minimal or no contextualisation.
Level 1	
6 – 9	<ul style="list-style-type: none"> Answer shows some knowledge of how equilibrium price and/or equilibrium quantity may be affected, without clear linkage to demand and/or supply forces. Errors and inconsistencies occur in the explanation, showing lack of understanding of the economic concepts. Minimal or no contextualisation.
1 – 5	<ul style="list-style-type: none"> Answer is mostly irrelevant. Only few valid points which do not clearly address the question.
E1 (1-2)	Mainly unexplained judgement.
E2 (3-4)	Judgement based on analysis.

2. With economic growth and the Singapore government's move away from direct taxes towards indirect taxes, examine the impact on business sales and revenue of various types of goods and services. [25]

Suggested Answer:

Identify the need to use PED & YED concepts in the analysis for this question.

Explain PED & YED

Move towards greater dependency on indirect taxes – reducing income tax and raising indirect taxes.

With economic growth the income increases and demand for normal goods and services increases assuming that the YED is positive. For goods that have negative YED, demand will fall. Impact of reduction of income tax is on the disposable income hence affecting demand especially on goods where the demand is income elastic.

Impact of raising indirect tax is on the SS, producers may shift burden of tax to consumers if the price elasticity of demand is inelastic or when the supply is price elastic. However, with tax, the after-tax revenue of firms will definitely fall.

Case 1:

Luxury good

Demand is price elastic

Increase in demand more than proportionate, $YED > 1$

Supply is relatively price elastic as luxury goods are usually manufactured and easily stored.

Should have increase in business sales and revenue as demand increase more than the fall in supply.

Case 2:

Necessities/addictive goods

Demand is price inelastic

Increase in demand is less than proportionate

Supply may be price elastic / inelastic depending on eg. rice (price inelastic – long production period) cigarettes (manufactured, easily stored)

May have increase/decrease in sales and revenue depending on the relative shift in demand and supply.

Case 3:

Inferior goods

Demand will fall with increase in disposable income, $YED < 0$

Sales and revenue will definitely fall

Level 1 – Lower	Answer is mostly irrelevant eg. misinterpretation of question as a macroeconomic problem	1-5
Level 1 – upper	Answer has some relevance but analysis is highly inaccurate/incomplete eg. only able to identify either PED or YED	6-9
Level 2 – lower	Answer is relevant but analysis has inaccuracies/incomplete eg. is able to identify both PED and YED Or Answer has some relevance but analysis is inaccurate/incomplete	10-11
Level 2 – upper	Answer is relevant but analysis has some inaccuracies/incomplete eg. is able to identify both PED and YED	12-14
Level 3 - lower	Answer is mostly relevant and analysis is sufficiently accurate and complete.	15-17
Level 3 - upper	Answer is relevant with excellent analysis	18-21
E1	Judgement with no supporting arguments	1-2
E2	Judgement made with supporting arguments	3-4



2011 Other JCs' Prelims - DEMAND, SUPPLY ELASTICITIES (H2)		
1	AJC 2011	<p><i>With an influx of foreigners into Hong Kong following the recovery from the global financial crisis, the prices for private property – such as condominiums and bungalows – are set to soar. Developers are facing the crunch from the greater desire to provide more luxurious finishing and more elaborate showrooms. The city has staged a series of land auctions in the past 18 months to boost supply of land for public housing to bring down prices.</i></p> <p>(a) Explain possible factors that could affect the price of private property. [10]</p> <p>(b) Using relevant elasticity concepts, assess the impact of the above factors on the markets for various types of private property and that for public housing. [15]</p>
2	CJC 2011	<p><i>The H1N1 pandemic in 2009 has reduced the demand for travel. The volcanic eruption in Iceland has resulted in disruptions in airline traffic over Europe for many days. At the same time, inflation has led to rising wage calls across the global economy.</i></p> <p>Assess the impact of the above events on related markets. [25]</p>
3	DHI 2011	<p><i>Households today pay on average just half the amount they were paying in early 2008 for their broadband internet connection. On the other hand, food prices have risen by 18% over the same period.</i></p> <p>(a) Explain the likely effects of the above price changes on households' expenditure. [10]</p> <p>In response to the hike in food prices, some governments have released grains and frozen meat from their stockpile.</p> <p>(b) To what extent does the success of such a policy depend on the price elasticities of demand and supply? [15]</p>
4	HCI 2011	<p><i>In recent years, many countries have seen a stronger surge in trade, foreign direct investment, technology transfer and labour mobility.</i></p> <p>Assess the impact of these recent developments on expenditure by consumers on luxury and non-luxury goods and services. [25]</p>
5	IJC 2011	<p>(a) Explain the relationship between scarcity, choice and opportunity cost. [8]</p> <p>(b) Assess the extent to which these concepts are of relevance to the Singapore government when making its policy decisions. [17]</p>

6	JJC 2011	<p><i>Technological advancements in pharmaceuticals have transformed the healthcare market. Rising affluence, mounting cost pressures and increasing number of competitors in the healthcare market resulted in significant changes in healthcare prices.</i></p> <p>Assess how the healthcare market might be affected by these changes. [25]</p>
7	MI 2011	<p><i>Organic farmers in the United Kingdom have been affected by rising input prices and have begun turning away from organic food production in the face of declining interest from big supermarkets that have taken products off the shelves due to the recession, to make room for cheaper non-organic foods.</i></p> <p>(a) Using relevant diagrams, explain how the recession and rising input prices have affected the market for organic produce. [10]</p> <p>(b) Assess the relevance of price elasticity of demand, income elasticity of demand, and price elasticity of supply in explaining the effects of these issues on the organic industry. [15]</p>
8	MJC 2011	<p><i>China has implemented a policy to reduce production of rare earth metals which are used in the production of X-ray machines, iPhones and light bulbs. Incomes have risen in recent years, especially in the emerging economies.</i></p> <p>Assess the relative impact on consumers and producers due to the above changes. [25]</p>
9	NJC 2011	<p><i>The price of oil experienced the sharpest rise in decades from US\$32 per barrel in December 2008 to US\$72 per barrel in June 2009. In 2009, interest rates offered by banks were also low and falling.</i></p> <p>Discuss how these developments might affect the markets for cars and public transport. [25]</p>



10	NYJC 2011	<p><i>'Sales of adult fiction in hardback had fallen by over 10%, while cheaper paperback by only 6%. The price people are willing to pay is falling, while hard-cover prices are climbing. The Association of American Publishers announced that the "explosive growth" of e-books account for 13.6% of adult fiction market in America, with burgeoning e-books sales increasing by over 1000% in the last three years after the launch of the e-book reader.'</i></p> <p style="text-align: right;">Adapted from: The Daily Telegraph August 2011</p> <p>(a) Explain the likely reasons for the overwhelming increase in sales of e-books. [10]</p> <p>(b) With the aid of relevant concepts, analyse the impact of the e-book trend on the publishing and related industries. [15]</p>
11	PJC 2011	<p>(a) Explain how an understanding of the concepts of price elasticity of demand and cross price elasticity of demand can aid producers in making price and output decisions. [10]</p> <p>(b) Discuss how an increase in goods and services tax on luxury goods might influence the revenue of producers of luxury goods and of related goods. [15]</p>
12	RI 2011	<p>(a) With reference to the market for private transport in your country, discuss whether the demand for private cars is likely to be elastic or inelastic with respect to price and income. [10]</p> <p>(b) How far would a knowledge of demand elasticities be useful to a government wishing to discourage the use of private cars? [15]</p>
13	RVHS 2011	<p>Better economic outlook or higher fuel prices may prompt airlines to adjust their airfares.</p> <p>Discuss the considerations of airlines in making fare adjustments in response to the above. [25]</p>
14	SAJC 2011	<p><i>China's economy grew at an average of 10% over the past decade. Under the terms of the EU-China WTO accession agreement, China has also agreed to substantial reductions on import tariffs for over 150 leading European exports, ranging from machinery to wines and spirits.</i></p> <p>Assess the likely impact of the rising income in China and her reduction of import tariffs on the sales of various types of EU's exports to China and China's domestic sales. [25]</p>

15	SRJC 2011	<p><i>Recent developments, such as improvement in the state of technology, nation-wide wireless internet access and phenomenal growth in emerging economies like China and India, have affected the demand for and supply of netbooks, laptops, desktop computers and similar products.</i></p> <p>Discuss how the abovementioned markets could be impacted by these developments. [25]</p>
16	TPJC 2011	<p>With the use of relevant elasticity concepts, discuss how a shift from income tax to indirect tax can affect consumer expenditure on both rice and restaurant meals. [25]</p>
17	VJC 2011	<p><i>As the world experiences soaring international oil prices, countries like Malaysia and Indonesia have provided fuel subsidies while Singapore and Australia have not.</i></p> <p>Discuss the impact of soaring international oil prices and fuel subsidies on society. [25]</p>
18	YJC 2011	<p><i>The recent rise in global prices of fuel has affected the operational costs of public transport operators. At the same time, the economy is recovering from the global recession.</i></p> <p>Discuss how the above events affect the markets for public and private transport. [25]</p>

Other JC's Prelims – DEMAND SUPPLY ELASTICITIES (H1)

1	HCI 2011	<p>(a) Car ownership necessitates using land to build a network of roads. Using the concept of scarcity, choice and opportunity cost, explain the problems the government faces in allocating resources in the case of car ownership. [10]</p> <p>COEs are quotas fixed by the government to control car ownership. The government intends to introduce a new measure to reduce the number of COEs. In view of weakening US recovery, analysts are unsure of its impact.</p> <p>(b) Using demand and supply analysis assess the impact of these events on the market for COEs and COE revenue collected by the government. [15]</p>
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2	JJC 2011	<p>Taxi fares are going up at an additional 50 cents per ride due to an increase in fuel prices. Land Transport Authority of Singapore has increased the number of taxi licenses granted in the midst of a stronger economy. In the same year, the car COE prices hit a 14-year high.</p> <p style="text-align: right;"><i>Adapted from The Straits Times, 2011</i></p> <p>(a) Account for the fare increases in the taxi market. [10] (b) Explain the concepts of price elasticity of demand and supply, and discuss the relevance of price elasticity of demand of Premier Taxis Company in maximising its profits. [15]</p>
3	MI 2011	<p>(a) Explain the factors which determine the price of housing in Singapore. [10] (b) Comment on the ways the Singapore government intervenes in the market for housing to bring about a better allocation of resources. [15]</p>
4	PJC 2011	<p>(a) Using demand and supply analysis, explain the use of price controls to prevent excessive price changes. [10] (b) Discuss the view that price control is the most effective way to reduce inflation in an economy. [15]</p>
5	VJC 2011	<p>(a) Explain how resources are allocated via the price mechanism. [10] (b) To what extent will the price mechanism achieve efficient allocation of resources in Singapore? [15]</p>

PAST YEARS A LEVEL QUESTIONS (H2)


No.	Year	Question
1	2007 H2	<p>In 2005 the rate of Goods and Services Tax (GST) in Singapore rose from 3% to 5%. Incomes rose by approximately 4.5% in 2005.</p> <p>(a) Explain the likely effect of this change in GST on expenditure by Consumers on different types of goods. [10] (b) Discuss whether the combined effect of the rise in incomes and the rise in GST is likely to cause the quantities of different types of goods sold to rise or fall. [15]</p>
2	2008 H2	<p>Developments in modern technology, such as faster broadband internet connections, portable DVD players, iPods and MP3 players, have had major impacts on the demand for and supply of recorded music and associated products.</p> <p>Assess how the markets involved might be affected by these developments. [25]</p>

3	2009 H2	There have been large changes in the price of crude oil over the past few years. Discuss what determines whether consumers or producers are more likely to bear the cost of these oil price changes. [25]
4	2010 H2	The price of sugar, an ingredient in many canned soft drinks, dropped dramatically by 32% between July 2006 and October 2008. Healthy living campaigns meant consumers became more aware of the possible health dangers of consuming too much sugar and they switched to 'diet' drinks that do not contain sugar. Discuss how the combination of the fall in the price of sugar and the healthy living campaigns might affect expenditure by consumers on non-diet and diet canned soft drinks. [25]
5	2011 H2	Singapore is facing an ageing population issue. By 2030 senior citizens are expected to comprise almost 20% of the population. Using economic analysis, discuss the likely effects of this demographic change on product markets in Singapore. [25]

PAST YEARS A LEVEL QUESTIONS (H1)

No.	Year	Question
1	2009 H1	When societies are attempting to solve the central economic problem improving on the standard of living of their citizens by rapid rate, they are always inclined to try to do it behind protectionist trade barriers. (a) Using the concept of opportunity cost, explain the central economic problem that all societies have to solve. [10] (b) Discuss the view that reasons for protectionism can never outweigh the benefits of free trade. [15]
2	2011 H1	Governments frequently impose indirect taxes in order to influence the pattern of consumers' expenditure. The effectiveness of such policy measures, however, depends crucially on how consumers respond. (a) Explain with the help of examples the concept of price elasticity of demand and supply. [10] (b) Discuss the view that Government efforts to interfere in the working of the free market through indirect taxation inevitably creates more problems than they solve. [15]



 NYJC	2013 JC1 H1 & H2 ECONOMICS
	Key Economics Indicators: 6. National Income Accounting

Review on National Income Accounting

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

National Income Accounting	Tick
3. Define GDP and GNP	
4. Using the expenditure approach, how is GDP measured?	
5. What is the difference between nominal GDP and real GDP?	
6. Write out the formula to convert nominal GDP to real GDP	
7. How do you convert % change in real GDP per capita, given % change in nominal GDP, % change in population and inflation rate?	
8. Explain why is it important to know National Income Statistics [Gross Domestic Product (GDP) and Gross National Product (GNP)]	
9. What is standard of living?	
10. How is standard of living different from cost of living?	
11. How can National Income Statistics be used to assess the economic performance of an economy, including international comparisons?	
12. How can National Income Statistics be used to assess the standard of living of an economy, including international comparisons?	
13. What are the problems encountered in measuring standard of living using National Income Statistics?	
14. Are there other better indicators of standard of living other than National Income Statistics?	
15. What are the problems of measuring National Income Statistics?	



SECTION 1 – Concept Reinforcement

1. Between 2007 and 2008 the National Income of Zelphy increased by 15%. At the same time the country experienced 5% inflation. Which one of the following index numbers represents the National Income of Zelphy in 2008 at 2007 prices? (2007 =100)

(a) 90 **(b) 110*** (c) 115 (d) 120
2. Which of the following is included in the National Income when it is measured by the expenditure method?
(a) Gross trading profits of public companies
(b) Income from self employed
(c) Government final consumption*
(d) Rents from properties
(e) Trading surpluses of private companies
3. Why is real per capita net national income not a reliable indicator of the economic well being of different countries?
(a) It takes no account of capital depreciation
(b) It takes no account of differences in the average number of hours worked*
(c) It takes no account of property income from abroad
(d) It takes no account of the size of the population in different countries.
4. In an open economy,

Government final expenditure	= \$20 million
Investment expenditure	= \$20 million
Tax revenue	= \$15 million
Consumption	= \$80 million
Imports	= 1/5 of consumption
Exports	= \$20 million

What is the level of gross domestic product?

- (a) \$171 million
- (b) \$112 million
- (c) \$120 million
- (d) \$124 million
- (e) \$139 million***



5. Distinguish between Gross Domestic Product, Gross National Product and Net National Product of a country.

Criterion	GDP	GNP	NI (NNP)
Income source	within the economy	within and outside the economy	
Value of output comprises	output by nationals & non-nationals	output by nationals only	
Depreciation allowance	Value of worn-out capital goods during year of production has not been taken into consideration		Value has been taken into consideration

6. What does it mean if net investment is negative?

Gross Investment = Net Investment + Depreciation

If net investment is negative, this would mean that the depreciation value is greater than gross investment value. As such the country is not producing enough goods to replace the depreciated capital equipment. This in turn would lead to fall in the country's productive capacity in future.

7. Which of the following are transfer payments, and which are payments for productive services?
- a farmworker's wages
 - a civil servant's wages
 - c) child benefit payment [transfer payments]**
 - a landlord's income from rent
 - e) interest earned on a loan to the government [transfer payments]**

8. Is GDP or GNP a better indicator for measuring the performance of an open economy?

GNP – takes into account income earned by nationals of the country working and investing abroad. Due to globalisation, more firms are going multi-national, and setting up headquarters in strategic countries, or manufacturing plants in lower costs countries. As technology improves, the world becomes more connected and more and more people are working in different countries.

9. What happens to GDP and Standard of living when there is an increase in cigarettes consumption? Why?

An increase in cigarette consumption increases GDP as the calculation of GDP includes consumer spending on goods and services using the expenditure approach. However, an increase in cigarette consumption results in negative externality in the form of second smoke which causes diseases such as heart and lungs problem. Such negative externalities imply a fall in standard of living.

10. Calculate the GDP for Zelphy country in 2010

Private Consumption Expenditure	67,478
Government Consumption Expenditure	18,677
Gross Domestic Fixed Capital Formation	45,577
Changes in Inventories	-5,561
Net Exports of Goods and Services	27,878
Statistical Discrepancy	-278

Ans: 153,771

11. If you were the economic advisor to the Singapore government, what measures would you recommend to boost the national income of the economy?

Internal

- Give firms more incentive to increase their investment [lower company tax rate, tax holidays, grants/subsidies]
- Increase the productivity of workers by providing incentives[eg tax deductibles, grants] for workers to upgrade their educational and skills level.
- Cut down red tape
- Government can spend more on R&D to enhance technical knowledge and encourage firms to invest more in new capital equipment.

External

- Establish trade ties with other countries so as to widen the existing export market to cover newer products as well as create new markets for local businesses to venture into.
- Seek foreign direct investment to create more job opportunities and increase output in the country.
- More free trade agreements

12. What are the different methods of calculating GDP statistics?

Output method, income method and expenditure method

13. What is the relationship between Standard of Living and Cost of Living.

Cost of living is the cost of maintaining a certain standard of living.



14. Explain the circular flow of income.

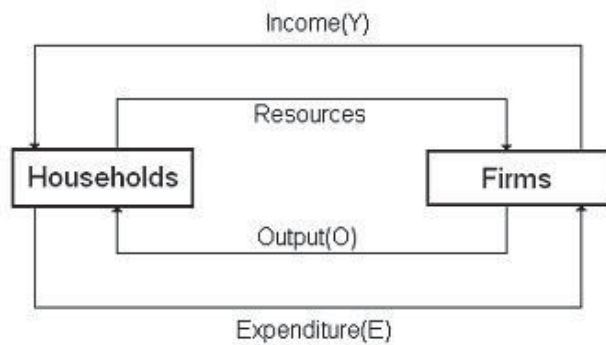


Figure 1: 2 sector circular flow model

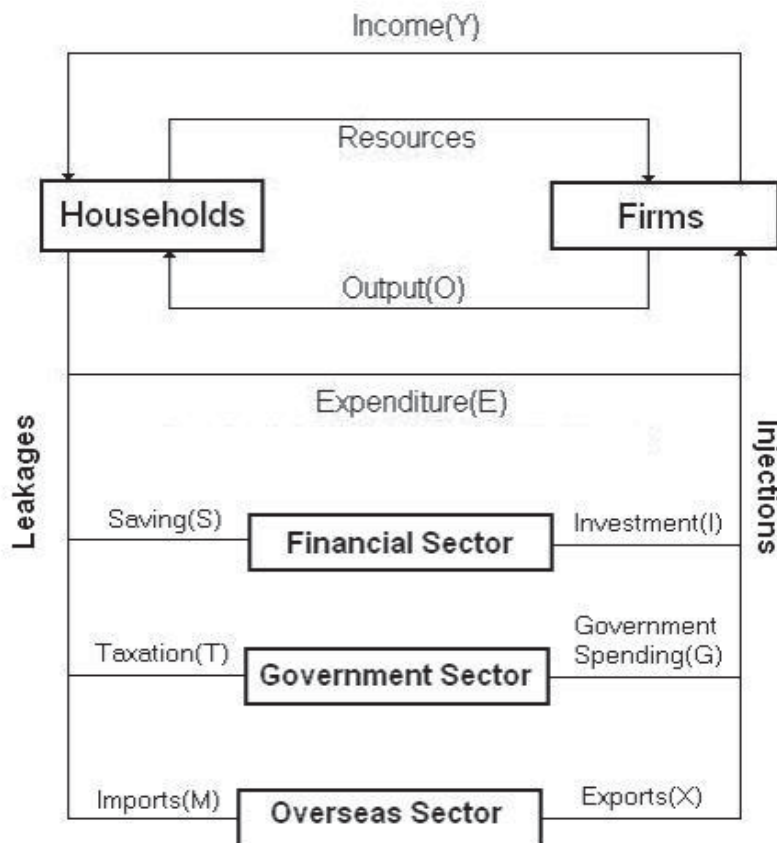


Figure 2: Five Sector Circular Flow of Income Model

SECTION 2: Case Study

Mini Case Study

Economic Performances of Germany and France

Table 3: Germany's Macroeconomic Indicators

Germany	2003	2004	2005	2006	2007
Inflation rate (%)	1.5	1.6	1.2	2.0	2.3
Unemployment rate (%)	9.3	9.8	10.6	9.8	8.4
Real GDP growth (%)	-0.2	1.2	0.8	3	2.5
Current A/C balance (% of GDP)	2	4.7	5.2	6.1	7.5
Current A/C balance (Billion Euro)	47.3	77.9	95.8	116.1	181.9
Government Budget (% of GDP)	-4	-3.8	-3.3	-1.5	0.1
FDI (US\$ m)	32398	-10195	41943	55199	50932
Expenditure on health (% of GDP)	10.8	10.6	10.7	10.6	NA
Life expectancy at birth (years)	78.6	79.2	79.4	79.8	NA

Table 4: France's Macroeconomic Indicators

France	2003	2004	2005	2006	2007
Inflation rate (%)	2.1	2.0	1.8	1.6	1.5
Unemployment rate (%)	9	9.3	9.3	9.2	8.3
Real GDP growth (%)	1.1	2.5	1.9	2.2	2.2
Current A/C balance (% of GDP)	0.8	0.6	-0.6	-0.7	-1.2
Current A/C balance (Billion Euro)	10.3	-4.4	-30.9	-32.6	-28.5
Government Budget (% of GDP)	-4.1	-3.6	-3	-2.4	-2.7
FDI (US\$ m)	42538	32585	84887	78198	157974
Expenditure on health (% of GDP)	10.9	11.0	11.1	11.0	NA
Life expectancy at birth (years)	79.3	80.3	80.2	80.9	NA

Source: www.oecd.org

- (a) Describe the trend in France's GDP from 2004 – 2007 [1]

General trend: GDP generally increased from 2004 – 2007
Refinements: GDP increase at a decreasing rate

- (b) (i) Describe the trend in the government budget balance as a percentage of GDP in Germany between 2003 and 2007. [2]

From Table 3, the government budget balance as a percentage of GDP in Germany has improved [1] from deficit to a surplus [1].

Alternative answers that are accepted:
only mentioning of 'deficit to surplus' [2m] or mentioned that the budget is in deficit throughout the period, except for 2007 [2m]

- (ii) Compare this trend with the change in the France's government's budget balance as a percentage of GDP in the same period. [2]

(Tables 3 & 4) Compare with France, both countries' budget balances have improved [1]. However, France's budget balance remains in deficit while Germany's budget balance has improved to a surplus position, at the end of the period [1].

Alternative answer accepted as refinement:
Germany's budget improves faster than France's

- (c) Discuss whether the data are sufficient to assess changes in the standard of living in these 2 economies over the period. [10]

Standard of living (SOL) reflects the material and non-material well-being of the residents in a country. Some of the macroeconomic indicators presented in Tables 3 and 4 can be used to indicate the material and non-material well-being of Germany and France respectively. Together with relevant information mentioned in extracts, the SOL of Germany and France may be studied.

According to the data, Germany is enjoying economic growth from 2004 to 2007 (based on real GDP growth rates shown in Table 3). This would mean that Germans are experiencing higher income which can be used to improve their material and non-material well-being. However, Extract 4 mentions that real wages do not rise significantly when firms try to stay competitive by keeping wages low. Hence the extent of SOL improvement may be limited. Nonetheless, the slowing down of the unemployment rate in 2007, the significant expenditure on healthcare (more than 10% of GDP) and the high life expectancy are evidences to support that Germany's SOL has improved over the period (2004-2007). However to stop at such conclusion relying only on these information may seem too naive because more data to accurately reflect SOL is needed. For instance, information about income distribution, working hours, stress-related issues which hint the quality of life (non-material well-being) is not available. If majority of the income is earned by the minority, then we cannot conclude that the average German's SOL has improved. Additionally, if the economic growth is attained by Germans' long and stressful work efforts (ie production replaces current consumption), then Germans may actually experience lower quality of life. Moreover, if the high unemployment rates in Table 3 signals structural unemployment, then significant number of Germans may suffer from lower material and non-material well-being, instead of an improving SOL as indicated superficially by the data given. The SOL in Germany may further be worsened if the economic growth is achieved at the expense of a deteriorating environment (eg. pollution or destruction to the eco-system).

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As for France, based on similar nature of indicators (as that used to examine Germany's SOL above) shown in Table 4, positive real economic growth rates may be the first step towards studying France's SOL. With higher income, together with encouraged consumer spending (Extract 5), material well-being of France seems to improve SOL. This is especially so if consumers in France indulge in better-quality imports or enjoy a wider range of consumer goods that enhance their material and non-material well-being. In addition, the substantial expenditure on healthcare and high life expectancy also hint that SOL has improved over the years (similar to that of Germany). Furthermore, with the help of strong unions, French workers may not be subjected to a competitive work environment (eg less stressful work or shorter working hours), and their fringe benefits may be secured to improve their quality of life. Again, more data on income distribution and those reflecting non-material well-being need to be used before arriving at a more accurate conclusion about France's SOL. For instance, if the bulk of the income is earned by those in the IT and service sectors, then it may not be accurate to conclude that an average person in France is enjoying higher SOL. The production of certain 'bads' such as drug abuse and environmental damage may render a lower SOL as indicated originally by the data.

Given the limited data presented in Tables 3 and 4, it seems that Germany's SOL is on par with France's SOL, and that they (SOL) are improving steadily and slowly over the years. However, Germany's SOL may be more sustainable than France's as the underlying economic problems (rigid labour market, loss of export competitiveness, unhealthy budget deficit and national debt) may deny France's current SOL (to worsen it in the future). Although Germany has more favourable economic situations (export competitiveness and better budget position compared to France), the improvement in SOL may be limited if the keen foreign competition reduces the non-material well-being. These conjectures, based on the limited data available, may change if other data mentioned earlier is considered.

Level	Descriptor	Mark range
2	a well-balanced discussion that considers both thesis and anti-thesis (limitations of data in concluding the SOL) with good knowledge of SOL shown.	5 - 8m
1	limited discussion, reflecting a lop-sided view and/or with errors that show misconception (limited understanding) of SOL	1 - 4m



SECTION 3: Essays

SECTION 3A – Lower-Order Skills

1. What are the problems encountered in measuring GDP? [8]

Suggested Answer:

- a. illegal transaction
 - b. unreported but legal transactions
 - c. self consumed output
 - d. inability to differentiate between final and intermediate goods
 - e. availability of data
 - f. reliability of data
2. Explain how GDP statistics give an indication of the standard of living in a country? [8]

Suggested Answer:

Intro: Define GDP, Standard of Living (Material and Non Material)

GDP statistics can give a true indicator of material standard of living. Explain

Conclusion

Section 3B – Higher-Order Skills

1. The Singapore economy grew by 9.2% per annum in the third quarter of 1993, inflation was 2.4% per annum and 19000 jobs were created.

Source: STimes, 13 November 1993

How far can this information lead you to conclude that there is a rising standard of living in Singapore? [25]

Suggested Answer:

- a. Explain that 9.2% = Economic growth. Give formula and define GDP.
- b. Briefly state the 3 methods of calculating GDP.
- c. Define standard of living – measures the material and non-material aspects of life. A rise in GDP implies more goods and services are available for consumption thus the material welfare has risen, cp.
- d. Give limitations in using GDP as an indicator of standard of living overtime in Singapore.
 - o Give and explain the problems involved in calculating GDP
 - o Per capita better indication of average income per person
 - o Inflation artificially raises nominal GDP. Real GDP per capita (give formula) should be used.
 - Define inflation/ Give formula. Explain that Singapore is facing mild inflation-2.4%,

- Mild inflation may stimulate economic growth because encourages greater production and investment due to high expected returns, resulting in 19000 jobs created.
- o Show that even if Real GDP per capita rises, it does not mean the standard of living in Singapore has risen. The following factors have to be taken into consideration to measure standard of living overtime in a country:
 - Distribution of income
 - Average working hours
 - Externalities
 - Low quality of goods
- e. GNP may be a better indicator to GDP since Singapore's factor income from abroad is rising.
- f. Since GDP can only measure material aspect to a certain extent but it cannot measure the non-material aspect. Other indicators are needed to supplement GDP to measure the SOL in a country more accurately. Other indicators include.
 - measure of welfare (MEW)
 - physical quality of life (PQLI)
 - human development index (HDI)
- g. Conclusion – Although Singapore's GDP is high, inflation is low and more jobs are created, standard of living may not be necessarily higher. These data provide some measure of the material aspect of the SOL in Singapore. Because of the limitations, it is necessary to include other mentioned factors and measurements as well.

L1	Mere listing of reasons why there is or there isn't a rise in SOL in S'pore. Some knowledge of concepts but containing errors or inaccuracies.	1 – 9
L2	For an imbalanced/one-sided analysis that displays some knowledge of the use of the data given to conclude that SOL has/hasn't risen. Did not give adequate reasons why SOL has/hasn't risen. Did to apply to S'pore context	10 – 15
L3	A comprehensive/balanced analysis that shows a good depth of knowledge of the reasons whether SOL of S'pore has/hasn't risen. Aware that altho' there are limitations to use of NY data to assess change in SOL, able to apply to S'pore situation by considering various factors.	16 – 21

E1	An evaluation/conclusion that is not supported by analysis eg. mere mention of preference or inclination to the arguments posed without explanation.	1 – 2
E2	An evaluation/conclusion that is supported with analysis eg. a credible explanation of the preference or inclination to the arguments posed or the difficulty in finding the correct balance between the two arguments.	3 – 4

2. "GNP statistics are useful for comparing the economic welfare of countries like Japan and USA, but not for comparisons of economic welfare between Japan and Indonesia." Discuss. [25]

Suggested Answer:

- a. Define GNP. State that one of the most important uses of GNP statistics is to compare economic welfare between countries.
- b. Define economic welfare - a concept that aims at providing a measure of the living standards of the population as well as the well-being of the country. This concept looks at the material and non-material aspects of life.
- c. State that Japan and the United States of America are examples of developed countries whilst Indonesia is an example of a developing country.
- d. Briefly comment that GNP statistics can be quite useful for comparing the economic welfare between developed countries as there tend to be a direct relation between GNP and SOL. However, the usefulness of GNP statistics is limited when comparing developed and developing countries. This is attributed to the greater similarities between developed countries and greater dissimilarities between developed and developing countries in terms of:
 - development levels;
 - coverage of items;
 - sources and reliability of data;
 - sizes of marketed output;
 - quality of output produced;
 - less unequal income distribution, etc.
- e. However, the extent of the usefulness of GNP statistics in making comparisons between developed and developed countries or developing and developing countries may be affected more by the following reasons :
 - consumption patterns;
 - differences in defence spending;
 - non-material factors i.e. quality of life e.g. conditions and hours of work,
 - negative externalities, etc.
- f. Conclusion.

Despite the inherent shortcomings and limitations, GNP statistics are nonetheless to a certain extent useful indicators for comparing economic welfare. The statistics may give a truer picture when making comparisons between developed countries because of their greater similarities than between developed and developing countries because of their greater differences.



L1	Answer shows lack of understanding of question requirement, e.g. listing of uses of GNP statistics. Some knowledge of concepts but containing errors or inaccuracies. Answer did not distinguish between the type of countries mentioned	1 – 9
L2	For an imbalanced/one-sided analysis that displays some knowledge of the usefulness of GNP statistics in comparing SOL between similar countries as opposed to comparing SOL between dissimilar countries.	10 – 15
L3	A comprehensive/balanced analysis that shows a good depth of knowledge of the usefulness & limitations of GNP statistics in comparing SOL between countries. Awareness that altho' GNP statistics may be useful in comparing SOL between similar countries than between dissimilar countries, there are still common problems in using GNP statistics to compare SOL over space.	16 – 21

E1	An evaluation/conclusion that is not supported by analysis eg. mere mention of preference or inclination to the arguments posed without explanation.	1 – 2
E2	An evaluation/conclusion that is supported with analysis eg. a credible explanation of the preference or inclination to the arguments posed or the difficulty in finding the correct balance between the two arguments.	3 – 4

3. (a) Explain how you might use GDP data to measure the performance of an economy. [10]
- (b) Discuss how an increase in import expenditure may affect the standard of living of a country. [15]

Suggested Answer:

(a) Define GDP,

- Performance of an economy is judged by 4 broad measures which is the growth rate, rate of unemployment, inflation rate and BOP status.

Main body

GDP---Performance of the economy can be gauged using such data to do comparison overtime where $GDP = C + I + G + (X - M)$.

Brief explanation of the diff components of the GDP to show how they contribute to the overall growth & performance ---

- This set of data gives a better insight as to how the various sectors of the economy are performing.(for example private consumption is the largest component in US's total GDP whereas the largest contribution to GDP in Singapore comes from exports and imports of goods and services.)
- However to judge the performance more correctly it is essential to separate the desirable increase in the quantity of output from the undesirable increase in prices (Corrected by GDP deflator) using real GDP data.

- If real GDP improved as compared to the last period, it would generally signify good performance of an economy for the year---- more goods & services and hence more jobs & less unemployment.

Conclusion

(b)

Define standard of living: material and non-material SOL

Thesis:

Increase in M will lower SOL

a. Material SOL

- $\uparrow M \rightarrow \downarrow AD/AE$ falls \rightarrow lower NY \rightarrow less goods and services available for consumption \rightarrow lower material SOL

b. Non-material SOL

- Lower NY \rightarrow less tax revenue \rightarrow less funding for government expenditure \rightarrow may lead to lower non-material SOL

Anti-thesis:

Increase in M will improve SOL OR Increase in M may not affect SOL.

a. Material SOL

- $\uparrow M \rightarrow$ may also indicate wider choice of goods available for consumption
- $\uparrow M \rightarrow$ more imported capital goods \rightarrow higher productivity \rightarrow lead to higher NY in the future

b. Non-material SOL

- $\uparrow M \rightarrow$ transfer of green technology from more advanced countries \rightarrow less pollution
- $\uparrow M \rightarrow$ consumers may substitute domestically produced goods with imported goods \rightarrow lower domestic production \rightarrow less negative externalities and more leisure time \rightarrow higher non-material SOL
- Need to consider other factors that will affect SOL
- Quality of life may not have changed by much given $\uparrow M$

Evaluation

- Extent of how SOL is affected depends on other factors in circular flow
- Extent of how SOL is affected depends on composition of import expenditure: different types of imported goods will have different effects of SOL
- May need to supplement with more comprehensive indicators e.g. HDI, PQLI, MEW



4. Assess whether real GDP per capita is the best indicator to measure economic performance and standard of living in Singapore. [25]

Suggested Answer:

Intro:

Define GDP, Define Real GDP per capita, state assumptions, context
Explain economic performance of a country

Body:

Thesis:

Yes it is the best indicator.

- It measures the growth of an economy.
- Most commonly used indicators by most nations to judge the economic performance and standard of living.
- Growth can be used as the only measure for economic performance of a country, as it is the most important.
- Material comfort is measured by the goods, services, and luxuries available to an individual, group, or nation.
- A rise in GDP indicates economic growth (better economic performance) also showing the extent to which more goods and services are becoming available to the Singaporeans over the years thus raising the material standard of living as well.

Anti Thesis:

No. Real GDP per capita does not tell us anything about

- Unemployment rate
- Inflation rate
- Balance of payment
 - o Current Account
 - o Capital Account
- Budget balance

To have an accurate idea of economic performance in an economy, you would need all these indicators: unemployment rate, inflation rate, current account balance, capital account balance, budget balance.

Also, give limitations in using GDP as an indicator of standard of living & economic performance overtime in Singapore.

→ Give and explain the problems involved in calculating GDP

- o Problems in measuring the GDP figures
- o Problem of non-reported and non-marketed transactions
- o Illegal transactions
- o Omission of legal but unreported transaction
- o Issue of availability of data

→ For Singapore real GNP would be a better indicator to judge the performance of the economy as the net factor income can be accounted for.

→ The living standard of a country should be a consideration of both material and non-material aspects

→ Non-material part of SOL is not accounted for by the GDP data

- Even if Real GDP per capita rises, it does not mean the standard of living in Singapore has risen. The following factors have to be taken into consideration to measure standard of living overtime:
 - a. Distribution of income
 - b. Average working hours
 - c. Externalities
 - d. Qualitative change of goods

Evaluation

To get a good measure of the material SOL, it is better to use real GNP per capita. Despite having many shortcomings, the economic indicator mentioned is still the most relevant indicator measuring the economic performance and SOL. However, other indicators are useful to **complement** the GDP figures such as **Unemployment rate, Inflation rate, BOP, Gini Coefficient, PSI**, and indicators of non-material SOL like **MEW, HDI, GPI and GNH** index.

→ Ranking of other indicators which best suits Singapore context and explain why.

Conclusion

SECTION 3C – Challenging Essays

1. (a) Explain how a change in the U.S. interest rate can lead to a lower circular flow of income and expenditure for Singapore. [12]

(b) Examine whether a lower circular flow of income and expenditure necessarily mean a lower standard of living [13]

[RVHS 2010 Promo]

Suggested Answer:

a)

Interest rate is the price charged for the use of money. It represents the cost of borrowing as well as the opportunity cost of consumption. On the same note, the circular flow of income and expenditure depicts the expenditure on goods and services by the consumers, firms, government and the foreigners to the firms which in turn determine the income payments to the factors of production, namely land, labour, capital and entrepreneurship. An increase in interest rate can reduce the aggregate expenditure via its components and can reduce the circular flow of income and expenditure.

As Singapore is a small and open economy, whenever U.S interest rate increases, there will be a hike in the Singapore's interest rate.

Consumption is spending by households on goods and services, with the exception of purchases of new housing. With higher cost of borrowing due to the increase in interest rate, consumers postpone spending on consumer durables like cars, furniture and consumer electronics. Moreover, with the increase in interest rates, there is more incentive to save given the higher opportunity cost of consumption. These factors will cause consumption to decrease.

Investment is spending on capital equipment, inventories and structures, including household purchases of new housing. Firms often finance their purchases of equipment, inventories and structures through loans.

Besides the above, an increase in the interest rate can also cause government expenditure to fall. In addition, the excessive strengthening of the exchange rate due to the huge capital inflow can also cause net exports to fall.

With reference to figure below, given a fall in the components of AE due to an increase in interest rate, the AE function shifts down from AE_0 to AE_1 , causing a lower circular flow of income and expenditure.

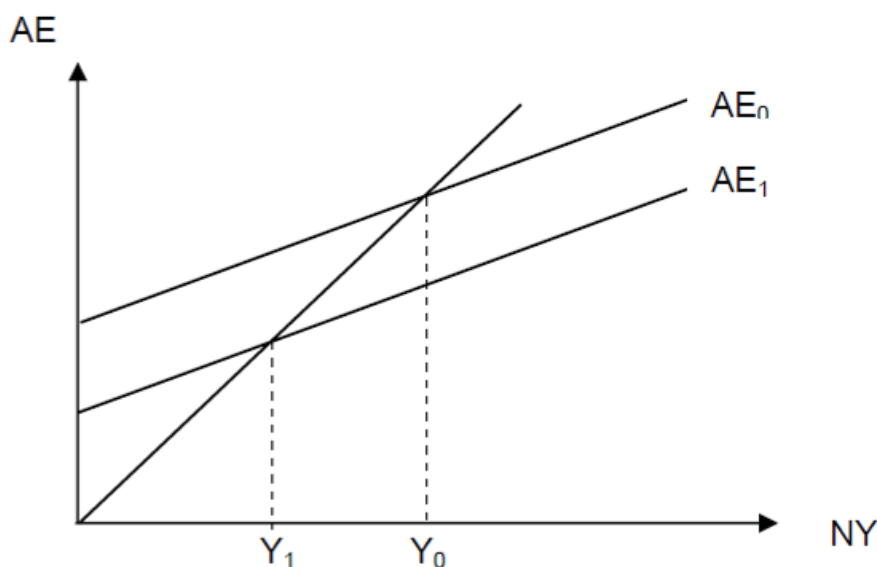


Figure 2: Impact of a fall in AE

In conclusion, a change in the U.S interest rate, specifically a hike in interest rate, can lead to a lower circular flow of income and expenditure.



2011 Other JCs' Prelims - MACROECONOMICS (H2)		
1	AJC 2011	(a) Explain how the equilibrium level of national income is determined. [8] (b) Discuss the impact of an increase in the level of spending by households and firms on a country's national income. [17]
2	HCI 2011	<i>In 2009, Singapore experienced a negative growth of 1.3% and a current account surplus of US\$32 billion while the United States had a negative growth of 2.6% and a current account deficit of US\$378 billion.</i> Discuss to what extent such economic data indicate that the standard of living for the average person in both countries had declined. [25]
3	NJC 2011	<i>"To attract investment, improve incomes and achieve a higher standard of living, Singapore targets to raise labour productivity by 2 to 3 percent each year for the next decade."</i> Discuss the extent to which an increase in labour productivity will lead to an increase in Singapore's standard of living. [25]
4	TPJC 2011	'The most important goal of a government should be to achieve a sustained increase in Gross Domestic Product which would also improve standard of living.' Discuss. [25]
5	VJC 2011	<i>Singapore's real GDP growth was 13.9% and current account surplus growth was 32.8% in 2010.</i> Source: Department of Statistics, Singapore (a) Explain why real GDP and current account balance are indicators of living standards in Singapore. [8] (b) Discuss the most appropriate policies that a government could adopt to achieve sustained economic growth. [17]



2013 JC1 H1 & H2 ECONOMICS

Key Economics Indicators: 7. An Introduction to Macroeconomics

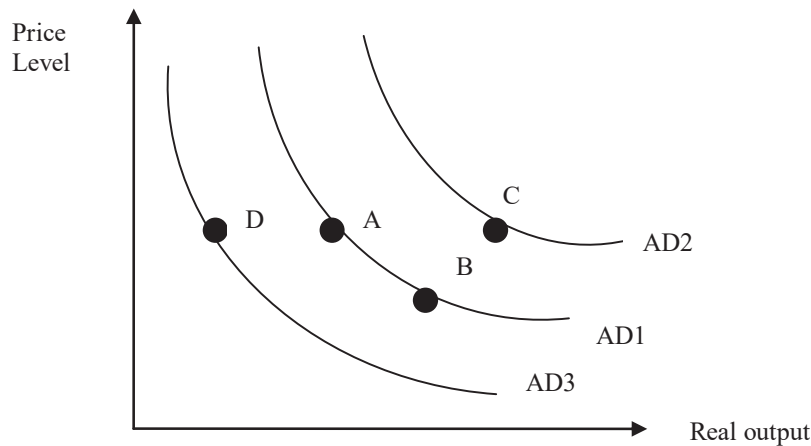
SECTION 1 –Concept Reinforcement

Part 1: Structured Questions: Basic AD AS Knowledge

1. Explain why aggregate demand curve is downwards sloping.
 $AD = C+I+G+X-M$.
As price falls, ability and willingness to consume rises so C rises.
I will also rise as it is cheaper for firms to make purchases.
G is independent of GPL.
As for X, as the country's goods becomes more competitive, exports rises. At the same time local goods become cheaper relative to foreign goods and this causes M to fall.
Thus AD is inversely proportional to prices and hence slopes downwards.
2. Does decrease in price level shift the aggregate demand curve?
No. It is a movement along the AD curve
3. In the short run, what happens to the unemployment rate if aggregate demand suddenly falls?
Unemployment rate increases
4. Suppose that in the long run there was a new higher level of full employment output.
What would happen to the level of prices in the economy?
As the classical aggregate supply curve moved to the right, prices would fall.
5. Suppose the economy is at full employment and aggregate demand falls. Shows the effects on output and prices in the short run. Also show how the short run aggregate supply curve adjusts overtime.
When aggregate demand falls, the aggregate demand curve shifts to the left. In the short run, prices are rigid, but expenditure of goods fall, leading to a fall in National Income. In the long run, the surplus of goods leads to a fall in prices and there is a movement along the AS curve to obtain an equilibrium income that is lower than the full employment level of national income.
6. Using aggregate demand and aggregate supply diagram, show the effects of favourable supply shock.
AS shifts to the right, price falls and output increases

Part 2: Making sense of the AD-AS Diagram .

1. Aggregate demand is the total demand for goods and services by consumers, businesses, government plus export sales, all at a given price level. Assume the economy starts at point A. Match the statement to the letter on the graph below:

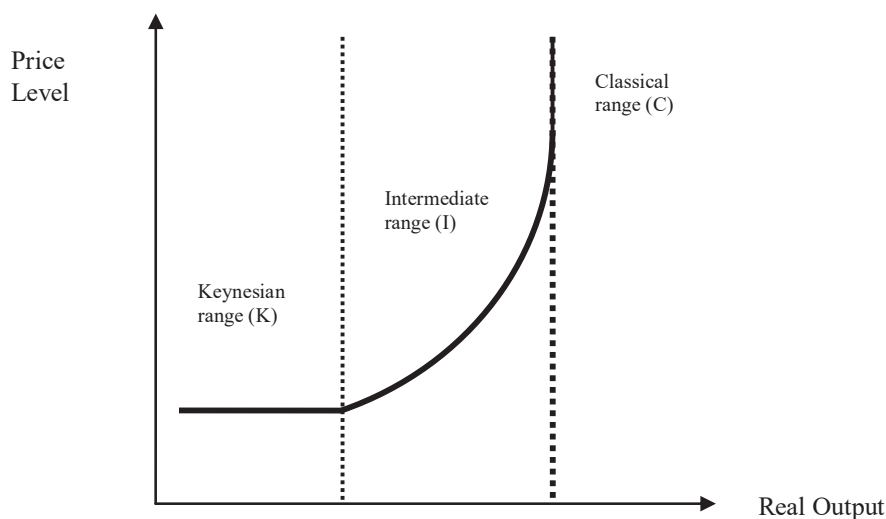


- (i) Fear of future layoffs causes consumer confidence to fall. Consumers cut their spending. D
- (ii) Prices are falling, so consumers' savings accounts have more purchasing power. B
- (iii) A recession is feared, so businesses cut inventory purchases. D
- (iv) The European economy is booming, so US firms are selling lots of exports. C
- (v) At a lower inflation rate, interest rates fall, so consumer and business spending rises. C
- (vi) To reduce the budget deficit, income taxes are raised on consumers and businesses. D
- (vii) The stock market booms causing increased consumer wealth. C
- (viii) Consumer and business debt rises to extremely high levels. D

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2. Aggregate supply describes the relationship between total production and the price level.

Match the statements below with the correct range on the aggregate supply curve.



- (i) Because of a war, factories are operating at full capacity and are unable to produce any more goods. C
- (ii) A massive government spending programme increases aggregate demand, but does not cause inflation. K
- (iii) Factories are operating with much unused capacity. K
- (iv) Pent-up consumer demand increases production and inflation. I
- (v) There is high unemployment, including many experienced workers. K
- (vi) In a growing economy, firms find their raw material costs rising and there are shortages of experienced labour. I
- (vii) A government spending programme is causing the economy to produce more output, but with increasing prices as well. I

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3. What role can a government play in trying to move from a point inside the PPC to a point on the PPC? [5]

A point inside the PPC represents unemployment and under production. To encourage production, the government has to encourage production as well as consumption of goods. In other words the government must encourage consumption, investments and perhaps even raise its own expenditure and even find means to raise exports and lower imports.

To raise C: Cut personal income tax, raise wages (cut employees CPF rates), improve accessibility to credit, cut interest rates, increase transfer payments

To raise I: Cut corporate taxes, improve infrastructure to attract Foreign investments, lower interest rates.

To raise G :More expenditure by government. e.g on infrastructure

To raise Exports: Ensure country produces good quality products, depreciate the country currency

To lower Imports: Depreciate currency, impose quotas, raise or impose import taxes.

4. Recommend policies to shift Singapore's PCC outward. [5]
PPC can only be shifted outward by having more resources or better quality resources. Resources comprise land, labour, capital and entrepreneurship.

Hence answer to this question can be found by examining how the government can influence these resources.





2013 JC1 H1 & H2 ECONOMICS

How The Macroeconomy Works: 8. Keynesian Theory [H2 Only]

Review on: Keynesian Theory

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Equilibrium level of National Income	Tick
1. Using the $AE=Y$ approach, explain how equilibrium level of national income is determined.	
The Multiplier and Accelerator	Tick
2. What is meant by MPC, MPS, MPT, MPM and APC	
3. What are the formulas for MPC, MPS, MPT, MPM and APC?	
4. How is the multiplier measured from MPC and MPW?	
5. What is meant by the multiplier process?	
6. Explain how the multiplier process works.	
7. What are the factors determining the size of the multiplier?	
8. Why is it said that the size of the multiplier is small in Singapore?	
9. What is meant by the accelerator principle?	
10. How is the accelerator principle different from the multiplier process?	
11. How can a business cycle be explained by both the multiplier process and the accelerator?	
12. What is the significance of having a small multiplier?	
Keynesian Theory	Tick
13. What is meant by an inflationary and deflationary gap?	
14. How can a government use macroeconomic policies to close an inflationary or deflationary gap?	



SECTION 1: Concept Reinforcement

1. What might cause an increase in consumption?

- Consumption (C) expenditure is that part of national income (Y) that is spent on domestically produced consumer goods.
- $C = a + c Y$
- The level of national income (Y) is one of the determinants of consumption. As Y increases, the purchasing power of households (HH) also increases. Hence C increases
- There are other factors affecting the level of consumption that are independent of income (autonomous consumption)
 - Accessibility of credit
 - Level of interest rates (i/r)
 - Government Policy
 - Price expectations

2. Explain what is Investment?

- Investment is expenditure undertaken to create or develop assets that will enhance the SS of potential of a firm or economy
- Physical capital, stocks or inventories
- Human capital
- Types of investments – autonomous or induced.

3. Explain how equilibrium level of national income is attained?

- Define equilibrium level of Y
- Explain that equilibrium level of Y can be obtained by 2 approaches: AE=Y approach or AD/AS approach.
- Use a diagram on AE=Y approach and explain the effects on Y if $AE > Y$ and $AE < Y$. Must highlight that changes in Y are brought about by changes in unplanned inventories which firms will be checking on in order to decide whether to increase production or reduce production
- Explain why when $AE = Y$, equilibrium is attained.

4. What is the difference between the multiplier process and the accelerator principle?

The multiplier (k) measures the extent to which Y will change when there is a change in autonomous AE (C, I, G, X-M). Whereas, the accelerator, (a), shows the amount of new investment (I) that is necessary in order to meet the rise in demand for goods and services due to the rise in national income.

5. What is meant by an inflationary and deflationary gap?

Inflationary Gap	Deflationary Gap
measures the excess of AD relative to AS at full employment NY	measures the lack of AD relative to AS at full employment NY
($Y_e > Y_f$)	($Y_e < Y_f$)
shows the extent to which AD has to be reduced to achieve full employment NY	shows the extent to which AD has to be increased to achieve full employment NY
is associated with inflation in the economy	is associated with unemployment & recession in the economy

6. What is meant by an open economy?

An open economy is one which carries out transactions with the rest of the world. These include trade in goods and services, flow of capital or foreign direct investment into and out of the economy. There can be flow of labour too.

7. Is the multiplier value in Singapore large or small? Justify your answer.

- Likely to be small.
- Singapore is an open economy. This means that mpm is likely to be large.
- Compulsory savings i.e. CPF also account for a large magnitude of mps.
- Tax rates in Singapore are relatively low. Thus MPT may be small.
- Given $K = \frac{1}{mps + mpt + mpm}$, multiplier value will be small

8. A country experiences an “inflationary gap” when
- (a) the value of its exports is less than the value of its imports.
 - (b) there is a budget surplus.
 - (c) real income differentials widen during a period of rising prices.
 - (d) it experiences price increase that are larger than those of its competitors.
 - (e) aggregate demand in real terms is greater than the full employment level of output.***
9. A closed economy with no government has a marginal propensity to consume of 0.9. Its full employment national income is \$50,000 million. Its current national income is \$40,000 million. To achieve full employment, investment must be increased by
- (a) \$500 million
 - (b) \$1,000 million***
 - (c) \$2,000 million
 - (d) \$9,000 million
 - (e) \$10,000 million
10. Which of the following is a necessary condition for the national income of any economy to be in equilibrium?

There is full employment.

- (a) The budget of the central government is planned to balance.

- (b) Planned savings equal planned investment.
- (c) There is neither a surplus nor deficit in the balance of payments
- (d) Planned withdrawals from the circular flow are equal to planned injections into it.***

11. In a closed economy with no government sector, which one of the following determines the multiplier associated with a change in the level of autonomous investment?

- (a) the marginal propensity to consume***
- (b) the income elasticity of demand
- (c) the general level of prices
- (d) the size of the national income

12. Which of the following is likely to cause an upward shift in a community's consumption function?

- (a) a decrease in national insurance benefits
- (b) a decrease in direct taxation***
- (c) a decrease in exports
- (d) an increase in government spending on goods and services
- (e) an increase in investment

SECTION 2: Case Study

Extract 1: Asia's Consumer Revolution Gets Serious

The consumer revolution that Asia has been watching over the past 10 years is starting to turn serious. That is because Asia is now facing a unique set of circumstances that has been developing for more than a decade- smaller household sizes and falling birth rates, rising incomes and high interest rates. In addition, trade patterns are being altered by World Trade Organization rules, opening the doors for Western exporters. In the past, Asia's industrial plant has largely been devoted to producing consumers goods that moved from Asian factories to American and European consumers. Now, however, Asia itself is buying what Asia is producing, and buying what the rest of the world is producing as well. Asian consumers are increasingly looking to buy Western styling, engineering, cuisine and entertainment.

A new home formation trend is also driving the consumer revolution. The percentage of Japanese elderly living with their children, for example, declined by 30% between 1960 and 1990. At the same time, women are joining the workforce at record levels, particularly in Singapore and Hong Kong, and birth rates are dropping steeply. Young couples prefer smaller families and this leaves them better off. The rising income is increasingly going to consumers goods such as pots and pans, toasters and stereos rather than the support of elderly relatives.

In addition Asia experienced a period of rapid economic growth. While US gross domestic product (GDP) per capita rose by 576% over the past 30 years. Asia's

excluding Japan rose almost twice as fast, by 1067%. But consumer spending did not rise at anywhere near that rate, as governments actively sought to hold it down. Now, however, the brakes are coming off and this will give a boost to consumption.

Savings rates across Asia are far higher than anywhere in the West. The average savings rate across Asia outside Japan was 31.6% of GDP in 2002. In comparison, the US saving rate actually went negative in 2001. Even a small fall in savings rates, at a time when households are being formed faster than the population is growing and wealth is increasing, should mean that per capita consumption of consumer durables such as refrigerators, cookers and television would grow substantially.

Credit card usage is now on the rise. South Korea consumers are already considered to be the engine that drove the country's economic growth in 2002. As many as 10% of South Koreans are behind monthly payments, forcing Government to order banks and credit card companies to tighten lending rules.

Discretionary spending can be expected to skyrocket on everything from movies to luxury items such as jewellery, cars and other items that powered the huge boom in US consumerism that has lasted for more than four decades. Young women in Singapore and Hong Kong now look as sophisticated as their counter parts in New York. The image of these young, hip Asians, driving a BMW, wearing a Rolex watch and wearing Gucci shoes, is beginning to spread increasingly out from major cities.

Supermarkets now become the institutions that have the resources to bring in consumables from far afield, and which consumers increasingly want. In Singapore and Hong Kong in particular, because of their status as free trade ports it is routine to find Danish ham, Dutch chicken, Scottish salmon, and potted meats from England. Wines come from California, Australia and Italy.

Source: Asia Times, 4 June 2003



Table 1: Singapore: Expenditure of Gross Domestic Product at 1995 Market Prices (S\$m)

	1998	1999	2000	2001	2002
TOTAL	138,399	147,286	161,103	157,318	160,853
Private Consumption Expenditure	52,467	56,762	64,737	66,239	66,812
Government Consumption Expenditure	14,109	15,063	17,720	19,181	20,033
Gross Fixed Capital Formation	51,456	48,909	52,733	49,737	44,929
Increase in Stocks	-7,828	-2,755	1,045	-8,917	-8,487
Net Exports of Goods and Services	29,622	31,219	27,362	33,656	40,145
Statistical Discrepancy	-1,427	-1,912	-2,494	-2,578	-2,579

Source : Singapore Department of Statistics

Answer all questions:

- 1a. Explain what is meant by Gross Domestic Product at 1995 market prices. [1]

It is known as real GDP. Measuring current year GDP using 1995 prices.

- b. Using table 1, summarise the trend in Singapore's GDP between 1998 and 2002. [1]

GDP rises at a decreasing rate.

- 2a. Explain the meaning of the term 'consumption function'. [2]

The consumption function shows the relationship between total planned C spending and the level of national income, i.e. $C = a + c Y$. (autonomous C + induced C). Can be presented in algebraic or graphical form.

- b. Calculate Singapore's average propensity to consume for the year 2002. [1]

0.415



3. Suggest 2 reasons for the change in net exports between 1998 and 2002. [4]

Key point : Identify net exports are rising or falling and account for it.

Exports overall rose from 1998 to 2002. This could be due to a depreciation of Singapore's dollar with respect to its trading partner. As this would make Singapore's export relative cheaper and hence increase export revenue. In addition economic recovery of Singapore's trading partners helped boost Singapore's export and hence its net export revenue.

4. With what certainty can we say that the SOL of Singaporeans has increased between 1998 and 2002? [5]

Key point : Define material and non material SOL. Next pluck out info to show that could be an increase in material SOL. Highlight limitations to your finding. Limitation would include insufficient evidence to say with certainty that material SOL has increased. There is also a need to include and look at the term SOL holistically and explain that non material SOL cannot be determined.

SOL comprises both material and non material aspects. Material SOL refers to the availability of goods and services to each person in the country. Given that real GDP has increased, we can comfortably say that there are more goods and services available. However, there is a need for the population size in order to check if each person has more goods and services available. We need to have GDP per capita to say with certainty.

However the data tells nothing about the quality of life. Real GDP may have increased due to longer working hours. This would mean a sacrifice of leisure time. This could result in health and family problems. In addition, the production of goods may lead to pollution which reduces the quality of life.

- 5a. How far does the extract demonstrate that there has been a consumer revolution in Asia? [5]

Key point : Once you come to conclude that consumer revolution is a change in the behaviour of the consumer in terms of purchasing more and purchasing different types of goods the answer are not difficult to find. You should quote out or paraphrase info pertaining to the 2 criteria of being a consumer revolution.

The term 'how far' should not be ignored. It gives an indication that there is a need to provide alternative point of views. Student should highlight the uncertainties of supporting arguments as well as to look for opposing views.

Yes: Extract suggest that changes described indicate a revolution in the behaviour of consumers in Asian economies. Increasing trading between countries made possible by WTO, Increase in income, smaller household implies

having more to spend on consumer goods, ease of credit facilities to encourage spending, ability and willingness to spend on luxury and expensive items.

No: Article refers to very few countries so generalization to Asia is invalid. Did not take into account of the total population, no statistics given to quantify the quantities and qualities of the goods bought (People may have bought lesser but much more expensive goods). Average savings rate is described as 'far higher than anywhere in the West' indicating that APC is in fact less than in the West. Some confusion between what actually happened and what is merely expected to happen. Examples chosen of what 'consumers increasingly want' may represent a journalistic approach rather than items for which there is evidence of strong or growing demand.

(Balanced view showing deficiencies in argument of article : 3 - 5 m; 1-sided answer :1-2m)

- b. How far does Table 1 demonstrate that there has been such a revolution in Singapore? [5]

Key point : Answers should mainly come from table. Once again the term 'how far' is used. Students should obtain evidence from table 1 and highlight the uncertainty of the information and highlight the lack of information to conclude that there have been a consumer revolution.

Yes: The table shows the total private consumption in Singapore and not other Asian countries. Total private consumption expenditure increased steadily from 1998 to 2002 as incomes rose.

Total expenditure increased (increase in income) from 1998 to 2002, showing growing affluence of Singaporeans. Both exports and imports increase (exports increase faster but imports have also increase)

Calculation of APC shows that this has risen over the period from 0.37 in 1998 to 0.41 in 2002 so that C constitutes a higher percentage of income at the end of the period. A rising APC support the view therefore that there has been a consumer revolution in Singapore.

No: The table does not show a 10 year period, only a 4 year period.

The term "revolution" is loosely defined and the table may be limited in explaining the term. Although the level of C has also risen when incomes rose over the period, this is what would be expected and does not in itself constitute a revolution. Data shows modest change, not a revolution and does not provide sufficient information to make a firm judgment. The level of disposable income is not provided for example.

The table is lacking in important information such as:

- The breakdown of the quality and quantity of goods bought by different consumers group

- No statistics to show evidence of increase in credit facilities to push consumption,
- Net exports of goods and services increased, i.e., Singaporeans importing less than exporting (buying less, therefore contradicting the revolution)
Also, although APC has risen (37% in 1998 and 41% in 2002), MPC has fallen (48% in 1999 and 16% in 2002). Could be due to the recession years when people are spending less, contradicting the revolution.

(Balanced view : 3-5m; 1-sided answer : 1-2m)

6. In the light of the changes in consumption described in the extract, is a rise in the rate of interest an effective way of controlling consumption expenditure in the Asian economies mentioned? [6]

Key point : In this question a 'do you consider' is used. It has similar effect to 'how far'. There is a need to consider the effect of an increase in interest rates to consumption. There is also a need to consider the effectiveness of the policy. Evaluation marks assigned to alternative policy.

YES: When interest increases, people will be more willing to put their money in the bank, saving increase and consumption falls.

Especially true in the Asian context as savings is seen as a virtue.
(Link between rise in interest rate and fall in C : up to 3m)

NO: Savings in Singapore already high (one of the highest in the world), increase in interest rate may not encourage savings.

Also, economic outlook is also important besides interest rates. People are willing to spend more if they have a more optimistic economic outlook.

Explain that there are other influences on the level of C that may make C insensitive to interest rate changes or C is interest-inelastic. (up to 5 m for influences on C; 1 m for evaluative comment)

Can also include explanation for other Asian countries.

L3	Assesses the relative importance of both sides of the argument in order to come to a conclusion. Includes alternative policies.	5-6
L2	Considers both sides of the argument	3-4
L1	Considers only one side of the argument i.e. either agree or disagree that rise in interest rates can affect C	1-2



SECTION 3: Essays
SECTION 3A- Lower-order Skills

1a. What are the effects of an increase in private sector investment to an economy.
[13]

Suggested Answer:

a. Definition of private sector investment

b. Demand side effects of private sector investments

- Explain how a change in investments via the multiplier process will affect - nominal and real GDP; price level; employment and unemployment; balance of payments.
- Supply side effects of private sector investments
 - Explain the relationship between investment and the economy's productive capacity
 - Relate to the country's PPC and look into the possible costs or problems of faster growth.
- Other effects:
 - Effects on international competitiveness
 - Investments can improve international competitiveness of individual businesses by lowering costs through the generation of economies of scale.
 - Improvement in technology and a lower AC
 - Investment can also help in non-price competitiveness eg improve the quality, reliability, design and after sales service through product innovation. This will increase the demand for the country's product – improve the balance of payments. Demand for our exports is price elastic.
 - Increase exports will lead to increase in AE – leading to increase in GDP.

Conclusion – Investment is important due to its dual demand and supply side impact that it has on the economy.

2) What factors determine the size of the multiplier in Singapore?
How does it compare with a big country like the US? [8]

Suggested Answer:

In Singapore, k is small as both mps and mpm are very high. mps is high due to our compulsory savings, CPF. mpm is high as she is a small, open economy and highly dependent on imports of raw materials and essential commodities due to a lack of natural resources. This is very different from the US. k in the US is bigger as mps is low due to a culture of high spending. mpm is relatively lower than that in Singapore as the US is more self sufficient a country compared to Singapore.

SECTION 3B- Higher-Order Skills

1. Mounting job losses in US are likely to restrain consumer spending and economic growth.

Today, 17 Aug 17 2009

Explain what determines the aggregate level of consumption in an economy and assess if an increase in aggregate level of consumption is always beneficial to an economy. [25]

Suggested Answer:

a. Definition of Consumption

- Consumption (C) refers to the planned spending on consumer goods such as food, clothing, household appliances and so on.

b. Explanation of Determinants of Consumption

- National Income, taxes & subsidies, wealth, expectations
- Explain components of C function
- Income-Induced Consumption & Autonomous Consumption
- Illustrate with consumption function

c. An increase in C will have effect on many macroeconomic variables such as NY, output & employment, investment, GPL & economic growth.

d. Thesis : Increase in C is beneficial to an economy that is less than fully employed:

- Increase in C raises AE, & hence NI, output & employment via the multiplier effect
- Explain that an autonomous increase in C will lead to a multiplier effect on NY. Show the multiplier effect by constructing a table. AND Explain at least 3 rounds!
- Explain that $K = 1/(1-mpc)$.
- To get the overall change in NY use the formula $\Delta NY = \Delta \text{autoC} \times K$
- Illustrate with $Y = AE$ diagram

e. Anti – thesis : Increase in C is NOT beneficial to an economy

- Where there is full employment, increase in C worsen BOP and worsen inflation,
- Increase in C lower level of saving/lower level of capital goods produced.
- Lower growth
- Illustrate with diagrams

f. Conclusion

- Make reasoned judgment

Alternatively Students may use AD AS framework to answer



- 2 a. How is the equilibrium level of national income determined? [10]
 b. How may the equilibrium level of national income be affected if the government
 i. raises taxes and government expenditure by equal amounts?
 ii. raises the money supply? [15]

Suggested Answer:

- i. Define equilibrium level of Y
- ii. Explain that equilibrium level of Y can be obtained by $E=Y$ approach
- iii. Use a diagram on $E=Y$ approach and explain the effects on Y if $E>Y$ and $E<Y$. Must highlight that changes in Y are brought about by changes in unplanned inventories which firms will be checking on in order to decide whether to increase production or reduce production.
- iv. Explain why when $E=Y$, equilibrium is attained.

Conclusion

Explain that it is not unusual for equilibrium to be rising or falling due to changes in E.

(b)

- i. Explain what is meant by a government's budget
- ii. Explain that if the government plans for a balance budget then $\Delta T = \Delta G$.
- iii. Provide a numerical example to show how $\Delta T = \Delta G$ would affect the equilibrium level of Y
 - Make relevant assumptions on the number of sectors, mpc, mps, mpt (optional can assume lump sum tax so $mpt=0$) and mpm (can assume closed economy so $mpm=0$)
 - Assume the given increase in T and G (e.g. \$1000)
 - Show that change in G results in ΔY of $k \times \Delta G$ hence equilibrium Y increase by ΔY .
 - Explain that increase in T results in fall in disposable income by the same amount and this has effects on C.
 - Convert $C = a + cY$ to $C = a + cY_d$; where $Y_d = Y - T$. Hence C will fall by less than the change in Y_d . i.e. $\Delta C = c(\Delta T)$ since Y is unchanged.
 - Thus C falls by $c\Delta T$ and ΔY due to change in $C = c\Delta T \times k$. Hence net $\Delta Y = k\Delta G - kc\Delta T$. since $\Delta T = \Delta G$ then $\Delta Y = k\Delta G(1-c)$ but since $(1-c) = mpw$ and $K = 1/mpw$ then $\Delta Y = \Delta G$.
 ALTERNATIVELY show that since C falls by $c\Delta T$ and G increase ΔG . Since $\Delta T = \Delta G$ then $\Delta AE = \Delta G(1-c)$. Overall $\Delta Y = \Delta G(1-c) \times K$. since $(1-c) = mpw$ and $K = 1/mpw$ then $\Delta Y = \Delta G$.
- iv. Draw diagram to show that C falls and G rises and the net effect on AE is an increase.
- v. Thus when increase T = increase G, Y will increase by G.
- vi. Mention that changes in E would result in changes in Y and changes in Y would be more than changes in E due to the multiplier effect.

Conclusion

A balanced budget has an expansionary effect on the equilibrium level of Y regardless of the value of k and changes in T and G . This is because the fall in C is always less than the rise in G .

(2bii)

- i. Briefly explain how the government can go about raising the money supply (quantitative tools)
- ii. Explain with a diagram the transmission mechanism.
- iii. Explain that the extent of the increase in the equilibrium level of Y would depend on the interest elasticity of the MEI curve, the extent of the shift in money supply and even the steepness of the LP curve.
- iv. Highlight that it is possible that equilibrium level of Y may remain unchanged if there is a liquidity trap.

Conclusion

Possibility that equilibrium level of Y may remain unchanged.

Changes in equilibrium Y depends on responsiveness of Investments to interest rates, the extent of the increase in money supply as well as the slope of the money demand curve.

SECTION 3C – Challenging Essays

1. In both 2005 and 2006, Singapore's GDP grew by 6.7% and 7.9% respectively despite a slowdown in the growth of consumer spending from 3.1% to 2.5% respectively.

- (a) Explain the factors that are likely to cause a slowdown in the growth of consumer spending. [10]
- (b) Discuss whether a slowdown in the growth of consumer spending should ever be a cause for concern for economic policy makers in Singapore. [15]

Suggested Answer:

(a)

(b) Students should consider the relative importance of SLOWER CONSUMPTION SPENDING in different circumstances.

Not a cause for concern:

The advantage would be clear in a period of sustained above-trend growth when excessively rapid consumer spending led to inflationary and current account problems in overheated economy.

A slower period of C spending may permit a period of rebalancing to occur

- Between AD and AS resulting in less inflationary pressure; Explain and diagram.
- Within household finances. E.g., if debt levels had risen, the slower growth in C spending helps prevent household debt from escalating
- Slower C coupled with growth within the components of AD. E.g. A pick up in investment spending or net exports may have taken place even while C spending slows down.

In such circumstances, economic growth may not falter.

A cause of concern:

- In Singapore, C spending is the 3rd largest single component of GDP after exports and imports respectively. You could continue to explain briefly why a slower export growth will hurt the Singapore economy more since Singapore has a small domestic sector. Singapore depends more on the export market for the demand of Singapore made products. Hence C is relatively less important to X given our small open economy. Singapore is also dependent on Investments, especially FDI.
- However, C spending is still a major component and thus has a major influence on material living standards.
- Policy makers (the Government and Monetary Authority of Singapore, MAS) would be concerned IF such slowdown was sustained and/or led to a growing negative output gap with adverse effects on
 - Unemployment: Briefly summarise how a fall in C lead to the Keynesian downward multiplier effect on income, output and thus resulting in unemployment. Labour is a derived demand. A fall in demand for final goods and services results in a fall in dd for labour.
 - Public finances: Falling national income and rising unemployment into lower government tax revenue and rising government spending (in the form of unemployment benefits, etc) may result in the G running a deficit. Continuous running of budget deficits incur opportunity costs and resources could have been channelled into more productive uses.
 - Living standards in general will fall. Elaborate.

L1	For a descriptive knowledge of relevant issues or relevant assertions about the consequences of changes in consumption spending (fall in C)	1-3
L2	For some analysis of consequences of a slowdown in consumer spending	4-7
L3	For a balanced discussion of why policy makers should be concerned AND not concerned.	8-11
E1	Evaluation not based on sound judgement	1-2
E2	Evaluation based on sound judgement.	3-4

2. (a) Distinguish between inflationary and deflationary gaps. [10]
- (b) Using the concept of the multiplier, assess whether Singapore is among economies that have the most to lose in the current worldwide recession. [15]

Suggested Answer:

a)

Intro:

- Brief explanation of the equilibrium level of national income using the $Y = AE$ approach
- Diagram

Body:

- Define Inflationary gap
- Explain in detail the inflationary gap, and show $Y_e > Y_f$
- Define Deflationary gap
- Explain in detail the deflationary gap, and show $Y_f > Y_e$

L1	Error or weak explanation of the inflationary and deflationary gap	1-3
L2	Some explanation without diagrams of the inflationary and deflation gap	4-6
L3	Well explained inflationary and deflationary gap with diagrams and detailed illustrations of relevant examples linking to the context.	7-10

b)

Intro:

- Define multiplier.
- Singapore characteristic: Small ; Open
- Worldwide Recession
 - fall in global real GDP
 - fall in global incomes
- Consumers worldwide: fall purchasing power.
- ↓ in DD for Spore's exports
- Adverse impact on Spore as she is highly dependent on trade for economic growth.

Body:

Explain the concept of multiplier

- The 'k' process measures the changes in Y due to the changes in autonomous expenditure
- $Y = k \times \text{change in AE}$



[Explain the 'reverse' multiplier process in brief – apply context]

- A fall in autoE in an economy leads to an immediate fall in Y to the recipients. Due to falling income (Y), the recipients spend less, saves less, buys less imports and pay less taxes.
- All the above expenditure are withdrawals except for the expenditure on domestic goods.
- The seller of these domestic goods hence experiences lower Y, hence reducing their spending, savings, imports expenditure and pay less taxes.
- The process continues and for every round of expenditure on domestic goods, a fall in income results which results in a fall in expenditure again.
- This is known as the 'k' process
- $K = 1/(1-mpc)$
- The larger the mpc, the fall in expenditure in each round on domestic goods are larger as well. This generates larger decline in income in subsequent rounds.
- As such the larger the mpc, the larger the 'k' and hence the larger the change in Y for a given change in AutoE
- $Y = k \times \text{change in AE}$
- Size of multiplier (k) is dependent on size of mpw. Thus, if savings, taxes or amount of imports are low in a country, withdrawals are low, \diamond mpw is low.
- $K = 1/(1-mpc)$ or $K = 1/(mpw)$
- From the above formula, if MPW is low, K is high
- Thus, if Savings, Taxes or Imports are low in a country, their multiplier is LARGE.
- Singapore = small multiplier
- Large value of MPS due to high personal savings (asian values & CPF) and public savings (government surpluses).
- Large value of MPM due to lack of resources and thus highly dependent on imports for factors of production and goods & services.

During a global recession, a country with small k:

$$Y = k \times \text{change in AE}$$

- If K is small, an decrease in AE will lead to a small decrease in Y.
- Thus, countries with small k will have less to lose during a recession.
- Show diagram, and link to effects on the economy
- Bring in the example of Singapore
- Application to Singapore:
 - Size of multiplier for Singapore:
Small due to high mps & mpm
 - Based on size of multiplier, during a recession, Singapore should not be adversely affected as she has a small k. However, it must be noted that the impacts on Singapore economy also depend on the extent of fall AE. In this case, the significant decline in export revenue and foreign direct investments will lead to a large fall in AE, hence causing Singapore's GDP to decline as well.
 - Also, if the Singapore government were to engage in expansionary policies, the effect of the policy will be limited due to the small multiplier.

During a global recession, a country with large k (such as US):

$$Y = k \times \text{change in AE}$$

- If K is large (justify using MPS and MPM), a decrease in AE will lead to a large decrease in Y.
- Thus, countries with large k will have more to lose during a recession. However, the extent of fall in AE must also be taken into consideration
- Show diagram, and link to the effects on the economy

Conclusion:

Whether Spore is among economies that loses the most depends on the countries in comparison.

- Developing vs Developed countries
- Openness of the economy
- Nature of the exports and imports

L1	A weak descriptive knowledge of relevant issues or relevant assertions about the multiplier without any application	1-3
L2	For some explanation of the multiplier and attempts to link it to the Singapore economy	4-7
L3	For well developed explanation of the multiplier, with analysis and application to Singapore and other economies	8-11
E1	Evaluation not based on sound judgement	1-2
E2	Evaluation based on sound judgement.	3-4

3. Explain the multiplier process and discuss why different countries may have different multiplier values. [H2 only] [25]

Suggested Answer:

Intro:

Define multiplier. Explain the different types of countries with different characteristics, for example open economy, closed economy, small economy etc

Body:

Explain the multiplier process

Use table to help illustrate the multiplier process

Draw the $Y = AE$ Diagram and illustrate the multiplier

Discuss the factors that affect the magnitude of multiplier

- Size of MPS
- Size of MPT
- Size of MPM

Discuss how the different types of characteristics of different country will affect the size of the multiplier

Application to real world economies. Use examples like UK, Singapore or North Korea to illustrate and explain why they have different multiplier values.

Limitations of the multiplier process.

Evaluation: Compare across different countries. Implications on effectiveness of various policies.

L1	Mere listing of the multiplier process without explanation and elaboration and or errors in the explanation. Weak explanation on why different countries have different multiplier values.	1 – 9
L2	Well explained multiplier process but little or no reference to any countries and little explanation on why different countries have different multiplier values.	10 – 15
L3	A comprehensive analysis that shows a good depth of knowledge of the multiplier process, with tables and diagrams, and good linkage and application of this knowledge to the different countries with different multiplier values. In addition, there must be application of the knowledge to examples of real life countries.	16 – 21

E1	An evaluation/conclusion that is not supported by analysis eg. mere mention of preference or inclination to the arguments posed without explanation.	1 – 2
E2	An evaluation/conclusion that is supported with analysis eg. a credible explanation of the preference or inclination to the arguments posed or the difficulty in finding the correct balance between the two arguments.	3 – 4



2011 Other JCs' Prelims - MACROECONOMICS (H2)		
1	AJC 2011	<p>(a) Explain how the equilibrium level of national income is determined. [8]</p> <p>(b) Discuss the impact of an increase in the level of spending by households and firms on a country's national income. [17]</p>
2	HCI 2011	<p>(a) Using examples, explain why the size of the national income multiplier for different countries may differ. [10]</p> <p>(b) Assess the role of the multiplier in influencing the policies used by the Singapore government in managing unemployment in recent years. [15]</p>
3	IJC 2011	Discuss the extent to which the multiplier and the degree of openness are likely to affect the vulnerability of economies to the impact of the US recession. [25]
4	JJC 2011	<p><i>The debt crisis engulfing the USA has caused policy makers to adopt a loose monetary policy. Interest rate in the USA fell to 0.25%, which is lower than Singapore's interest rate of 1.81%.</i></p> <p>Discuss the extent to which the USA has more to gain than Singapore from a fall in the interest rate. [25]</p>
5	NYJC 2011	<p><i>'Fiscal policy can be used to influence the circular flow of income to achieve economic growth'</i></p> <p>(a) Explain this statement. [10]</p> <p>(b) Assess alternative policies that might be more appropriate for the Singapore economy to achieve economic growth. [15]</p>
6	RVH 2011	<p><i>In 2009, many countries introduced stimulus packages to deal with the impact of the global financial crisis.</i></p> <p>(a) Explain the factors that can undermine the impact of such stimulus package. [12]</p> <p>(b) Assess the effectiveness of the policies used in Singapore to mitigate the most pressing issue of the global financial crisis. [13]</p>
7	TPJC 2011	'The most important goal of a government should be to achieve a sustained increase in Gross Domestic Product which would also improve standard of living.' Discuss. [25]

PAST YEARS A LEVEL QUESTIONS

No.	Year	Question
1	2009 H2	<p>The relative importance of the components of the circular flow of income for a small and open economy, such as Singapore, is likely to be different from a large and less open economy, such as the USA.</p> <p>(a) Explain this statement. [10]</p> <p>(b) Assess whether a change in the external value of its currency is more likely to have a larger impact on Singapore or the USA. [15]</p>
2	2011 H2	<p>(a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]</p> <p>(b) Discuss the extent to which conflicts in the government macroeconomic objectives limit the scope for the use of fiscal policy in any economy. [15]</p>
3	2011 H2	<p>In the study macroeconomics, investment can take many forms including foreign direct investment, fixed capital investment and investment in human capital.</p> <p>(a) What is meant by these different types of investment. [10]</p> <p>Discuss how far supply-side policies can be used to stimulate these different types of investment. [15]</p>





2013 JC1 H1 & H2 ECONOMICS

How The Macroeconomy Works: 9. Government Policy Tools

Review on: Government Objectives and Policy Tools

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Macroeconomic Objectives	Tick
1. Identify government macroeconomic objectives in relation to inflation, employment, economic growth and the balance of payments.	
2. Explain the rationale of the government macroeconomic objectives.	
Macroeconomic Policies	Tick
3. What are the main macroeconomic problems of an economy?	
4. What are demand/supply side policies?	
5. Explain clearly how fiscal policy can be used to raise or lower AD	
6. Explain clearly how fiscal policy can be used to raise or lower AS.	
7. Explain clearly how monetary policy can be used to raise or lower AD.	
8. How effective is monetary policy in solving macroeconomic problems in Singapore, given its openness to trade and capital flows?	
9. Explain clearly how exchange rate policy can be used to raise or lower AD.	
10. Explain clearly how exchange rate policy can be used to raise or lower AS.	
11. What are some short run supply side policies undertaken by the Singapore government?	
12. What are some long run supply side policies undertaken by the Singapore government?	
13. Explain Singapore's choice of using exchange rate policy rather than monetary policy to achieve its macroeconomic goals.	



Section 1 – Concept Reinforcement

1. The main goals of macroeconomic policy include all the following except:
(a) smoothing out avoidable business cycle fluctuations
(b) maintaining low unemployment
(c) maintaining low interest rates*
(d) maintaining little variation in the price level
2. Contractionary fiscal policy involves:
(a) increasing government expenditure and increasing taxes.
(b) increasing government expenditure and decreasing taxes.
(c) decreasing government expenditure and decreasing taxes.
(d) decreasing government expenditure and increasing taxes.*
3. Which of the following is considered a government expenditure?
(a) The purchase of goods and services by the government
(b) Transfer payments
(c) Welfare payments
(d) All of the above*
4. Which of the following is not a means to finance government expenditure?
(a) Personal income taxes
(b) Government subsidies*
(c) Government debt
(d) Capital gains taxes
5. Which of the following statements about fiscal policy is correct?
(a) Changes in tax rates can only affect the aggregate demand curve.
(b) Changes in tax rates can affect both aggregate demand and aggregate supply curves.*
(c) Changes in tax rates can only affect the aggregate supply curve.
(d) None of the above.
6. Starting with a situation where there is a substantial budget deficit, when tax revenues grow faster than government expenditures, the government will experience
(a) an increasing national debt.
(b) an increasing budget deficit.
(c) a declining budget deficit.*
(d) a declining budget surplus.
7. Monetary policy is the adjustment of the _____ to achieve macroeconomic objectives.
(a) stock market
(b) Treasury bill rate
(c) money market mutual funds
(d) quantity of money in circulation*

8. According to the Keynesian transmission mechanism, an increase in the money supply
 - (a) raises the interest rate and, thus, lowers the quantity of money demanded
 - (b) raises investment in bonds, stocks, and other financial instruments.
 - (c) shifts the aggregate demand curve to the right.***
 - (d) raises the price level, while leaving the real GDP unaffected.
9. Which of the following action would result in monetary policy being tightened?
 - (a) Increasing money supply
 - (b) The base interest rate being lowered
 - (c) Restrictions placed on bank and credit card lending***
 - (d) A significant cut in income tax rates.
10. If the exchange rate was depreciating rapidly and the Monetary Authority of Singapore wanted to intervene, then what would they do?
 - (a) Sell Singapore dollar and buy other currencies
 - (b) Build up foreign exchange reserves
 - (c) Increase government expenditure and cut taxation
 - (d) Buy Singapore dollar and sell other currencies from reserves***
11. If there was an excess demand for Singapore dollar, which of the following would help prevent a significant appreciation of the currency over time?
 - (a) An increase in the interest rate.
 - (b) Increased economic growth leading to rapid import growth.***
 - (c) The Monetary Authority of Singapore selling foreign currency from reserves.
 - (d) The Monetary Authority of Singapore purchasing Singapore dollars on the foreign exchange market.
12. If a currency depreciates, a country's net exports
 - (a) fall and AD increases, assuming the Marshall-Lerner condition holds.
 - (b) rise and AD increases, assuming the Marshall-Lerner condition holds.***
 - (c) fall and AD decreases, assuming the Marshall-Lerner condition holds.
 - (d) rise and AD decreases, assuming the Marshall-Lerner condition holds.
13. One advantage of supply-side policies is that
 - (a) they tend to work more quickly than demand-side policies
 - (b) none of these policies affect the federal budget.
 - (c) these policies can reduce both real GDP and the price level.***
 - (d) All of the above
14. Which of the following is an example of a supply-side policy?
 - (a) Reduce marginal tax rates to encourage individuals to work harder and longer.
 - (b) Streamline government regulations to reduce the cost of doing business.
 - (c) Use tax credits to encourage investment spending and spur economic growth.
 - (d) All of the above.***

15. Assuming a situation of full employment, explain how aggregate demand will be affected as a result of:

- a. Increase in government expenditure
 - Increase AD → expansionary FP
- b. Increase in personal income taxes
 - Decrease AD → contractionary FP
- c. Open market operations sale
 - Decrease money supply → increase rate of interest → decrease AD → contractionary MP
- d. Decrease in required reserve ratio
 - Increase money supply → decrease rate of interest → increase AD → expansionary MP

16. True/ False items

- (a) The Central Bank is the institution through which the government operates its monetary policy. (True)
- (b) When bank deposits fall it is because interest rates are decreasing. (False - there are other reasons, such as fall in consumer confidence in banking sector or increase in asset prices)
- (c) An increase in the percentage deposit required on hire purchase commitments would be consistent with an expansionary monetary policy. (False – Contractionary MP)
- (d) The Monetary Authority of Singapore is the banker of commercial banks in Singapore. (True)
- (e) The greater the elasticity of demand for a commodity, the less will be the effect on output when an indirect tax is placed on the commodity. (False – when indirect tax is imposed, the price of the commodity is increased. With the greater value of PED, the effect on output will be greater)
- (f) Raising indirect taxes can prove inflationary rather than deflationary. (True)

17. Distinguish between the following:

- a. demand-side vs supply-side policies
 - Demand-side policies are policies that aim at affecting aggregate demand (AD) through the AD components.
 - Supply-side policies are those aimed at improving cost of production, productivity and efficiency so as to affect employment, prices and income by altering the aggregate supply (AS) of the economy.

b. discretionary vs non-discretionary fiscal policy

- Discretionary fiscal policy refers to the deliberate changing of taxes and government expenditure especially for the purpose of regulating the level of economy activity in the economy in order to influence the national income of the country.
- Non-discretionary fiscal policy depends on automatic or built-in stabilisers which influence government spending or tax yields without the need for conscious government intervention. (eg. tax revenue and government transfer payments such as unemployment benefits)

c. direct tax vs indirect tax

- Direct taxes are levied on persons and institutions that are intended to bear it. (eg. personal income tax, corporate tax)
- Indirect taxes are generally imposed on goods and services. They are paid indirectly as part of the payment for goods and services consumed. (eg. GST, import duty)

d. appreciation/depreciation vs devaluation/revaluation

- Appreciation (depreciation) refers to the increase (decrease) in the external value of local currency due to changes in the market forces not due to government intervention.
- Devaluation (revaluation) refers to the decrease (increase) in the external value of local currency due to government intervention through buying and/or selling of local and/or foreign currencies in the foreign exchange market.

18. Explain the impact of budget deficits for the economy in the long run.

In the long run, large budget deficits can have an adverse effect on the economy. When the economy is at full employment, a cut in household taxes will tend to increase consumer spending. However, since output is fixed at full employment, some other component of output must be reduced, or crowded out. This is an example of the principle of opportunity cost.

19. What is the foreign exchange market and what prices are determined in this market?

The foreign exchange market is the market in which the currency of one country is exchanged for the currency of another country. The exchange rate, the price at which one currency is exchanged for another, is the price determined in the foreign exchange market.

20. What happens if there is a shortage or a surplus of U.S. dollars in the foreign exchange market?

If there is a shortage of U.S. dollars, the quantity of U.S. dollars demanded exceeds the quantity supplied. In this case, foreign exchange dealers who are selling dollars set a higher price and those who are buying dollars and could not find any to buy at the lower price will pay the higher price. As long as there is a shortage, this upward pressure on the price automatically forces the price higher to its equilibrium.

If there is a surplus of U.S. dollars, the quantity of U.S. dollars demanded is less than the quantity supplied. In this case, foreign exchange dealers who are selling dollars

and could not sell at the higher price set a lower price and those who are buying dollars will buy at the lower price. As long as there is a surplus, this downward pressure on the price automatically forces the price lower to its equilibrium.

SECTION 3 - Essays

SECTION 3A – Lower-Order Skills

1. “This global crisis will see a reshuffling of the deck. Some countries will move up, while others falter and fall behind. We will do everything we need to ensure that Singapore emerges stronger and more competitive.” – Budget Speech 2009

(a) Explain how government expenditure and taxation influence Singapore’s competitiveness. [10] (TJC, 2009)

Suggested Answer:

- Identify how Singapore’s competitiveness can be increased through rising productivity, greater efficiency, attracting FDI and foreign talent.
- Explain how G and T influence Singapore’s competitiveness
 - Government expenditure directed towards investment in human capital will raise labour productivity. Eg. provision of education and training and healthcare infrastructure will raise the level of labour productivity and reduce unit cost. Retraining programme is needed to ensure that appropriate skills are available to the expanding sectors.
- Government expenditure to improve the transport network such as road or rail network, or in port facilities, are likely to reduce firms’ costs in the longer term and thus lead to an increase in the productive capacity of the economy as a whole.
- The reduction of corporate tax from 18% to 17% in YA2010 will attract foreign investments in Singapore as Singapore remains competitive in the global market. A reduction of corporate tax also encourages local enterprise or local talent (SMEs) to set up business in Singapore.
- Tax incentives and grants encourage innovation and R&D to make Singapore one of the most competitive locations in Asia for R&D. R&D would raise the level of technology and increase the overall efficiency of production process.
- The reduction of personal income tax in Singapore will attract foreign talent and reduce brain drain. This will help build capabilities and raise the productive capacity of the economy.

L3	Identification of some factors affecting Singapore’s competitiveness.	7-10
L2	Brief explanation of how G & T influence competitiveness.	3-6
L1	Detailed explanation of how G and T influence competitiveness.	1-2

SECTION 3B: Higher-Order Skills

1. (a) Explain how monetary and fiscal policies can be used to increase aggregate demand. [10]
- (b) In recent years in Singapore, much greater emphasis has been given to the supply-side effects of fiscal policy. Evaluate the view that fiscal policy is only useful for its impact on the supply side of the Singapore economy. [Optional] [15] (MJC, 2008)

Suggested Answer:

(a)

Introduction

- Define key terms
 - Monetary Policy (MP) refers to the central bank's deliberate action to alter the country's money supply, interest rate or exchange rate so as to influence AD.
 - Fiscal Policy (FP) refers to the use of government spending and taxation to influence AD.
 - Aggregate Demand (AD) refers to the total spending on an economy's products at different GPL in a given time period. It consists of four components: consumer spending (C), investment (I), government spending (G) and net exports (X-M).

Body

- Explain how the respective MP and FP tools can be used to increase AD through increasing its components (illustrate with diagram)

Expansionary Monetary Policy

- Money Supply (MS)
 - $\uparrow MS \rightarrow$ more money available for spending $\rightarrow \uparrow AD$
- Interest rate
 - \downarrow interest rate $\rightarrow \downarrow$ cost of borrowing \rightarrow cheaper to borrow to finance purchase of consumer durables $\rightarrow \uparrow C$
 - \downarrow interest rate $\rightarrow \downarrow$ cost of borrowing \rightarrow higher expected returns to investment \rightarrow higher MEI and I.
- Exchange rate
 - \downarrow exchange rate \rightarrow exports relatively cheaper, imports relatively more expensive $\rightarrow \uparrow (X-M)$, assuming ML condition holds $\rightarrow \uparrow AD$

Expansionary Fiscal Policy

- Government Spending
 - \uparrow government spending (G) $\rightarrow \uparrow AD$
- Taxation (direct tax – personal income tax and/or corporate tax)
 - \downarrow personal income tax $\rightarrow \uparrow$ disposable income $\rightarrow \uparrow C \rightarrow \uparrow AD$
 - \downarrow corporate tax \rightarrow after-tax profits $\uparrow \rightarrow$ more funds to invest $\rightarrow \uparrow I \rightarrow \uparrow AD$

L3	A detailed response demonstrating economic rigour in analysis.	7-10
L2	An answer which lacks rigour in explanation or an answer that only focuses on 1 policy.	5-6
L1	An answer which shows some vague knowledge of how MP and FP affects AD, containing inaccuracies and errors.	1-4

(b)

Introduction

- Interpretation of question
 - Supply-side effects: $\uparrow AS$ (LR effect)
 - $\uparrow AS$ due to:
 - Increased quantity of resources
 - Increased quality of resources
 - Advancement in state of technology
 - Explain that Singapore uses FP to achieve sustained growth in the long term via $\uparrow AS$ (potential growth)

Body

Thesis

- FP is useful for its impact on the supply-side (long term goal – potential growth)
 - $\uparrow G$ on training/upgrading the skills of labour force $\rightarrow \uparrow$ labour productivity $\rightarrow \uparrow$ efficiency $\rightarrow \uparrow AS$.
(Eg. Singapore Workforce Development Agency – If an employer sends worker for training programmes under the Singapore Workforce Skills Qualifications, he/she can receive course fee funding from the Skills Development Fund.)
 - $\uparrow G$ on R&D (building of world class research centres and science hubs) and infrastructure $\rightarrow \uparrow$ quantity & quality of resources $\rightarrow \uparrow AS$.
(Eg. Infocomm Development Authority of Singapore: to cultivate a vibrant and competitive infocomm industry in Singapore – one that attracts foreign investment and sustains long-term GDP growth through innovative infocomm technology development, deployment and usage in Singapore – in order to enhance the global economic competitiveness of Singapore.)
 - $\uparrow G \rightarrow \downarrow$ corporate tax $\rightarrow \uparrow I \rightarrow \uparrow$ quantity of capital and advancement in state of technology $\rightarrow \uparrow AS$.
 - (Eg. Singapore government reduces corporate tax from 20% to 18% in 2008 – pro business policy \rightarrow make Singapore a stronger competitor to Hong Kong (17.5%) \rightarrow so as to attract more investors to Singapore)



Anti-Thesis

- FP has limited impact on AS
 - FP alone may not be able to encourage I (other factors affecting I, eg. interest rates and expected yield, business outlook), thus limited impact on AS in LR.
 - Time lag: FP takes some time to take effect → may not be able to see ↑AS in short period of time.
 - Financing G in the fiscal policy may have offsetting effect on AS: Eg. rise in G to achieve sustained growth → strain on government's budget position → may need to be financed by high taxes in the future → disincentives effect on work & investment → may result in ↓AS.
- FP is also useful as a demand management tool to achieve short term goals
 - Expansionary GP: ↑G and/or ↓T → ↑AD → ↑NY, output and employment by multiple amount → enjoy economic growth (actual growth) and reduce unemployment rate.
 - During times of economic slowdown, government adopts expansionary fiscal policy to increase AD so as to relieve the adverse effects on the economy → pump priming measure / social security net (eg. economic relief , New Singapore Shares etc)
 - However, there are limitations of FP as a demand management tool:
 - Singapore has small multiplier value due to high MPS and MPM.
 - Singapore has a small domestic demand (ie. one-third of total demand) → any ↑G and/or ↓ direct tax leading to ↑C will not be able to ↑AD significantly → minimal impact on DD-side of the Singapore economy.
 - Government failure → inaccuracies in government's prediction of how much to inject to stimulate the economy → there may be overshooting → since Singapore is very near to full employment → demand-pull inflation may result (conflict with other macro objectives)

Conclusion

Synthesis – Make a judgement

- In Singapore, the effectiveness of fiscal policy as a demand management tool is limited by our small multiplier due to high MPS and MPM. Hence, Singapore government's policies do indeed tend to have a strong supply-side focus.
- In Singapore, fiscal policy is used mainly to boost labour market incentives, productivity and investment. This involves building up world class infrastructure, enhancing capabilities, investing in R&D, establishing a pro-business fiscal environment for the private sector to flourish. The reduction in corporate tax and personal income tax rates encourage investment and work incentives. All of these have a long-term impact on the supply-side. Hence, FP is used by Singapore government not only to stimulate actual growth in SR but more importantly to sustain potential growth in LR due to its SS-side effects.

L3	A balanced response demonstrating economic rigour in analysis of the supply-side and demand-side effects of fiscal policy and its limitations, with good application to Singapore context.	9-11
L2	An underdeveloped answer which lacks rigour in explanation or a one-sided answer.	6-8

L1	An answer which shows vague knowledge of the supply-side effects of fiscal policy, containing inaccuracies and errors.	1-5
E2	Reasoned judgement (eg. ability to justify that due to small multiplier and other limitations, impact on demand-side of FP is not significant, thus FP is more useful for its supply side impact in Singapore)	3-4
E1	Mainly unexplained judgement	1-2

2. (a) Explain the possible relationships between interest rate and exchange rate.
[8]

(b) Assess whether Singapore has more to lose than the USA from a rise in the interest rate. [Optional]
[17] (AJC, 2010)

Suggested Answer:

(a)

- The interest rate is a measure of the cost a firm or consumer has to pay for borrowing money (or funds); it is expressed in percentage terms: the higher the percentage rate, the higher the cost of the loan. The interest rate is also a measure of the reward savers received for making loanable funds available to borrowers and is determined by the demand and supply of available funds in the loanable funds market.
- The exchange rate of a currency refers to its external value: how much it is worth in terms of another currency. The exchange rate of a currency is determined by the demand for the currency and its supply in the foreign exchange market.
- Assume that the US interest rate rises relative to Singapore's interest rate. As a result, an outflow of hot money or funds from Singapore to the US will occur as savers stand to gain more interests by transferring their deposits to US commercial banks. In the foreign exchange market of the Singapore dollar (S\$), the supply of S\$ increases and the Singapore dollar depreciates against the US dollar. Conversely, if the interest rate of the US falls relative to the interest rate level in Singapore, then there will be an inflow of 'hot' money into Singapore from the US, ceteris paribus. The demand for S\$ in the foreign exchange market will increase and the S\$ appreciates against the US\$.
- A change in exchange rates can also affect interest rates. An appreciation of the US dollar against the Singapore dollar lowers the domestic price of US imports and raises the foreign price of US exports. US net export spending will decline, assuming the Marshall-Lerner condition holds, that is, that the sum of the price elasticity of demand for exports and imports add to greater than unity (one) in absolute value. Hence AD for US will decline resulting in a lower level of equilibrium national income (GDP) level in the economy. A lower level of GDP will be associated with a lower level of desired investment spending and consumer spending. This is because investment decisions depend on firms' projections of future demand for their goods. With weak future aggregate demand expected to remain weak, firms will demand fewer loanable funds causing demand for loanable funds to decline and with it, interest rates. Consumer spending is also

dependent on national income level. With a fall in national income, households are less likely to consume. Assuming some of the C is financed by borrowing, the demand for loanable funds decline. Ceteris paribus, interest rates will rise.

- In conclusion, a change in interest rate affects the exchange rate of a country directly while a change in exchange rate affects interest rates inversely (assuming the Marshall-Lerner condition holds).

L3	Both sides of the relationship are explained.	7-8
L2	Only one side of relationship is explained	4-6
L1	Knowledge of interest rate and exchange rate	1-3

(b)

- According to the theory of income determination, a rise in interest rates increases of consumer spending (C) to an increase in interest rates is smaller for borrowing costs for consumption and investment purposes; both autonomous consumption spending (C) and autonomous domestic investment spending (I) thus fall. C spending falls firstly, because a higher interest rate encourages savings and secondly, it increases the cost of borrowing for financing consumption. Investment spending falls because marginal investments that were marginally profitable before now become unprofitable with the rise in borrowing costs. The extent of the fall in C and I depends on how sensitive C and I are to a change in interest rates.
- In addition, a rise in interest rate attracts hot money inflow and increases the demand for the currency in the foreign exchange market resulting in the local currency appreciating. The appreciating currency causes a fall in net export (X-M), assuming the Marshall-Lerner condition holds.
- Thus a rise in interest rates reduces C, I and (X-M). Hence AD falls and reduces national income. The fall in national income is a multiple amount of the fall in C, I and (X-M) that is, $\Delta Y = k \times [\Delta C + \Delta I + \Delta(X-M)]$ where, the multiplier, k is inversely related to the marginal propensity to save (MPS), marginal propensity to import (MPM) and the marginal propensity to tax (MPT). The larger these values are, the smaller the multiplier size and hence, the smaller is the negative impact on growth, employment and hence the smaller the impact on inflation.
- An increase in interest rates also impacts the capital account balance as inflows of hot money improves the capital account balance. There could also be an outflow of outward direct investment as a stronger currency makes investment cheaper and more profitable in other countries as well. So the outcome on balance of payments depends on the relative changes to the components of the capital account balance in relation to the (X-M) component of the current account balance. But what is likely for the current account balance is a worsening state as noted earlier.
- So far, the analysis covers the impact of an increase in interest rate on an economy in general. The question remains whether the increase in interest rate will affect the Singapore economy and the US economy similarly or differently.
- The characteristics of each country play an important part in analyzing the impact of an increase in interest rate on them respectively. We first consider how autonomous consumption spending (C), autonomous investment spending (I) and

net export spending (X-M) are relatively affected by a rise in interest rates for each country.

- An increase in interest rate affects Singapore's investment to a lesser extent than the US. This is because a significant part of Singapore's investment is due to foreign direct investment. Such investment is financed by MNCs through borrowing done in their own countries or through their past profits. In contrast, the main part of investment undertaken there is done by US companies the majority of which are much smaller than MNCs and where borrowing costs as a proportion of investment cost is more significant than in Singapore, relatively speaking.
- Also the responsiveness Singapore compared to the US for the reason that there is less reliance in Singapore on spending through borrowing; instead consumers in Singapore rely relatively more on past savings to finance consumption than in the US. Thus the US's consumer spending will be more affected by a rise in interest rate than the case for Singapore.
- Thus the extent of the fall in C, I and (X-M) spending in Singapore is less than the US for a given interest rate hike. Moreover, Singapore's multiplier is smaller in value than the US because of the former experience higher leakages in imports and savings. Thus, since $\Delta Y = k \times [\Delta C + \Delta I + \Delta (X-M)]$, Singapore's change in national income is of a smaller magnitude than the US case. Hence, our growth, unemployment and current account balance is less negatively affected than the US.

Conclusion

- In the short term, there is a smaller negative effect of an interest rate hike on the Singapore economy than for the US economy due to weaker responsiveness of I, C and (X-M) to an increase in domestic interest rates and a smaller multiplier value for Singapore compared to the US.
- The state of each country's economy when the hike in interest rate occurs also matters in assessing whether the relative impacts are of the same extent or of a different extent. If AD falls on the vertical part of the slope of the AS curve, then actual growth and level of unemployment is not affected as output registers no change (economy is still at full employment). The only impact is on inflation (a negative change). If AD falls on the sloping part of the AS curve, then there is negative growth, higher unemployment (demand-deficient type) and deflation. In this case, it is hard to assess which country is more affected by the increase in interest rates, unless the states of employment of both economies were known before hand.

L3	Answer uses an analytical framework to assess impact of a change in interest rate on an economy in terms of inflation, growth, unemployment and economic growth. The assessment of the relative impacts for the US and Singapore is structured with the aid of the framework.	10-13
L2	For a limited and undeveloped answer that explains and compares the relative impacts between Singapore and the US of a change in interest rates.	6-9
L1	For an answer that shows some knowledge of links between interest rate and spending in economy. Very limited comparison btw Singapore and USA .	1-5

E2	Evaluation justified based on analysis	3-4
E1	Unjustified evaluation	1-2

SECTION 3C – Challenging Essays

1. Discuss how the characteristics of being “small” and “open” has influenced the policy options of the Singapore government. [25] (NJC, 2009)

Suggested Answer:

Introduction

- Background knowledge of policies implemented by the Singapore government should be provided. In Singapore, in favourable economic conditions, a strong S\$ exchange rate policy and prudent fiscal policy is advocated. Singapore government has also focused mainly on supply-side policy, so as to ensure that our economy is best positioned to benefit from favourable conditions in the external economy.
- Singapore government would also adjust policy implementation according to fluctuations in the external economy.

Body

- The characteristic of being ‘small’ means that Singapore is resource scarce as an economy, especially in terms of land and physical capital resources to sustain its rapid actual growth. It is also thus import reliant, and bulk of our imports consists of raw materials and necessities. Given the small size of domestic market relative to the world’s economy, Singapore is thus dependent on the external economy in terms of both net exports and foreign direction investment for actual growth.
- Singapore as an ‘open’ economy has relatively low import tariffs in almost all goods and services. Our economy is thus more vulnerable to fluctuations in the world’s economy, and is susceptible to significant impact in times of global boom and recessions. Being ‘open’ also implies significant integration with other economies in terms of labour and capital markets, and thus Singapore is more vulnerable to problems associated with the liberalization of such markets.
- Due to the characteristics of being ‘small’ and ‘open’, Singapore is an interest-rate taker. As such, monetary policy is ineffective and is thus not implemented by the Singapore government.
- Given that Singapore is import reliant due to it being ‘small’, Singapore government views that inflationary pressures in our economy are likely to be imported in nature. Thus, in order to achieve price stability in the economy, Singapore government implements a strong S\$ exchange rate policy to curb imported inflation.
- By allowing S\$ to appreciate, imports become relatively cheaper in terms of domestic currency.
- Given that bulk of Singapore’s imports are raw materials and necessities, since Singapore is resource scarce, demand for imports is expected to be relatively price-inelastic. Hence, import expenditure would fall and this translates to lower cost of

production for firms. This increases SRAS and helps curb imported inflation (illustrate with diagram).

- As necessities become cheaper in terms of domestic currency, this would also with lower GPL as price of final goods & services are lower.
- However, with an appreciation of S\$, exports also become relatively more expensive in terms of foreign currencies.
- Given that Singapore exports mainly consumer electronics and manufactured goods, demand for exports is expected to be price-elastic given that there are many substitutes produced by other industrialised nations such as Taiwan.
- This means that export revenue is expected to fall. Given that demand for exports is price-elastic, Marshall-Lerner condition holds, whereby sum of elasticities of demand for imports and exports are greater than 1, hence net exports (i.e. $X-M$) is expected to fall. Hence, slowdown in actual growth may result leading to cyclical unemployment. This thus conflicts with the other macroeconomic aims of the government.
- In favourable economic conditions, there is thus a compromise in terms of export competitiveness. Thus, Singapore government implements supply-side policies to stimulate R&D and innovation efforts to improve on the quality and attractiveness of its exports. Policies implemented to improve export competitiveness in Singapore are focused on the quality of our products rather than the price competitiveness. The 'small' characteristic thus explains the focus on supply-side policies in Singapore.
- Moreover, given that Singapore is an 'open' economy, it is also susceptible to changes in export demand. Hence, if there were changes in tastes and preferences, such that our exports lose its attractiveness, then policy measures should be implemented to mitigate the fall in our export revenue. This explains why Singapore is restructuring its economy towards more knowledge-based, high value-add exports. As such, there is a need to implement retraining programmes to equip lowly skilled workers with the required skills, in order to reduce structural unemployment in our economy. This further explains our focus on supply-side policies.
- Given the small size of the domestic economy, Singapore is dependent on net exports and foreign direct investments for its growth. In particular for Singapore, to sustain the rapid actual growth rates brought about by net exports and capital inflow, there is a need to implement supply-side policies that target potential growth. This explains the widespread implementation of interventionist supply-side policies with respect to land, labour, capital and entrepreneurship.
- Also, given that we are small and likely to lack adequate capital to sustain our rapid growth rates, Singapore government has actively implemented policies to attract foreign direct investments to provide the required capital to sustain economic growth.
- Manpower policies are also focused on attracting both foreign talent and foreign labour to enhance our productive efficiency, helping to sustain economic growth in our economy. The increase in cheaper foreign labour also helps Singapore achieve lower cost of production, leading to more price competitive exports.
- However, this would also lead to structural unemployment as domestic unskilled labour may face a loss of jobs to such foreign labour. Again, supply-side policies to retrain the workers would be required.
- Given the relatively small size of our domestic economy (i.e. both government and household spending) as compared to the external economy, the Singapore government thus implements a prudent fiscal policy.

- The fact that Singapore is a relatively open economy also implies that it is vulnerable to fluctuations in the external economy. As such, Singapore's economy is closely linked to changes in the world's economy. As such, during times of world recession, Singapore's economy would similarly be affected by export slump and fall in foreign direct investment. This would lead to a fall in AD and a corresponding more than proportionate fall in national income via the multiplier process. This results in a slowdown in actual growth and increase in cyclical unemployment in our economy.
- In such times of economic downturn, Singapore's economy thus needs adequate funds to implement expansionary fiscal policies in order to stimulate the economy. An example would be the Resilience Package that was implemented in 2009 to cope with the effects of the current financial crisis. Thus, maintaining a prudent fiscal policy in times of healthy economic growth would allow the government to build up its government adequate reserves for implementations of appropriate expansionary policies in times of global downturn.

Conclusion

- The characteristics of being 'small' and 'open' have significant impact on the policy options in Singapore. These characteristics have led to a unique set of multi-faceted causes of potential problems in Singapore, significantly influencing the policy options chosen in order to achieve the macroeconomic aims.
- A policy package would be required to achieve the macroeconomic aims as each policy implemented would not be able to fully address the problems, and each policy has its limitations.
- It should be noted that policy implementation in Singapore would have to be adjusted according to the changes in the external economy. This is due to the combined characteristics of being 'small' and 'open' whereby Singapore is a price taker and susceptible to changes in world's demand and supply conditions. As such, our policy options are focused on supply-side policies.



L3	<ul style="list-style-type: none"> • Answer shows excellent knowledge of appropriate policies with adequate rigour in explanation and excellent application to achievement of macroeconomic aims. • Explanation has good reference to the AD-AS model. • Excellent reference to characteristics of 'small' and 'open' in relevance to Singapore context and excellent explanation on its influence on policy options. • Rich use of specific contextual examples. • Essay has synthesis between points and a comprehensive structure. 	18-21
	<ul style="list-style-type: none"> • Answer shows good knowledge of appropriate policies with adequate rigour in explanation and good application to achievement of macroeconomic aims. • Explanation has good reference to the AD-AS model. • Good reference to characteristics of 'small' and 'open' in relevance to Singapore context and good explanation on its influence on policy options. • Some specific contextual examples. • Essay lacks synthesis and a comprehensive structure. 	15-17
L2	<ul style="list-style-type: none"> • Answer shows some knowledge of appropriate policies with adequate rigour in explanation and some application to achievement of macroeconomic aims. • Explanation has some reference to the AD-AS model. • Some reference to characteristics of 'small' and 'open' in relevance to Singapore context. • Lack of specific contextual examples. 	12-14
	<ul style="list-style-type: none"> • Answer shows some knowledge of appropriate policies but underdeveloped explanation and weak application to achievement of macroeconomic aims. • Explanation has some reference to the AD-AS model. • Little or no reference to characteristics of 'small' and 'open' in relevance to Singapore context. 	10-11
L1	<ul style="list-style-type: none"> • Answer shows some weak knowledge of policies that may be implemented but limited application to achievement of macroeconomic aims. • Explanation has little or no reference to the AD-AS model. • Several <u>errors and inconsistencies</u> occur in the explanation, showing <u>lack of understanding</u> of the economic concepts. • Little or no reference to characteristics of 'small' and 'open' in relevance to Singapore context. • Only a few valid points made incidentally in an irrelevant context. 	6-9
		1-5
E2	Judgment based on economic analysis on the influence of 'small' and 'open' on policy options in Singapore.	3-4
E1	Mainly unexplained judgment on the influence of 'small' and 'open' on policy options in Singapore.	1-2



2013 JC1 H1 & H2 ECONOMICS

How The Macroeconomy Works: 10. Economic Problems - Inflation

Review on: Economic Problems - Inflation

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Economic Problems - Inflation	Tick
1. What is inflation?	
2. What is deflation?	
3. What is disinflation?	
4. How is it measured?	
5. What are the main causes of inflation?	
6. How can AS/AD be used to illustrate inflation in an economy?	
7. What is the government objective in relation to inflation?	
8. What is the significance (effects) of a falling or rising inflation?	
9. How can the inflation rate be used to assess the economic performance of a country?	
10. What are the limitations of using the inflation rate to assess the economic performance of a country?	
11. How can demand side policies be used to address the problem of high inflation?	
12. How can supply side policies be used to address the problem of high inflation?	
13. How can labour productivity impact inflation?	



Section 1 – Concept Reinforcement

1. What is inflation and how is it measured?

Inflation refers to the sustained and inordinate increase in general price levels. It is measured by the percentage rate of change of a price index, usually the Retail Price Index (RPI) or Consumer Price Index (CPI).

$$\text{Rate of Inflation} = (\text{RPI}_T - \text{RPI}_{T-1}) / (\text{RPI}_{T-1}) * 100$$

2. Distinguish between disinflation and deflation.

Disinflation refers to a drop in inflation rate where prices are still rising but at a reduced rate while deflation refers to a persistent fall in general price levels thereby implying that supply > demand.

3. Identify each of the following statements as either true or false and explain why:

- a. It is possible for the general price level to rise while at the same time, inflation rates fall.

True: Inflation rate measures the rate of growth of general price level (GPL). Hence, when inflation rate falls (ie. disinflation), the GPL is still rising but at a slower rate.

- b. A consumer price index of 110 for a given year indicates that prices in that year are 10 percent higher than prices in the base year.

True: Since the CPI in the base year is 100, while that for the given year is 110, prices are 10% higher than prices in the base year.

- c. Demand-pull inflation occurs during a period of time in which the increase in total spending is less than the increase in total output (GDP).

False: Demand-pull inflation occurs when total spending exceeds total output, causing the general price level to rise.

- d. Cost-push inflation is caused by too much money chasing too few goods.

False: This causes demand-pull and not cost-push inflation.

4. Classify each of the following as either demand-pull or cost-push inflation:

Scenario	Demand-Pull	Cost-Push
a. A depreciation in the exchange rate pushes up raw material prices and causes inflation.		✓
b. Trade unions manage to get wage increases for their members that are well above the rate of inflation.		✓
c. A boom in the stock market pushes up share prices and this ultimately has the effect of causing inflation.	✓	
d. Rising confidence in the economy boosts retail sales and has the effect of causing inflation.	✓	
e. The war in Iraq sent oil prices spiralling upwards, resulting in an increase in overall price level.		✓

5. What are the consequences of inflation to an economy? Is inflation necessarily “bad”?

Consequences depend on several factors such as:

- whether inflation was anticipated or unanticipated;
- degree of inflation (ie. mild, creeping or hyperinflation)

Internal Effects

- Loss of confidence in currency
- Redistribution of income
- Effects on production
- Effects on government finance

External Effects

- Effects on BOT
- Effects on capital balance
- Effects on BOP and external value of currency
- Effect on foreign debt servicing

Inflation is not necessarily “bad”

- Mild inflation may encourage greater production and investment due to higher expected returns. With higher level of investment, employment and productive capacity rise, generating higher incomes.
- Inflation causes a redistribution of income so that certain groups of people benefit:

Gainers

- Debtors
- Variable income earners
- Businessmen

Losers

- Creditors
- Fixed income earners
- Workers

6. What are the possible measures a government could implement to address the problem of high inflation in an economy?

- Link policies to type of inflation – demand-pull or cost-push inflation.

Remedies for Demand-Pull Inflation

- Demand-side policies aimed at lowering AD:
 - Contractionary fiscal policy
 - Contractionary monetary policy
 - Exchange rate appreciation
- Supply-side policies aimed at raising AS:
 - Raise supply of imports through reducing import restrictions
 - Price controls
 - Raise productivity of firms (eg. increase training or R&D). This increases production to meet excessive demand.
 - Increase incentive to work by lowering tax rates

Remedies for Cost-Push Inflation

- Supply-side policies aimed at reducing cost of production:
 - Fiscal policy (eg. raise supply of imported raw materials through reducing import restrictions)
 - Income and price policy
 - Exchange rate appreciation
- Supply-side policies aimed at increasing productivity:
 - Increase quantity and quality of factors of production.

7. In 2009, Max's nominal income increased by 3%, while the price level rose by 1%. Consequently, Max's real income:
- (a) rose by approximately 4%.
 - (b) fell by approximately 1%.
 - (c) rose by approximately 2%***
 - (d) fell by approximately 2%.
8. If inflation is unanticipated, then:
- (a) real interest rates are less than nominal interest rates and lenders gain at the expense of borrowers.
 - (b) real interest rates are greater than nominal interest rates and lenders gain at the expense of borrowers.
 - (c) real interest rates are greater than nominal interest rates and borrowers gain at the expense of lenders.
 - (d) real interest rates are less than nominal interest rates and borrowers gain at the expense of lenders.***
9. Inflation **always**:
- (a) reduces both the purchasing power of the dollar and real income.
 - (b) reduces the purchasing power of the dollar and increases real income.
 - (c) reduces the purchasing power of the dollar but may have no impact on real income.***
 - (d) increases the purchasing power of the dollar and reduces real income.
10. A possible concern for businesses if deflation occurs is that:
- (a) the value of stocks will rise.
 - (b) banks will increase interest rates.
 - (c) raw materials will become more expensive.
 - (d) consumers may postpone spending decisions.***
11. Price increases may lead to higher wage demands as people try to maintain their living standards. This is known as the:
- (a) deflationary cycle.
 - (b) wage-price spiral.***
 - (c) hyperinflation problem.
 - (d) index-linking approach.
12. Inflation is widely regarded as an important issue for macroeconomic policy makers because inflation:
- (a) can cause wider economic costs including slower growth.***
 - (b) allows producers to make higher profits each year.
 - (c) increases the return on business investments.
 - (d) allow savers to improve their standard of living.



SECTION 2 - Case Study

CSQ1: [2009 VJC H2]

Tethering Inflation or Is It?

Extract 1

Rapidly rising inflation is emerging as one of the biggest economic worries facing Asia. The problem could hardly have come at a worse time for policymakers, amid fears over the extent and impact of the US slowdown on Asia's export-dependent economies. Inflation will bring with it serious economic risks for the region in 2008.

The main cause of rising inflation has been higher food prices, which have risen across the region due to a combination of drought in key production areas, reduced crop acreage, declining stocks and rising consumption due to higher living standards.

With oil trading at well over US\$100 a barrel, it is hardly surprising that higher oil and other commodity prices have also contributed to inflationary pressures in the region. This is in part due to the surging demand by China and India. However, higher oil prices have only had this effect in countries that do not heavily subsidise fuel prices or impose price controls. Many governments are resorting to price controls and government subsidies to curb inflation. Countries, such as India, Indonesia and Malaysia are shielded to varying degrees from the impact of rising global oil prices by fuel subsidies which accounted for over 10% of government spending in the latter two countries. However, this has helped to keep a lid on headline inflation¹. In 2008, inflation rates for both India and Malaysia were below 6% while Indonesia's was 11%. In January the Chinese government froze the prices of energy, transport and water, and announced that producers of essential food items must seek approval before raising prices. In India, the government has banned the export of non-basmati rice, edible oils and pulses. Cement and possibly steel exports are also banned. It has also removed import duties on all crude edible oils, rice and maize.

The rise in inflationary pressures could hardly have come at a worse time in the global economic cycle. With US GDP growth expected to slow sharply this year, Asian central banks would ideally be cutting interest rates to support domestic demand at a time when exports are forecast to slow. However, cutting interest rates when inflation is rising is risky. Moreover, widening in interest-rate differentials between rates in Asia and those in the US will further undermine exports. The answers, thus, depend on what has been driving inflation up and whether those pressures persist even as economies slow. Ultimately, inflation is a monetary phenomenon, so responsibility lies with central bankers. However, others worry that the task of central bankers has become harder as globalisation has shifted from being a disinflationary phenomenon to an inflationary one.

Source: Adapted from Economist, Jan 17th, Feb 21st, Apr 15th and 18th 2008

¹ Headline inflation is a measure of the total inflation within an economy and is affected by areas of the market which may experience sudden inflationary spikes such as food or energy - Wikipedia

Table 1: Food Weights in Consumer Price Index of Selected Countries

Economy	% Share
India	57.00
Indonesia	42.30
People's Republic of China	33.20
Singapore	23.38
Republic of Korea	14.00

Source: ADB, National Statistics Offices, 2008

Table 2: Selected Macroeconomic Data for China

	2005	2006	2007
GDP deflator (% per annum)	4.2	3.7	5.2
GDP per capita (current prices, yuan)	14061.9	16122.2	18885.3
Life expectancy at birth (years)	72.27	72.58	72.88
Average no. of hours of work per week	47.8	47.3	45.5
Exports of goods (US\$, bn)	762	968.9	1217.8
Imports of goods (US\$, bn)	660	791.5	956

Source: CIA World Factbook, ILO, OECD

Table 3: Money Supply (M1: Seasonally Adjusted) of Selected Countries

	2005	2006	2007	2008
US (US\$ bn)	1374.3	1365.5	1373.0	1595.3
Japan (Yen bn)	483 800	484 200	486 800	481 800
China (Yuan bn)	10727.9	12602.8	15251.9	16621.7
EU (Euros bn)	3423	3685	3833	3978

Source: Central Banks of Various Countries

Extract 2

China is suffering from rising inflation with year-on-year rate reaching a peak of 8.7% in February 2008. It has shown up largely as a sharp increase in food prices, in a time of food shortages caused partly by bad weather and partly by the outbreak of blue ear pig disease. Sharply rising food prices combined with stable prices for other goods have made it seem to many as if Chinese inflation is primarily a problem of food supply constraints.

However, in a February 4 article in the Financial Times Massachusetts Institute of Technology, professor Kenneth Rogoff argued that "Those who believe that the cause of China's inflation is too little pork, rather than too much money, are seriously mistaken." He believes that China is suffering from the monetary consequences of its rising trade surpluses. This is because large net foreign currency inflows into the country from both the current and capital accounts must be purchased by the People's Bank of China (PBOC) in order to manage the value of the yuan within its prescribed level.

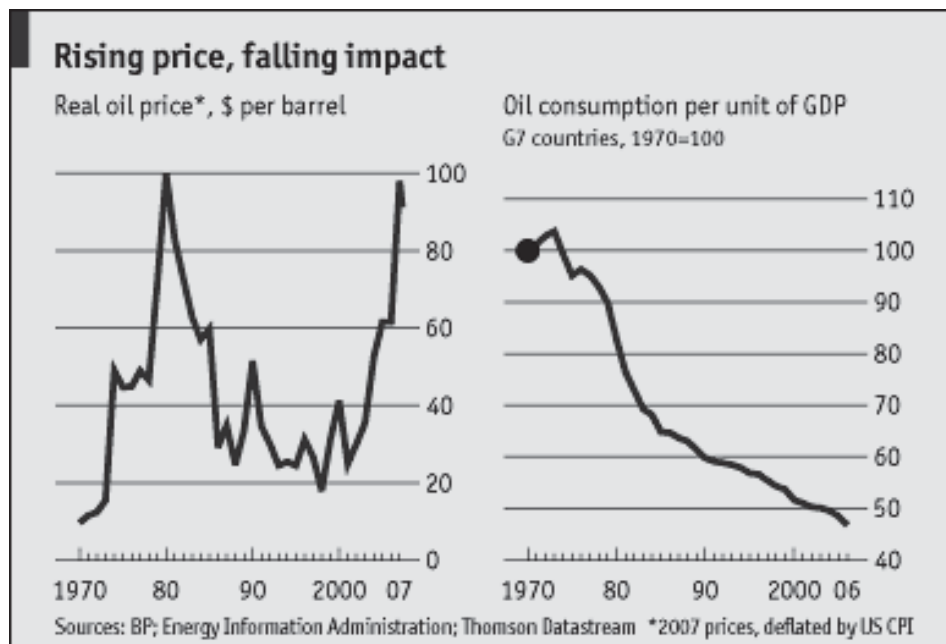
Source: Adapted from Far Eastern Economic Review (April 2008 Issue)

Extract 3

Today's oil prices would have been unthinkable until very recently. Six years ago, when a barrel of crude oil could be bought for as little as US\$20, oil prices at today's levels would have raised fears of deep recession. Notwithstanding the spectre of past oil shocks, crude prices have risen to ever-dizzier heights without derailing a five-year period of strong global growth. But why has rising oil prices become less scary? Today's economies are able to take a punch compared with their rigid state in the 1970s, where union power and indexed contracts meant wages were unyielding and instigated a damaging wage-price spiral.

Source: Nov 15th 2007, The Economist

Chart 1



Source: Nov 15th 2007, The Economist

- (a) Describe the trend for world real oil prices from 1970-2007. [2]
- (b) Using the data, assess how households and firms in Asia would be affected by: (i) the rise in food and oil prices [8]
(ii) government measures to control prices.
- (c) How useful is table 2 in enabling us to draw conclusions about the extent of changes in average living standards in China? [6]
- (d) Explain why inflation today may not have that severe an adverse effect on the macro economy. [4]
- (e) With reference to the data, do you agree that "inflation is a monetary phenomenon" and hence monetary policy is the most effective way to reduce inflation? Justify your answer. [10]

Case Study Answer:

- (a) Describe the trend for world real oil prices from 1970-2007. [2]

It rose from 1970 and peaked in 1980 before falling in 1998. Thereafter, it rose and peaked in 2007 again.

Alternative Answer:

From 1970 – 1980, it was rising after which it fell until 1988. It was volatile at around \$30 per barrel before rising from 2001.

- (b) Using the data, assess how households and firms in Asia would be affected by: [8]
- (i) the rise in food and oil prices
 - (ii) government measures to control prices.

(i) Effect of the rise in food and oil prices:

Households:

- There are differing impacts in the affordability of necessities: the poorer countries (India and Indonesia) are harmed more since food accounts for a large proportion of the consumer price index (CPI) basket (see Table 1) compared to richer countries like Korea and Singapore. This in turn means that higher food prices have a much bigger impact on the overall rate of inflation than in richer economies, where food accounts for a smaller proportion of the CPI basket.

Firms:

- Given that countries in Asia tend to be producers of agricultural products like rice etc., firms selling these products are likely to gain a higher TR due to inelastic demand.
- However, firms that rely heavily on oil (eg. transport companies) will experience a rise in production cost and hence falling profits

(ii) Effect of government measures to control prices:

Households:

- Households may not be affected much if government provides subsidies (the 3 countries mentioned in the data were having relatively mild inflation). In addition, with the removal of import duties and hence greater competition, the food items could be cheaper. But certain households (especially upper income group where the economies have progressive income tax system) will be worse off as tax burden may rise if government raises tax to finance these subsidies.
- For countries which use price ceiling, some households will have access to food at lower prices than before. However, others will suffer shortages and turn to black markets.

Firms:

- For export-oriented firms in the commodities and food industries as well as those in local industries, removal of import duty implies that they may now face greater competition from higher volume of imports with possible lower prices. As a result, the profits margin will be squeezed.
- Firms selling products where price ceiling is imposed could potentially gain higher revenue from black markets.
- Firms that use oil will face shortages if their governments use price ceiling to control price increase. This leads to higher production cost.
- With export ban, domestic output will rise and given that such products tend to have inelastic demand, price will fall sharply and hence total revenue of these firms fall.

Conclusion:

- While most in Asia will suffer the negative impacts of inflation, the extent will depend on the type of policies carried out by their governments and the long / short term effects. Eg. subsidies may temporarily help households but in the long run, such measure may not be sustainable. In Malaysia and Indonesia, such subsidies account for over 10% of the spending. These spending distort prices and lead to inefficiency. In addition, while some may not be much affected by the inflation, this is often because some else in the society has borne the burden of such inflation.
- Price ceiling reduces incentive for firms to increase supply. This creates shortages and could potentially push prices higher.

L3	Evidence of analysis and evaluation with the use of relevant data	7-8
L2	Identify and explain the impacts on firms and households	4-6
L1	Identify impacts on firms and households	1-3

- (c) How useful is table 2 in enabling us to draw conclusions about the [6]
extent of changes in average living standards in China?

- Data provides changes in GDP deflator, enabling us to factor in inflation and so calculate changes in real GDP per capita. The figures have risen throughout the 3 years which indicates that purchasing power has risen. But this figure does not reveal how different types of households will be affected. It also does not give real disposable income which provides a better indicator of households' ability to consume goods and services.
- Table 2 seems to indicate that SOL could possibly rise. In terms of material indicator, imports have risen (which could indicate higher consumption). However, exports are rising faster. This means that domestic resources are allocated to produce output for overseas consumption. In this aspect, SOL may not have increased.

But the rising trade surplus could mean rising income for certain sectors. For non-material indicators, hours worked fell and life expectancy rose.

- Hence, while Table 2 provides a rough indication of possible rising SOL, other indicators like Gini coefficient (which shows income distribution) or HDI would be needed to draw further conclusions that China's SOL has indeed risen.

L3	Provide a conclusion; suggest and explain use of alternative indicators to complement Table 2.	5-6
L2	Provide a balanced view using both material and non-material indicators. Shows ability to compare nominal GDP changes with inflation rate or export vs import values and draw conclusions	3-4
L1	Superficial and limited treatment of the data (eg. use only GDP per capita to show rising SOL without considering impact of inflation or consider use of non-material indicators alone to draw conclusions.) No explanation / analysis.	1-2

(d) Explain why inflation today may not have that severe an adverse effect on the macro economy. [4]

- Extract 3 shows that the labour market has become more flexible in response to economic conditions. Wages could now be tied to workers' productivity rather than be index-linked to protect real wages. In this way, nominal wages may not need to keep up with inflation rates if workers' productivity remains unchanged during a period of inflation. If so, producers need not pass on these higher wage cost in the form of higher prices to consumers.
- Better policy-making in the context of inflation caused by crude oil.
- More flexible institutions that respond / adjust quickly before inflation escalates Globalization such that the overall impact on the world is reduced.

(e) With reference to the data, do you agree that "inflation is a monetary phenomenon" and hence monetary policy is the most effective way to reduce inflation? Justify your answer. [10]

- Monetary policy implies use of interest rates or money supply to change AD. Raising interest rates means tightening credit $\rightarrow \downarrow C, I \rightarrow \downarrow AD \rightarrow$ demand-pull inflation is reduced.
- In Table 3, evidence indicates that money supply of major economies in the world has in general risen since 2005. Extract 2 further confirms that inflation in China is due to monetary factor. As a result of the rising trade surplus, China's currency has been appreciating. However, to fix its ER within a certain band, China has to increase the supply of its own currency in the foreign exchange market. This in turn leads to rising domestic money supply since the

currency will eventually be in the hands of locals. Rising money supply will in turn lead to rising transactions and hence demand-pull inflation.

- Since the cause is due to a monetary phenomenon, then MP may be effective as it is a demand-side policy. However, a tight MP may further worsen the economic slowdown (Extract 1: US is facing slowing GDP growth) especially since Asia's economies are export-dependent. A fall in income in one country will mean fewer exports to its trading partners (feedback effect).
- However, Extracts 1 and 2 also indicate that the sources of inflation are due to supply disruptions and rising living standards and industrialization ("surging demand by India and China").
- Inflation due to non-monetary causes like supply shocks or imported inflation (as a result of globalization) cannot be addressed by MP. Consider the consequences of a mismatch of policies to the cause of the problem. Eg. the use of contractionary MP to reduce supply shocks inflation will further reduce growth with no effect on rising GPL.
- To deal with supply shocks, price or trade policies can be adopted as in the case mentioned in Extract 1. This will help to mitigate the temporary effects of cost-push inflation.
- However, for countries causing the rise in demand for oil due to industrialization or higher income (eg. China and India), MP will be effective since AD is curbed.
- In China's case, allowing its currency to appreciate will help to reduce its growing trade surplus (Table 2) since this is a main cause driving the inflation.
- Additional supply-side measures could be adopted to reduce the inflation. In Extract 3, having a flexible labour market such as linking wages to performance (Eg. civil service system in Singapore) will ensure that wages does not rise in tandem to inflation and hence higher wage cost does not lead to higher prices. Use of technology and R&D will also ensure greater energy efficiency and hence reduced demand for oil.

Conclusion:

- The effectiveness of MP lies in determining "what has been driving inflation up" (Extract 1). While there is evidence to suggest that excessive money supply could be the cause, this will partially solve the problem of inflation. Supply disruptions or possibility of other real factors (like population growth etc.) not provided in the data could also be the causes. Hence the need to ensure that the policies adopted match the cause of the inflation problem.



L3	<ul style="list-style-type: none"> Consider possible macroeconomic trade-offs when using policies to tackle inflation Provide a balanced view that the policies in use must match with the cause of the inflation with support from the data. Explain possible consequences due to a mismatch of policies to causes. Consider the use of at least 2 relevant policies (other than MP) with evidence from data 	7-8
L2	<ul style="list-style-type: none"> A 1-sided view that explains how MP alone can reduce inflation mentioned in the data Show attempts to match policies with causes with gaps in the explanation. Some attempts to support with the use of data. 	4-6
L1	<ul style="list-style-type: none"> Identify relevant data with hardly any explanation Provide definition of relevant concepts like MP 	1-3
E	<ul style="list-style-type: none"> Conclude that the most effective way is to match causes of the problem with the relevant policies bearing in mind the possible cost/trade-offs incurred. Consider limitation of data like real factors 	1-2

CSQ2: [2009 YJC H2]

The Inflation Tsunami

Extract 1: Singapore's inflation hits 25-year high

Singapore's annual inflation rate hit a 25-year high of 6.6% in January, according to Department of Statistics (DOS) data released on Monday. The inflation rate, as indicated by the consumer price index (CPI), was the highest since the 7.5% hit in March 1982.

The Ministry of Trade and Industry (MTI) issued a statement along with the DOS data, saying the year-on-year jump in inflation in January was in line with the official inflation forecast of 4.5-5.5% for 2008.

The DOS said the jump in inflation was due largely to an 11.1% spike in housing costs recorded after a revision to values of public housing. Housing costs, which account for 21 percent of the consumer price index, have the third-largest weighting after food and transport/communication. Food prices, which carry the largest weighting in the CPI, rose 5.8% in January from a year earlier. Transport and communication costs rose 6.9% between January 2007 and January 2008, driven by soaring global fuel prices and higher taxi fares. Higher petrol prices also contributed to a rise in transport costs for food. This, coupled with higher global food prices, means more expensive grocery bills.

Source: Channel News Asia, www.channelnewsasia.com, 25 February 2008

Extract 2: UK Inflation Soars to 5.2%

Inflation unexpectedly soared to 5.2% last month, the highest in 16 years, after power companies hiked gas and electricity bills.

The annual rate in the consumer prices index (CPI) was up from 4.7% in August and the highest since the series began in January 1997. The figures are expected to mark the peak in the spiralling cost of living seen this year.

The main reason consumer price inflation topped 5% for the first time was sharp rises in utility bills. Electricity prices were 30.3% higher on a year ago while gas prices soared by 49.9%. The annual rate of inflation for energy and other household bills hit 15%, the highest since January 1989.

A separate measure, the Retail Prices Index (RPI) -which includes mortgage payments and is more commonly used for wage bargaining and pension payments -reached 5 per cent in July, up from 4.6 per cent, which is the highest level since July 1991.

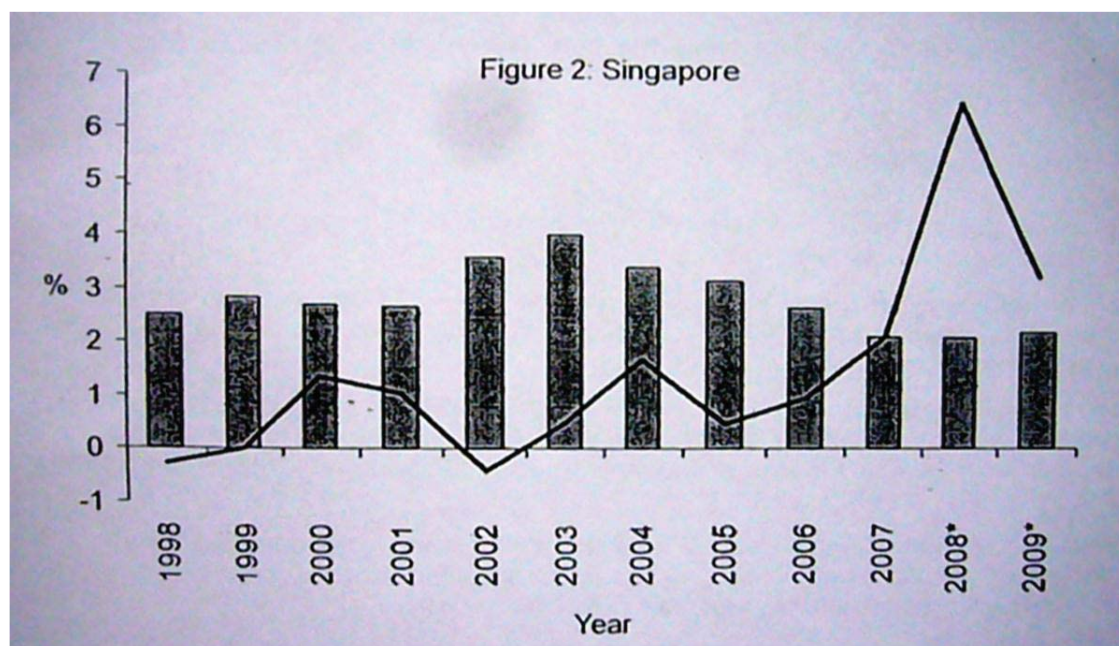
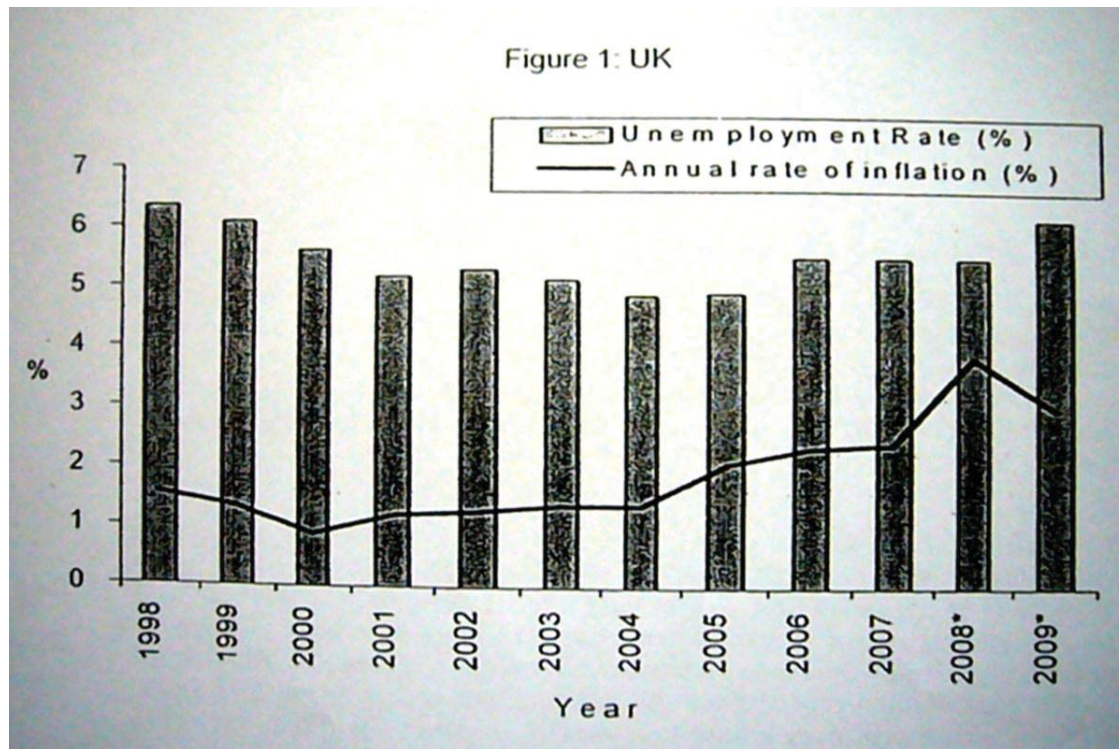
The rise in the RPI spells good news for pensioners and those receiving benefits. September's RPI is commonly used by the government to calculate pension increases for the coming year. Pensions usually rise by 2.5% or in line with the headline RPI, whichever is higher.

Paul Kenny, general secretary of the GMB union, said: "Inflation is impacting on the economy differently in different sectors Food manufacturing, for example, is being squeezed, leading to severe job losses. Other sectors like oil and energy are printing inflation by hiking prices."

Source: Adapted from The Guardian, <http://guardian.co.uk>, 14 Oct 2008
and My Express, <http://express.co.uk> 12 Aug 2008



Figures 1 & 2: Inflation & Unemployment in the UK and Singapore



* estimates

Note:

Annual Rate of Inflation calculated based on annual percent change in average consumer prices

Unemployment Rate calculated based on Total Labour Force

Source: IMF World Economic Outlook Database, www.imf.org, Oct 2008

Extract 3: Inflation in Other Economies

In a further twist to the global inflationary spiral, Indian inflation has shot into double figures, reaching 11 per cent last month, its highest in 13 years. As in China, where inflation is nearing double digits, much of the recent increase in prices has been due to rising fuel costs after the withdrawal of state support.

In Vietnam, where the year-on-year rate of consumer price inflation reached 19.4% in March, various factors such as a general overheating of the domestic economy, an undervalued exchange rate and inappropriate monetary policy have added to the impact of rising food prices in fuelling inflation.

Of other major economies in Asia, only South Korea, Taiwan and Malaysia reported inflation of under 5% in their most recent data release.

The rise in inflationary pressures could hardly have come at a worse time in the global economic cycle. In Asia, there are already fears over the extent and impact of the US slowdown on these export-dependent economies. Ideally, central banks in these economies would be cutting interest rates to support domestic demand at a time when exports are forecast to slow. However, cutting interest rates when inflation is rising is risky. As a result, central banks are faced with the unappealing option of either keeping interest rates on hold, or raising them. Moreover, owing to lower interest rates in the US, this is likely to lead to a further widening in interest-rate differentials between rates in Asia and those in the US. This will put further upward pressure on Asian currencies, most of which have been steadily appreciating against the US dollar over the past year.

Source: Adapted from The Independent, www.independent.co.uk, 21 June 2008 and The Economist, www.economist.com, 15 Apr 2008

Figure 3: Consumer price inflation in emerging economies (%)

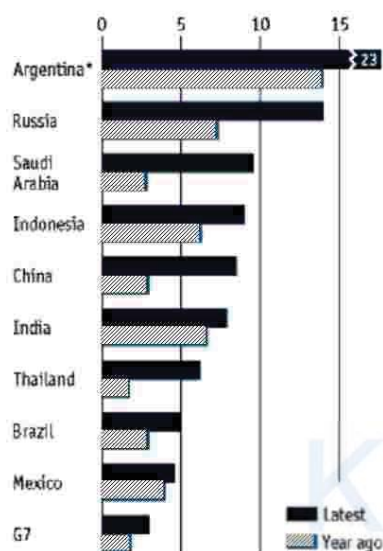
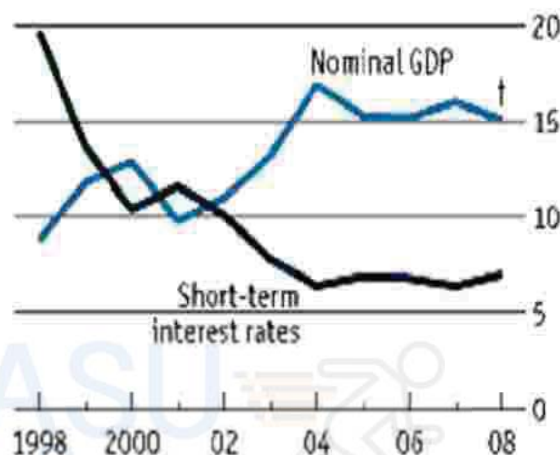


Figure 4: Emerging economies' * Nominal GDP growth and interest rates (%)



* Average of ten biggest economies
Note: 2008 are forecasted figures

Source: The Economist, www.economist.com, 22 May 2008

Tasks

- (a) (i) With reference to Figures 1 & 2, compare the trends in consumer prices between the UK and Singapore over the period 1998 – 2007. [2]
- (ii) To what extent does the information in Figures 1 & 2 suggest that there is a stable relationship between inflation and unemployment in the UK and Singapore? [4]
- (b) Using AD/AS analysis, explain how higher global fuel prices have contributed to a rise in consumer prices in the Singapore economy. [3]
- (c) Using extract 2 and your own relevant knowledge, discuss the possible consequences of inflation on the UK economy. [8]
- (d) (i) Explain one possible link between changes in short term interest rates and nominal GDP growth rates in the emerging economies as shown in Figure 4. [3]
- (ii) Assess whether central banks in these economies should adjust their interest rates in the face of rising inflation and an expected slowdown in the US economy. [10]

Case Study Answer:

- (a) (i) **With reference to Figures 1 & 2, compare the trends in consumer prices between the UK and Singapore over the period 1998 – 2007.** [2]

Consumer prices have generally been rising in both countries over the years. However, while prices in UK have been rising at a relatively steady rate, the rate of increase in prices in Singapore is more uneven. In addition, there were years where consumer prices fell in Singapore (2002 compared to 2001), unlike in UK where prices have always been rising every year.

Candidates need to recognise the similarities and differences.



- (a) (ii) To what extent does the information in Figures 1 & 2 suggest that there is a stable relationship between inflation and unemployment in the UK and Singapore? [4]

A 'stable relationship' would exist if the both inflation and unemployment within the country exhibit a consistent trend with one another over the same period. As such, Figure 1 provided more evidence of a stable relationship. The variations in the rates of inflation and rate of unemployment are not significant. Throughout the period from 1998 to 2007, the year-on-year change in inflation and unemployment rate is consistent with each other.

However, such a stable relationship is not evident in Figure 2. There are greater fluctuations in inflation rate during the whole period compared to unemployment rate. While unemployment rate increases from 1998 to 2003, inflation rate fluctuates – it increases and falls and increases again – with the change in percentage point being greater.

Thus, the information in Figures 1 & 2 does not offer a clear conclusion that there is a stable relationship between inflation & unemployment.

A variety of responses as to whether there was a stable relationship between the 2 variables will be accepted provided the meaning of 'stable' is clearly stated and there are clear references to the data.

- (b) Using AD/AS analysis, explain how higher global fuel prices have contributed to a rise in consumer prices in the Singapore economy. [3]

Higher fuel prices increase the petrol costs, which in turn raise the transport costs of firms. Cost of shipping and importing goods becomes more expensive too. Since Singapore imports all its raw materials, and many of its intermediate and final goods, this will inadvertently increase the average production costs for many firms. This may cause producers to cut down on production to maintain profits levels, *ceteris paribus*, causing the aggregate supply to fall in the short run.

With a reduction in planned production and aggregate demand remaining unchanged, this will cause the general consumer prices to rise, as the higher costs is passed on down to the whole supply chain and ultimately to the consumers.

Note: Candidates need to explain the underlying process.



- (c) Using extract 2 and your own relevant knowledge, discuss the possible consequences of inflation on the UK economy. [8]

Inflation refers to a sustained and inordinate rise in general price level over a period of time. According to Extract 2, inflation in UK had soared to its highest level in 2008, based on changes in both CPI & RPI. This may likely bring about many negative consequences, although there are possible positive impacts as well.

With inflation, shoe-leather and menu costs are often incurred. Since each dollar can now buy fewer goods and services, households will demand more cash for transactionary purposes (e.g. for paying the utility bills etc) and this may necessitate more trips to the bank.

This incurs time & effort. Firms, on the other hand, will have to adjust their price lists upwards to reflect the higher prices. Extra resources are again needed to carry this out. As

a result, there are opportunity costs involved when there is inflation. Such opportunity costs will rise in UK if inflation rises.

Secondly, inflation can bring about inefficiency in the UK economy if it rises too rapidly and one is no longer able to anticipate the inflation rate correctly. When firms are no longer certain of the future costs and prices, they may find it difficult to predict the profitability of additional investments and are thus less willing to engage in such risky ventures. As a result, new investments may be less forthcoming. This can adversely affect the long run aggregate supply of UK as its productive capacity would now grow at a slower rate. Inflation can also lower the ability of firms to invest. As mentioned in Extract 2, with energy prices rising by its highest rate since 1991, certain sectors in the UK are already suffering from lower profits (e.g. food manufacturers mentioned in Extract 2, para 7), causing unemployment to rise in these sectors. With less profit, such firms are less able to invest in capital goods and new technologies, negatively impacting on future growth.

In addition, rising inflation may drive firms and household to hedge against the falling value of money. Resources may be diverted into other assets whose values are rising, such as properties and gold. However, these are usually non-productive assets, which do not really increase the productive capacity of the country. As a result, with more resources allocated in these areas, firms will have less funds to invest in new plants and machineries.

Capital formation is adversely affected and growth in productive capacity may slow down in the long run. This will negatively impact on the potential growth of the UK economy. Externally, inflation can adversely impact on the UK's balance of payments in the current account. If relative inflation rate in the UK is higher than its trading partners, then UK exporters (e.g. food manufacturers) will have difficulty selling their goods and services as the prices will now be relatively higher. Conversely, UK residents may turn to importing more as they are relatively cheaper than domestic goods. If export demand is price elastic,

then export value will fall, while import expenditure will rise. This can worsen the balance of payments, assuming all other things are constant.

However, not all the consequences of inflation are necessarily undesirable. There are certain sectors that may actually benefit from inflation. As seen in Extract 2, oil and energy

firms are actually earning more with inflation. This is because demand for such products is generally inelastic as they are basic inputs in the production of many goods and services. As such, with higher prices, their total revenue tend to rise as well. In addition, inflation can bring good news to pensioners and other people receiving state benefits (Extract 2, para 5) because such handouts are indexed to the inflation rates, although it remains debatable whether such nominal increases will actually raise their overall purchasing power.

In conclusion, the net impact of inflation on the UK economy depends very much on what are the underlying causes and whether it is anticipated or not. But given that the inflation is unanticipated (Extract 2 para 1), the soaring inflation that the UK is currently facing will therefore spell more trouble for the economy if it is not contained soon enough.

(d) (i) Explain one possible link between changes in short term interest rates and nominal GDP growth rates in the emerging economies as shown in Figure 4. [3]

- There is inverse relationship between the changes in short term interest rates and nominal GDP growth rates.
- Explanation (any one):
- \downarrow interest rate falls $\rightarrow \downarrow$ cost of borrowing \rightarrow If $MEI > \text{interest rates}$, it would be profitable to borrow and invest more $\rightarrow \uparrow I \rightarrow \uparrow AD \rightarrow$ stimulates production and output \rightarrow GDP growth rises (since GDP measures the total value of output produced within the country)
- \downarrow interest rate \rightarrow lower rates of returns from savings \rightarrow opportunity cost of consumption falls \rightarrow households have less incentive to save and more incentive to spend out of current income $\rightarrow \uparrow C \rightarrow \uparrow AD \rightarrow$ stimulates production and output \rightarrow GDP growth rises
- \downarrow SR interest rates (relative to other countries') \rightarrow lower rates of returns from saving in domestic currency \rightarrow more outflow of short term capital $\rightarrow \downarrow$ demand for domestic currency falls while supply of domestic currency rises \rightarrow currency depreciates \rightarrow export prices fall in foreign prices while import prices rise \rightarrow assuming Marshall-Lerner condition is satisfied $\rightarrow \uparrow (X-M) \rightarrow \uparrow AD \rightarrow$ stimulates production and output \rightarrow GDP growth rises



- (d) (ii) Assess whether central banks in these economies should adjust their interest rates in the face of rising inflation and an expected slowdown in the US economy. [10]

Candidates should discuss the merits of using monetary policy to deal with the various economic problems plaguing the country.

First, they should consider the merits of changing interest rates. This can be done through various ways. For example, they could argue that by keeping interest rates constant, problems may worsen and then go on to explain how changing interest rates can at least help to deal with one of the economic problems. (eg. by raising interest rates, this can help curb inflation to a certain extent, or by reducing interest rates, this can help to deal with the unexpected slowdown in the economy). Alternatively, they could highlight some of the limitations of other policies (eg. fiscal policies involve more time lags etc.) and then go on to explain how interest rates can be effective. Sound economic analysis should be evident when explaining how the policy works.

Secondly, candidates should consider the demerits of changing interest rates within the context of rising inflation and potential slowdown in economy. Focus should thus be on the potential conflicts in goals caused by changing the interest rates. For example, lowering interest rates can worsen inflation.

Lastly, they should make a concluding assessment on whether central banks should adjust their interest rates. Judgement should be based on sound economic principles and the information provided in the case study (eg. using Figure 3 to decide which of the emerging economies will be more seriously harmed by adjusting the interest rates.)



SECTION 3: Essays

SECTION 3A: Lower-Order Skills

1. Explain why a country may experience a persistent rise in its general price level.
[10] [CJC, 2010]

Suggested Answer:

Introduction:

- Define inflation: Inflation can be defined as a sustained increase in the general price level or sustained increase in overall prices in the economy. Inflation causes the value of money to fall. It reduces the purchasing power of money.
- Define persistent inflation: A persistent inflation is said to have lasted for more than three quarters.

Body:

a) Causes of inflation

- The level of prices in an economy is determined by the interaction of aggregate demand and aggregate supply. For prices to rise, either aggregate demand or aggregate supply must change. Hence inflation can be caused by either demand or supply issues.

b) Demand-Pull Inflation

- Results when persistent increase in aggregate demand cannot be matched by aggregate supply. Firms thus respond by increasing prices.
- A persistent increase in aggregate demand can result from factors like income rise, population growth, excessive investment, government expenditure and so on.
- When full employment is reached, aggregate supply cannot be increased as the economy is at its maximum productive capacity.
- If aggregate demand increases, (due to increases in consumption and investment, increase in foreign demand, government expenditure financed by borrowing) and if aggregate supply remains the same, prices will rise.
- This will continue due to increase in production costs as firms try to meet the increased demand by bidding up the prices of scarce labour and materials in order to attract them from their existing jobs.
- The higher cost will be passed on to the consumers in the form of higher prices. Workers demand higher wages and this results in further increase in aggregate demand. The process continues as prices in factor and product markets are pulled upwards. (Diagram)

c) Cost-Push Inflation

- This is caused by an increase in costs of production within the economy.
- As a result of an increase in cost which will be passed on in the form of increase in prices of goods and services, trade unions ask for higher wages in the absence of higher demand or increase in productivity. This will in turn further increase the cost for the firms which will push the increased wage costs on to the consumers by raising prices of their goods setting in motion a wage price spiral.

- When there is an increase in the cost of production, AS fall and is shifted to the left resulting in an increase in the general price level. This type of inflation is called cost push inflation. (Diagram)
- Imported inflation:
 - Caused by higher import prices. Singapore imports all her raw materials, food and many products. When prices of food and oil rise in other countries, importers will face higher cost and will pass on the cost to the consumers in Singapore.
- Structural Inflation:
 - At times there may be changes in demand or supply in an economy or sectors of the economy may be facing different changes. Due to structural changes, supply may not be responsive enough to changes.
 - Assume that resources are either geographically or occupationally immobile and wages and prices tend to be sticky downwards following a fall in demand while they tend to rise following a rise in demand.
 - As a result of such immobility, the costs of production rise. In declining industries wages remain high or do not change as people remain in the industry. In rising industries, due to lack of labour resources as workers do not shift to such industries, wages rise as firms compete for the limited pool of labour. Overall costs of production increase and inflation occurs. This is the structural view of inflation.

Conclusion:

- In the real world, it may not be easy to identify the primary cause of inflation. Demand pull and cost push inflation can occur simultaneously. For example, when excessive aggregate demand in a specific industry brings about increases in prices, structural inflation can occur as supply cannot adjust to the new situation. The resulting demand for higher wages by workers can cause cost push inflation.

L3	Detailed explanation of the interaction of various causes of inflation with diagrams	7-10
L2	Explain the main causes of inflation with some elaboration with or without diagrams	5-6
L1	Explain at least one cause of inflation which may be brief and not elaborated with no diagrams.	1-4



Section 3B: Higher-Order Skills

1. In August 2000, the Dutch government was concerned that increases in AD were putting too much pressure on the economy.
- (a) Explain why a government is concerned about the excessive pressure created by rising AD. [10]
- (b) Discuss whether fiscal policy alone might be effective in reducing this pressure. [15]

Suggested Answer:

(a)

- Give meaning of excessive pressure created by rising AD. Refers to demand-pull inflation.
- Give reasons why a government should be concerned – the internal and external effects of inflation.
- Internal
 - Increase cost of living as GPL increase.
 - Loss of confidence in currency. Money no longer is a good medium of exchange and unit of account. Specialization and exchange may become a problem.
 - Redistributive effect on income.
 - Uncertainty and lack of investment due to instability and fall in savings.
- External
 - BOT deteriorates.
 - Capital account deteriorates.
 - BOP deteriorates leading to fall in external value & ↑ foreign debt burden.
- Conclusion

L3	Good knowledge of demand-pull inflation caused by rising AD. Accurately developed answer to explain effect of inflation and why government is concerned. Good use of diagram and examples	7-10
L2	Accurately pointing out that rising AD cause demand pull inflation. Merely stating the effects of demand-pull inflation without explaining why government is concerned. Accurate but undeveloped explanation.	5-6
L1	Answer shows some knowledge of aggregate demand. But fail to recognize that rising AD causes demand pull inflation. Hence, unable to explain why government is concerned.	1-4



(b)

- Define and explain fiscal policy (FP) → contractionary FP used to reduce inflationary pressures
- Explain how a fall in G and a rise in T can reduce inflationary pressures.
- Limitations/Evaluation of FP is required:
 - Effectiveness of FP depends on decision and execution lags, rigidity of government spending fiscal drag.
 - State that FP alone is not effective. Monetary policy (MP) or exchange rate policy (ERP) could be used.
 - Explain how a contractionary MP is used to reduce inflationary pressure.
- Evaluation of MP is required:
 - Conditions for effectiveness –investment should be sufficiently responsive to fall in interest rates (ie: MEI is elastic). Government must also have full control of money supply and interest rate. May be a problem especially for open economy like Singapore.
- Show how exchange rate policies could be used.
- Evaluation of ERP is required:
 - Government must have sizeable funds foreign exchange to buy and sell domestic currency.
- Conclusion

L3	Good and sound economic analysis to explain how fiscal policy might reduce inflation . Recognise that there FP alone is not effective thus bringing in other policies. Good explanation of various policies how inflation rate can be reduced. Well developed answers.	9-11
L2	Ability to explain how fiscal policy can reduce inflation. Recognise that FP alone is not the best solution. Manage to demonstrate how other policies such as ERP, monetary policy can be used although explanation is undeveloped. Not much evidence of ability to recognition limitation, assumptions and implications of the policies. OR only show a one-sided answer explaining why fiscal policy is effective to reduce AD.	6-8
L1	Display basic knowledge of fiscal policy on how it works to reduce inflation.	1-5

E2	For evaluation explained with economic analysis, ie. one that considers the strength and weakness of various policies as anti-inflationary tools.	3-4
E1	For evaluation not explained or unsupported by analysis.	1-2



2. Singapore's inflation hits 25-year high of 6.6%. (www.channelnewsasia.com, 25 February 2008)

- (a) Explain the possible causes of inflation in Singapore. [10]
(b) Discuss whether a low rate of inflation should be the economic priority of the Singapore government. [15] (PJC, 2009)

Suggested Answer:

(a)

Analysis of Question

Command word:

Explain: to make clear

Use AD/AS analysis to clearly the factors that give rise to inflation in Singapore.

Causal links must be clearly stated and elaborated.

Key concept:

Inflation

Key word: Causes

Context: Singapore

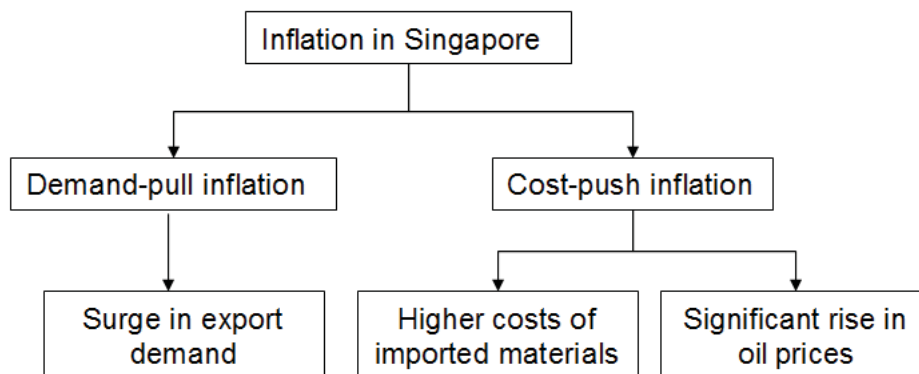
Question requirement

Candidates are required to identify the features of the Singapore economy and explain the factors that give rise to inflation in the Singapore economy. The two key causes of inflation in the context of Singapore are:

(i) rising AD due to surge in export demand (i.e. foreign demand)

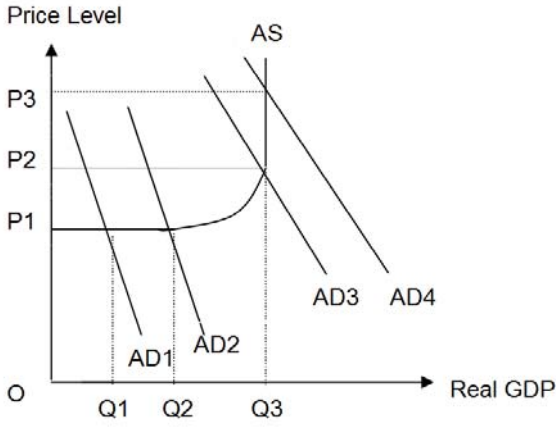
(ii) rising AS due to imported inflation (e.g. high oil prices and high costs of imported resources)

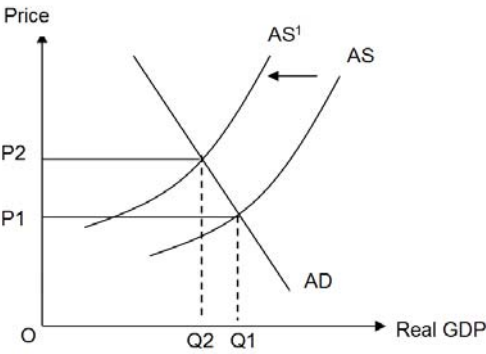
Schematic Plan



KIASU
ExamPaper

Write the Full Essay

Thinking Process	Essay (content, analysis and evaluation)
<p>Introduction:</p> <p>What are the key features of a small and open economy like Singapore?</p>	<p>Singapore is a small and open economy with limited amount of natural resources and relies heavily on trade as a source of sustained economic growth. Singapore mainly imports raw materials and primary products while exporting high-end manufactured goods e.g. microchips, wafers, oil rigs and increasingly services as well. External demand contributes a significant proportion of Singapore's aggregate demand and total trade is approximately 4 times of Singapore's GDP.</p>
<p>Define 'inflation' and identify the possible causes of inflation in Singapore.</p> <p>By using a AD/AS framework, explain why demand pull inflation in Singapore may occur.</p>	<p>Inflation can be classified as demand pull or cost push based on the causes of inflation. Demand pull is caused by high aggregate demand and the constraints of aggregate supply. Cost push inflation is caused by the rising costs, leading to a shift in AS.</p> <p>An excessive increase in the aggregate demand (AD) can be caused by an increase in any of its components, namely consumption, investment, government expenditures and net export. An excessive and continuous increase in one or a combination of the components will lead to an excessive and continuous increase in aggregate demand, which causes demand-pull inflation. In view of the small and open Singapore economy, as exports is a large portion of its GDP (approximately 200%), demand pull inflation is more likely to be triggered off by rising exports</p>  <p>Figure (1)</p> <p>With reference to Figure (1), when AD1 shifts to AD2 as a result of an increase in its components, there is no increase in price level, price remains at P1, while real national income increases from Q1 to Q2. As the economy is not at full employment (perfectly elastic AS curve), in response to the greater demand, firms employ the abundant resources available in the economy to increase their output.</p>

	<p>When AD2 increases to AD3, the shift takes place in the intermediate portion of the aggregate supply (AS) curve, where it is curving upwards. There is a mild increase in price level (P1 to P2), and real national income also increases from Q2 to Q3.</p> <p>However, when the AD curve shifts from AD3 to AD4, there is a significant increase in price level, with no increase in real national income. The general price level increases from P2 to P3 while national income remains at Q3. This is because the economy is already at full employment, and all resources have been exhausted.</p>
By using a AD/AS framework, explain why cost push inflation in Singapore may occur.	<p>Besides rising AD, inflation in Singapore can also be caused by an increase in the cost of production. This gives rise to cost-push inflation.</p> <p>Cost push inflation occurs when the prices of imports rise as a result of inflation in their country of origin. If these imported goods are intermediate goods, this will increase the cost of production and the price of the goods. Imported final goods will also be more expensive, which contributes to the overall increase in price level. Countries like Singapore are very susceptible to such inflation, as we have little resources and depend on importing materials for production and importing final goods. Similarly, when oil prices rises significantly, there is also spill over effect on the entire economy. This causes the cost of production to increase significantly. As shown in figure (2), when costs of production rises, the aggregate supply curve shifts from AS to AS¹ resulting in higher general price level (from P1 to P2).</p>  <p style="text-align: center;">Figure (2)</p>

L3	Well developed explanation showing good knowledge on the BOTH the AD and AS factors (Demand pull and cost push inflation) that can lead to inflation. Good examples are given with detailed explanations and sound reasoning.	7-10
L2	The candidate shows good knowledge on the AD/ AS factors resulting in inflation. Insufficient examples to illustrate the points. Max 6 marks are given to well developed source of inflation (e.g. Demand pull OR cost push inflation)	5-6

L1	For an answer that shows some knowledge and the candidate is able to identify some relevant factors resulting in inflation. However, the explanation given is brief.	1-4
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(b)

Analysis of Question

Command word:

Discuss

Consider something thoroughly, from different viewpoints.

Key concept:

Low inflation rate

Context:

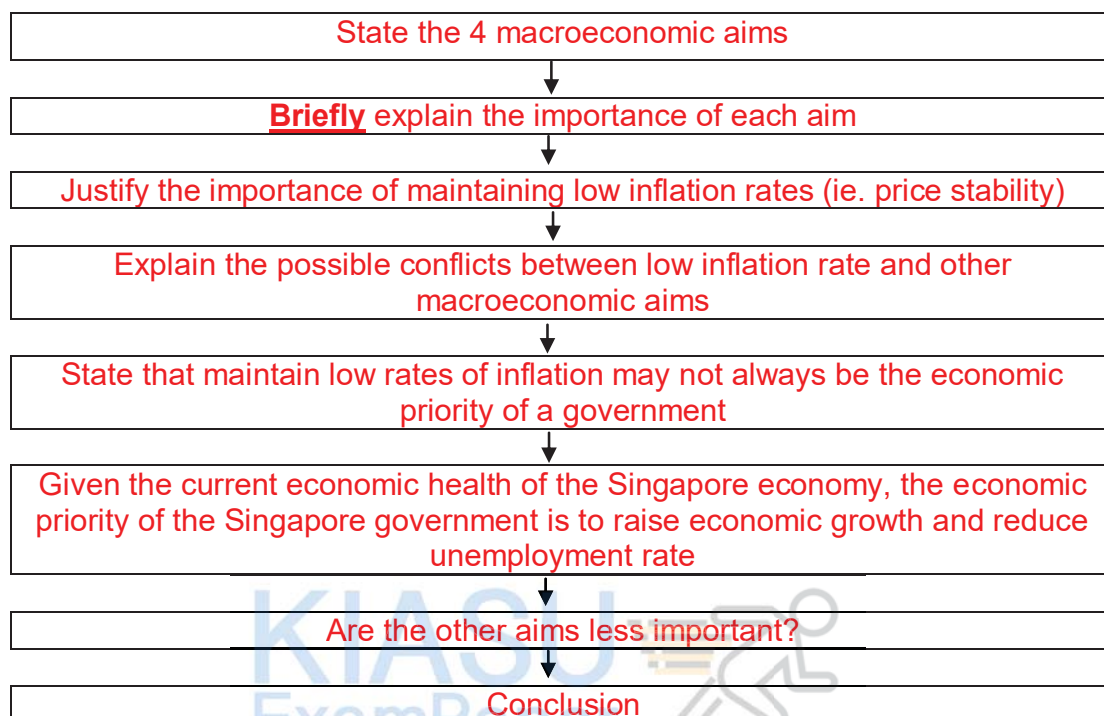
Singapore

Question requirement

Candidates are required to:

- *justify why low rate of inflation is important to the Singapore economy.*
- *explain clearly why low rate of inflation may not necessarily be the economic priority of the Singapore government given the existing economic situation.*
- *explain the possible conflict between low inflation rate and other macroeconomic aims.*
- *explain the most important macroeconomic aims based on the current economic situation*
- *consider if the other aims are also important.*

Schematic Plan



Write the Full Essay

Thinking Process	Essay (content, analysis and evaluation)
Introduction - define 4 aims and briefly explain the importance of these aims	<p>Price stability (low rate of inflation) is one of the government's macroeconomic objectives along with low unemployment rates, substantial economic growth and stable exchange rates.</p> <p>Low inflation rate means a low rate of increase in the general price level usually between 1-3% annually. Low inflation rate is important because it helps to promote investment and export competitiveness thus leading to a more sustained economic growth.</p> <p>Low unemployment rate refers to a low rate of workers who are willing and able to work but cannot find a job. It is necessary to promote low unemployment so as to minimize wastage of resources and reduce social and political instability.</p> <p>Balance of payments equilibrium refers to a situation when the total earning of foreign currency arising from economic activities between the reporting country and the rest of the world is equal to the total expenditure of foreign currency. It is important so that a country does not need to incur external debt to finance the deficit or be forced to devalue its currency which will lower the country's standard of living.</p> <p>Economic growth refers to increase in real national income in the short (due to increased utilization of resources) and long run (due to increased productive capacity). Economic growth is desirable as it leads to a more sustained increase in standard of living and employment.</p>
Why would the Singapore government be concerned about maintaining low rate of inflation (price stability).	<p>Low rate of inflation (less than 3%) is less damaging than high rates of inflation (e.g. 20%). Hence, the government would aim for a low rate of inflation in the economy if it wants to avoid the negative effects of high inflation.</p> <p>Inflation erodes the internal value of money which might cause an unintended redistribution of income from creditors to debtors. By achieving a low rate of inflation, the internal value of money will not be severely eroded. This prevents debtors from paying less, in real terms, to creditors, which would otherwise have occurred during high inflation. Thus, a low rate of inflation prevents an unintended redistribution of income from occurring.</p> <p>Besides, people are more willing to save in times of low inflation as compared to times when inflation rates are high. This is because the internal value of money will be kept intact, as mentioned earlier. In contrast, if inflation rates are high, people tend to prefer wealth in less liquid forms and are discouraged from saving, because the internal value of money has dropped. A low rate of inflation would be able to encourage more people to save, resulting in a fall in</p>

<p><i>Highlight that low inflation rate need not necessary be the economic priority of the Singapore govt.</i></p>	<p><i>interest rates of loans. Firms would be more willing to borrow funds for investment, and a rise in investment stimulates long term economic growth.</i></p> <p><i>Moreover, during times of mild inflation, investments might rise due to firms' expectation of higher rates of returns. This might be because production costs like wages are fixed by agreements and usually lag behind the rise in product prices. Profit-motivated firms would want to capitalize on this and invest more to increase output and raise profit-margins. This increase in investments would lead to economic growth. However, when inflation is too high, investments would fall due to uncertainties in business prospects and this would slow down economic growth. Therefore, it is necessary for the government to maintain a low rate of inflation in the economy.</i></p> <p><i>In economies such as Singapore which are highly dependent on exports and imports, high rate of inflation will lead to balance of payment problems. Suppose Singapore's inflation rate is rising and relatively higher than its competitors. Singapore exports become relatively more expensive and imports are relatively cheaper than the locally produced goods. If demand for Singapore exports is price elastic, a rise in the price of exports will cause a more than proportionate fall in the quantity demanded of exports, resulting in a fall in the value of export earnings. The relatively cheaper imports will cause import expenditure to rise. The fall in export earnings coupled with a rise in import expenditure could lead to a balance of trade deficit which may lead to a BOP deficit. Furthermore, the demand for S\$ will fall and supply of \$ will rise, this bring about depreciation of the S\$.</i></p> <p><i>From the above discussion, we can see that there are clear advantages of a low rate of inflation. However, maintaining a low rate of inflation need not be the economic priority of a government. As mentioned in the first paragraph, there are many other macroeconomic objectives that a government aims to achieve such as sustained economic growth and low unemployment rate.</i></p>
<p><i>Possible conflict between low inflation rate and other macroeconomic aim.</i></p>	<p><i>However, in aiming to achieve low rate of inflation, it may conflict with the abovementioned macroeconomic objectives. To achieve a low rate of inflation, economic growth would have to be slowed down. The current output of the economy would be lower than that of what could have been had the economic growth been greater. A lower output level would mean unemployment rate will rise since less labour is needed for the production process. Wages would also fall due to the decrease in demand for labour. Thus, there is a possible inverse relationship between inflation rates and unemployment rates. This implies that a government can choose to aim for low inflation rate if it is prepared to accept high unemployment rate in the short run.</i></p> <p><i>As economic goals of a government conflict, then the government must choose which is the most important. Some governments may be more concerned about overheating of the economy, and hence may implement policies to reduce inflationary pressures.</i></p>

	Other governments may feel that promoting economic growth and reducing unemployment are more important economic priorities.
Given the current economic situation, achieving economic growth is the most significant aim in Singapore	Economic growth is also the most significant aim considering the current economic condition of Singapore. Due to the slowdown of the global economy, Singapore is currently experiencing a recession with Gross Domestic Product expected to fall by 4 to 6% for 2009. This has tremendous negative effect on unemployment rate for 2009 which is expected to rise this year. As the recession is triggered by a fall in external demand from the developed countries, the balance of payments would also be badly affected. Thus, given the current economic condition, promoting a healthier economic growth remains a significant aim so that we can prevent unemployment from rising by a large extent. Thus, the Singapore government will be running a \$20.5 billion budget deficit so as to stimulate the economic growth of the country.
Why economic growth is still important?	
Short term aim	However, as the recession is due to external factors which may be beyond the control of the Singapore government, it may not be easy for the government to promote short term economic growth if the developed economies do not recover. Hence, in the short term, a more significant aim will be to prevent unemployment from rising. This is evident from the Job Credit Scheme implemented by the Singapore government to reduce wage cost. However, the Singapore government has also implemented many long term supply measures such as SPUR (a retraining programme) and subsidies for R&D in growing industries. This will increase Singapore's productive capacity and competitiveness so that when the global economy recovers, Singapore will grow even faster in future. Thus, sustained economic growth remains as the most significant aim for Singapore.
Long term aim	
Are the other aims less important?	Although managing short term fluctuation in economic growth and achieving sustained long-term economic growth is the most significant aim for Singapore, other aims could be equally important and inter-related with the aim of pursuing economic growth. For example, the Monetary Authority of Singapore (MAS) – our central bank – has been actively pursuing a low and stable rate of inflation through its exchange rate policy so as to achieve sustained economic growth in Singapore. The Economic Development Board and International Enterprises Singapore have also been actively promoting greater foreign investment and exports to achieve a healthier balance of payments while Ministry of Manpower has been relentlessly trying to achieve a low rate of unemployment. The coordinated effort of the various departments shows that all the macroeconomic aims are equally important and are inter-related.
Conclusion	In conclusion, while economic growth is the most significant aim of Singapore given its positive impacts on SOL and the other aims in the long run, there may be possible conflicts with the other aims of low inflation, low unemployment and balance of payments equilibrium in the short run. It is not wise to totally ignore the other aims as they will affect economic growth. The high economic growth, low inflation, low unemployment and balance of payment surplus that Singapore has achieved in most of the years show

	<i>that all the four macroeconomic aims could be equally significant and can be achieved with effective policies and coordinated efforts by the various agencies.</i>	
<i>L3</i>	<i>For an answer that shows good knowledge of the importance of price stability. Candidates also produced a good discussion of the other macroeconomic aims.</i>	<i>9 - 11</i>
<i>L2</i>	<i>For an answer that shows some knowledge of the reasons for maintaining price stability. Candidates also made an attempt to discuss about other aims. Underdeveloped in some parts.</i>	<i>6 – 8</i>
<i>L1</i>	<i>For an answer that has some basic knowledge of the macroeconomic aims of a government. Candidates were able to briefly explain the importance of maintaining price stability.</i>	<i>1 – 5</i>
<i>E2</i>	<i>Judgment based on analysis. The evaluative comments are well-explained.</i>	<i>3-4</i>
<i>E1</i>	<i>Mainly unexplained judgment.</i>	<i>1-2</i>

3. “In tandem with the slowing economy, price pressures have eased. After averaging 6.5% in 2008, inflation fell to 2.1% in Q12009.”

- MAS Annual Report 2008/2009

- a. With reference to the statement above, explain the causes of falling inflation in Singapore. [10]
- b.
- c. Discuss the view that a strong Singapore dollar is the most appropriate policy to maintain price stability. [15] (CJC, 2009)

Suggested Answer:

(a)

Introduction:

- *Define inflation: the sustained increase in the general price level and it is inversely related to the purchasing power of money.*
- *Explain the meaning of “falling inflation” as a rate of inflation that is lower than the previous years’ rates of inflation (slower rate of increase in prices).*

Body:

- *Explain the different causes of inflation, ie. demand-pull inflation and cost-push inflation (including imported inflation).*
- *Explain the causes of inflation in Singapore in recent years.*
 - *Cost-push inflation → high oil prices and high food prices (household necessities like bread, noodle and live chicken).*
 - *Demand-pull inflation → robust economy in 2006 and 2007.*
- *Explain the causes of falling inflation in Singapore, given in the statement that “After averaging 6.5% in 2008, inflation fell to 2.1% in Q1 2009.... “*
 - *falling oil and food prices, resulting in easing of cost-push inflation.*
 - *global recession, resulting in falling demand and easing of demand-pull inflation.*

(Explain with the help of appropriate AD/AS diagram to illustrate falling inflation).

L3	For a comprehensive and detailed analysis explaining clearly the causes of inflation and the causes of falling prices in Singapore, with reference to changes in both AD/AS.	8-10
L2	For an answer that shows some basic understanding of the causes of inflation (both AD and AS factors) and the hence, the causes of falling inflation, but with limited application to the Singapore economy.	5-7
L1	For an answer that shows some knowledge of the causes of falling inflation (e.g. only AD or AS factors) but not elaborated. Answer contains some concept errors.	1-4

(b)

Introduction:

- The aim of price stability is consistent with the government's macroeconomic objectives. The key objective of Singapore's monetary policy is to maintain price stability for sustained economic growth. Since 1981, monetary policy in Singapore has been centred on the exchange rate.
- Given the small and open nature of the Singapore economy, it is imperative that a strong S\$ policy be maintained to keep out imported inflation to achieve price stability so as to sustain economic growth. However, exchange rate policy cannot act alone but a policy mix of supply-side policies and fiscal policy need to be used to overcome the limitations and constraints faced by the exchange rate policy.

Body:

- I. **Explain how the exchange rate policy through targeting a trend appreciation of the nominal effective exchange rate could dampen inflation via the 2 channels of the Monetary Transmission Mechanism outlined by MAS:**

Impact on inflation via changes in import prices

- The most direct channel that exchange rates affect inflation is through its impact on import prices.
- A stronger exchange rate will result in lowering the price that domestic consumers have to pay for imported goods and services and reducing the price of locally produced goods and services that make use of imported factors of production. Both these effects result in a fall in the overall level of prices of goods and services within an economy.

Impact on lower inflation via changes in AD

- A stronger exchange rate would result in domestic goods and services being more competitively priced in foreign markets. This would reduce the demand for Singapore exports from the rest of the world, assuming price elasticity of demand for our goods is greater than one. Domestic demand will be boosted by the substitution effect as lower prices for imports decrease the demand for locally-made goods. To the extent that the economy is at full capacity, this will translate into a lower demand-pull inflation on domestically produced goods.

Evaluation of the Exchange Rate Policy:

- Transmission lags → takes time for the changes in the exchange rate to work through the economy.

- Need for the economy to maintain a large pool of foreign reserves to support the exchange rate policy.
- The choice of managing the exchange rate must necessarily imply the relinquishing of control over interest rates (ie. changes in interest rates would cause changes in the exchange rate, so it is not possible to control both.)
- Finally, it primarily dampens cost-push inflation resulting from imported inflation. It may not be effective in curtailing cost- push inflation due to higher wages, rental, taxes and profits.
- Hence, the limitation of the exchange rate policy implies that a combination of other policies might be necessary to complement the exchange rate policy.

II. Explain how other policies may also be appropriate to maintain price stability.

Prudent Fiscal Policy

- To ensure that budget deficit will not offset the benefits of exchange rate policy. This is appropriate during periods of economic boom where the threat of demand pull inflation is increasing. Any increase in budget surplus or a balanced budget will lead to a lower inflation.

Evaluation of the Fiscal Policy:

- The sole aim to dampen inflation by maintaining a budget surplus or balanced budget may hinder infrastructural development and economic capacity.
- The timing of a budget surplus is crucial to avert other macroeconomic problems. Eg. a Budget surplus may reduce the provision of the public goods and merit goods.

Supply-Side Policy

- Cost-push inflation – the lowering of costs through increased productivity via education and training, greater efficiency, more competitive pricing and wage restraint.
- Demand pull inflation - Government can increase the productive capacity of the country through encouraging effort and investment, privatisation and research and development. The increase in AS lowers the general price level.

Evaluation of the Supply-Side Policy:

- Supply-side policies are long term in nature.
- Education and training is dependent on the attitudes of the workers to undergo further training.
- Spending on research and development may lead to government budget deficit.

Conclusion:

- The exchange rate policy, despite its limitations, has been effective policy in curbing imported inflation in Singapore. However, it is necessary for a continual monitoring of the major sources of inflation and its impact on the economy.

- Where appropriate, the exchange rate policy can be used together with policies like supply-side policies to improve the competitiveness and control the general price level of the economy.

L3	<p>High L3 - Detailed explanation with good examples and graphs to illustrate the impact of the policies (ie. exchange rate, demand management and supply side policies) in explaining how these policies reduce demand pull and cost push inflation in Singapore context.</p> <p>Low L3- Adequate explanation with some attempt to support with examples and graphs of exchange rate, demand management and supply side policy in explaining how these policies reduce demand pull and cost push inflation in Singapore context.</p>	<p>10-11</p> <p>8-9</p>
L2	An answer that covers various policies but with undeveloped explanation and limited application to the Singapore context.	5-7
L1	Answer shows knowledge of the various macroeconomic policies without application to the Singapore economy.	1-4

E2	Evaluative assessment based on economic analysis of the various macroeconomic policies	3-4
E1	Unexplained assessment or one that is not supported by analysis	1-2



SECTION 3C – Challenging Essays

1. The annual inflation rate in Singapore rose from 0.5% in 2003 to 1.7% in 2004.

(a) Explain how monetary factors can cause inflation. [10]

(b) Discuss whether an increase in the rate of inflation is more likely to cause problems for the domestic or external sector of the Singapore economy.

[15] (2006)

Examiner's Report:

This was a very popular question with the vast majority of candidates attempting it. The question discriminated well with a very wide spread of marks. These were some excellent answers which were well directed to the question set. Weaker candidates tended to give rehearsed answers on inflation.

(a) This part of the question was, in the main, well answered with the majority of candidates being awarded over half the marks available. The best answers tended to use the Keynesian transmissions mechanism and used appropriate diagrams to explain the link between increases in the money supply and the rate of inflation. A minority also referred to the quantity theory of money. Mid-range answers tended to be descriptive or gave appropriate diagrams without explanation of the diagrams themselves.

A common error within the weaker scripts was to resent a “write all I know about inflation” answer with limited and, in some cases, no reference at all to monetary factors. These answers concentrated on cost-push and demand-pull expansions in broad terms.

(b) The second part of the question also saw some excellent responses although these were less frequent in number. These answers dealt with domestic and external effects and further showed the potential links between the two with some appropriate evaluative discussion. Mid-range answers tended to be balanced in coverage but were descriptive in nature and lacked evaluative discussion, whilst weaker answers considered only the external or the domestic side with cursory reference to the other.

A common error was to believe that the price of imports fell in actual terms rather than in relative terms. Many candidates also tried incorrectly to use the Marshall-Lerner condition to show the impact of inflation on the balance of payments.

Finally, all too often the evaluative contribution was limited to a single comment such as “the external sector will be affected the greater” without any explanation of the reasons for this conclusion.

2. "Since inflation is undesirable, deflation must be desirable." Discuss.
[25] (VJC, 2005)

Suggested Answer:

Inflation is the sustained increase in the GPL while deflation is the opposite of inflation.

Inflation is not necessarily undesirable. Depends on the degree of inflation and causes of inflation.

Inflation is undesirable

- *Arbitrary redistributive effects on income (unanticipated inflation)*
- *Inflation is costly (i.e. uses up resources which could have been used for other purposes)*
- *Distorts the price mechanism*
- *Cost-push inflation causes falling output and rising unemployment. It also discourages investment. This adversely affects the country's potential growth rate.*
- *P_m, P_x affected and hence adverse BOT and BOP*
- *When inflation is very severe – hyperinflation – money becomes a very poor store of value. Saving will be discouraged. The resultant reduction in investment reduces the country's potential growth rate.*
- *In very severe inflation, money ceases to be accepted as a medium of exchange.*

Inflation could be desirable

- *Mild inflation (demand-pull) is actually good → producers are encouraged to produce more. Through Keynesian multiplier there is an expansionary effect. Output, NY and employment increase. SOL rises. Increase in investment also leads to economic growth.*

Deflation is desirable

- *Depends on causes. If productive capacity increases and hence LRAS shifts rightwards, then GPL would fall. The increase in AS brings about increase in productive capacity and economic growth. Therefore fall in prices due to this is not considered as bad.*

Deflation is undesirable

- *Leads to redistribution of income.*
- *Deflation is considered undesirable if fall in prices is due to fall in AD rather than rise in AS. Undesirable when it co-exists with low output, employment and income.*



L3	<i>Considers and explains both the negative and positive effects of inflation as well as deflation. Considers the extent or degree too and provides relevant examples.</i>	15-21
L2	<i>One sided essay on just inflation or deflation or discusses both but superficially.</i>	10-14
L1	<i>Merely identifies the negative effects of inflation or positive effects of deflation.</i>	1-9

E2	<i>Evaluation explained with sound economic analysis.</i>	3-4
E1	<i>Evaluation not explained or unsupported by analysis</i>	1-2

3. "The policies which a government usually adopts to reduce the rate of inflation in an economy may do more harm than good."

Explain and evaluate the policies which a government may adopt to reduce the rate of inflation in an economy." [25] (TJC, 2008)

Suggested Answer:

Explain inflation:

- A situation in which there is a sustained, inordinate increase in general price level which results in falling purchasing power of money.*
- This increase in general price level accelerates with people's expectations and this hurts the people and the economy in that cost of living rises to erode living standards, unemployment soars, economic growth hindered and balance of payments deteriorates.*

State the possible causes of inflation:

- Cost-push theories: rises in the costs of production of goods and services, particularly wages, and passed on to consumers and situation can be worsened by firms profiteering.*
- Demand-pull theories: rising pressure of consumption and injection is too great for output to keep pace as the economy approaches full employment.*
- Money supply theories: rising pressure due to the government allowing money supply to rise too rapidly.*

Policy measures adopted depends on the underlying cause of inflation.

Explain and evaluate the policies in the light of its impact on the economy:

(1) Fiscal policy – Demand management policy

- To counter demand-pull inflation.*
- This involves cutting government expenditure and raising taxation with the main aim of reducing consumption. Thus aggregate demand pressure is being reduced. General price level will fall. (Diagram)*

- In theory, the government can estimate the effects by calculating the size of the multiplier.
- A reduction in government expenditure:
 - Is fast and effective
 - However, government expenditure may be large and inflexible as government is committed in various important expenditures like basic services, development programs and defence.
 - Compromising provision of social services and infrastructural development has the effect of dampening economic growth and development.
- Raising taxes
 - Raising income tax will reduce disposable income which in turn contract consumption thereby relieving the upward pressure on prices.
 - Raising corporate taxes will reduce corporate profits and hence reduce the ability of firms to invest.
 - However, increasing direct taxes creates the disincentive effect to work, save and invest which in turn raise unemployment and hinder economic growth.
 - Raising indirect taxes is highly regressive and it directly raises prices fuelling wage-push inflation further.
- Time lags (decision, action and impact lags) occur as it requires parliamentary consent and it takes a fiscal year for results to have full effect, which by the time the economic situation may have changed, making the policy unsuitable and destabilising to the economy.
- Fiscal policy has a blanket effect on the economy thereby retarding expanding industries and hence economic growth.
- It is also difficult to accurately estimate the size of the multiplier so fiscal policy may lead to an over-kill of the economy.
- It may be effective for demand-pull inflation but is difficult to implement as it conflicts with other objectives.
 - If unemployment results, government will have to spend more on benefits that will counter the policy of cutting government spending.
 - If growth is impeded and the economy shrinks, living standards are compromised and the government will have to boost growth.
- Since unemployment and slower growth are by no means a lesser evil than inflation, curing inflation may do more harm than good.

(2) Monetary Policy – Demand management policy

- Since inflation is believed to be caused by excessive growth of money supply in relation to growth of output, money supply must be reduced until it grows in line with the expansion of output.
- This policy involves the reduction of money supply or increase in interest rates.
- Reduction of money supply:
 - Creates a shortage of money and so households and firms cut back on their spending in an attempt to increase their holding of money → aggregate demand falls.
- Increasing interest rates to deter borrowing and thus reducing demand-pull pressure that comes about when too much money chases after too few goods.
- Monetary policy may be undermined as:

- Borrowers are able to find sources of funds outside of central banks' direct control, especially if businesses are optimistic.
- Raising interest rates attract inflow of hot money which drives up exchange rate. This could be damaging to export industries.
- Higher interest rates restrict consumption, investment and growth thus creating unemployment and stagnation.
 - With unemployment, fiscal spending in the form of unemployment benefits will counteract monetary policy. Government would have to cut spending in other areas. Eg. health, education which are also crucial for economic and social development.
 - Government's debt burden is increased but perhaps this is a lesser evil by comparison.
- Policy is effective for demand-pull inflation but disastrous in the case of cost-push inflation as higher interest rates fuel inflation.

(3) Incomes Policy (Supply-Side Policy)

- This involves restraining the rate of wage rises which must be complemented by direct price controls.
- Wage restraints may take the form of statutory or voluntary wage freeze or cuts (in severe inflation) or to peg wage increase to increment in productivity (in expanding industries)
- Implication of policy is illustrated by the Phillips curve:
 - Phillips curve shows that when there is little or no unemployment, wage increment will rise and thus full employment will lead to higher wages.
 - This to reduce the rate of wage rises, unemployment is needed or wages must be controlled in order to preserve employment and prevent wage-push inflation.
- Thus it is effective in controlling wage-price spiral but it may lead to confrontation with trade unions.
 - To placate trade unions, prices would have to be controlled with price ceiling and a system of rationing.
 - However, the bottled-up demand is likely to express itself in black markets thereby undermining this policy.
- Another concern is that wage drift may also arise. Earnings surge ahead of wages in expanding industries with consequences such as disincentive effect on work effort without easing the wage-push inflationary pressure.
- Wage rises may cause employers to compensate by reducing the number of workers employed. Thus, wage control may help reduce unemployment by preventing workers from gaining wage rises.

(4) Exchange Rate Policy (Supply-Side Policy)

- Helps to avoid imported inflation as appreciation of the exchange rate will reduce import prices of raw materials and finished goods directly → successfully deployed in Singapore.
- This may force domestic producers to stay competitive by lowering their prices and accepting lower profit margins thereby easing inflationary pressure.

- This is possible only if government has sufficient foreign reserves to engage in exchange rate manipulation.
- It also has implications on balance of payments for the reason that cheaper imports and dearer exports will boost outflow and check inflow of foreign exchange.
- However, this is acceptable if the country's balance of payments has been healthy or if the imbalance is a temporary state of affairs as the government could supplement this policy with measures to raise productivity. (Singapore)

Conclusion:

- Curbing inflation with a mixture of fiscal, monetary, incomes and exchange rate policies is recommended to minimize the associated pains:
 - Monetary policy as well as fiscal policy may result in unemployment and so the burden of ridding the economy of inflation falls squarely on the unemployed.
 - However, in fiscal policy, it is possible to juggle with different taxes that might help spread the burden more evenly.
 - Incomes policy, exchange rate variations or import controls might help to preserve employment.
 - Furthermore, inflation once started tends to become multi-causal in nature.
 - Simultaneously, supplementary measures can be taken to raise productivity (through research and development and labour training) and thus output so that excess demand will ease.
 - If appropriate policy mix of supplementing the short-term measures with long-term ones to raise productivity is implemented, the side effects can be minimised.
- Overall, it is important to note that some pains are inevitable in eradicating inflation.

L3	For an answer that explains the policy measures well and the negative effects of policies in the light of the preamble.	15-21
L2	For an answer that merely mentions the causes and negative effects of inflation and briefly explain the corrective measures with some attempt to evaluate the measures.	10-14
L1	For an answer that briefly explains the measures that could be used to control inflation.	1-9

E2	For a discussion of the need for government intervention or how the painful consequences could be minimised.	3-4
E1	For an evaluation of the painful consequences of curbing inflation.	1-2



**2011 Other JCs' Prelims - MACROECONOMIC PROBLEMS AND POLICIES
– Inflation (H2)**

1	DHI 2011	Discuss whether supply side policies are best for achieving low inflation in the Singapore economy. [25]
2	RVH 2011	(a) Explain why maintaining domestic price stability is likely to be more important than other macroeconomic aims in small, open and resource-scarce economies. [10] (b) Discuss the extent to which exchange rate policy is the most effective measure in maintaining domestic price stability in Singapore. [15]

PAST YEARS A LEVEL QUESTIONS (H2)

No.	Year	Question
1	2007 H2	'To be considered successful, an economy needs to achieve low unemployment, low inflation and stable economic growth.' (a) Explain this statement. [12] (b) Discuss whether fiscal policy is the most effective way for Singapore to sustain a successful economy. [13]
2	2010 H2	When there are large increases in the prices of oil and other primary products, they are usually expected to lead to rising inflation throughout the world's economies. Discuss the extent to which these factors are likely to affect the rate of inflation in Singapore. [25]





2013 JC1 H1 & H2 ECONOMICS

How The Macroeconomy Works: 11. Economic Problems – Unemployment

Review on Economic Problems - Unemployment

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Economic Problems - Unemployment		Tick
1.	What is unemployment?	
2.	How is it measured?	
3.	What are the different types of unemployment?	
4.	What are the main types of unemployment in Singapore?	
5.	What are the main causes of unemployment in Singapore?	
6.	What is the government objective in relation to unemployment?	
7.	What is the significance(effects) of a falling or rising unemployment?	
8.	How can the unemployment rate be used to assess the economic performance of a country?	
9.	What are the limitations of using the unemployment rate to assess the economic performance of a country?	
10.	How can labour productivity impact unemployment?	
11.	How can demand side policies be used to fight unemployment?	
12.	How can supply side policies be used to fight unemployment?	
13.	How can labour productivity impact unemployment?	



SECTION 1 – Concept Reinforcement

1. What is the definition of unemployment?
2. How is unemployment rate calculated?
3. What are the different types of unemployment?
4. What are the possible consequences when the actual unemployment rate is below the natural rate?
5. What are the policies available to resolve the different types of unemployment?

6. What is structural unemployment?
 - (a) unemployment due to the normal workings of the labour market
 - (b) unemployment due to the slump in business cycle
 - (c) unemployment due to changes in the structure of the economy***
 - (d) the natural rate of unemployment

7. Students who recently graduate from universities and start looking for jobs is a source of _____.
 - (a) cyclical unemployment
 - (b) structural unemployment
 - (c) frictional unemployment***
 - (d) underemployment

8. The level of structural unemployment can most likely be reduced by
 - (a) raising interest rate
 - (b) encourage upgrading of existing skills through re-training***
 - (c) making use of internet to facilitate the search for jobs
 - (d) reduction in corporate tax

9. If unemployment that exists in an economy is due to a cyclical slump in the economy, which is the most effective policy that the government should implement?
 - (a) reduction income taxes***
 - (b) subsidize re-training of employees
 - (c) raise interest rate
 - (d) assist employees to look for jobs

10. When will a reduction in unemployment lead to an increase in inflation?
 - (a) when the economy is operating at the Keynesian range
 - (b) when the economy is operating at the Classical range***
 - (c) when marginal propensity to consume is low
 - (d) when interest rates rises



SECTION 2 - Case Study

CSQ 1:

Extract 1

SINGAPORE'S UNEMPLOYMENT CHALLENGES

The labour market in Singapore is undergoing structural changes.

Basic unemployment statistics look alarmingly high. Last year, the jobless rate was 4.7 per cent, the highest in 15 years. The number of retrenched workers rose to 27,600, a shade lower than 1998's 29,086. Of this, the number of unemployed workers above 40 years old and with lower educational qualifications is estimated at 15,304. This group of workers will take longer to get back into the labour market due to a skills mismatch, the key factor contributing to the high unemployment rate.

Based on the latest labour market report, there is also a rising trend of service workers joining the ranks of the unemployed, in particular, from the finance sector due to the industry's consolidation. In the fourth quarter last year, retrenchments from service-producing industries rose 44.3 per cent quarter-to-quarter.

Rising unemployment typically dampens demand for properties and buildings. We estimate that structural unemployment will lower Singapore's long-term gross fixed capital formation (GFCF) from its average 8.5 per cent (from 1991 to 2000) to 6.6 per cent this year. Since GFCF accounts for 34 per cent of gross domestic product (GDP), this could remove 1.0 per cent from Singapore's long-term sustainable growth rate (from 5.0 – 6.0 per cent to 4.0 – 5.0 per cent) in the next five to seven years.

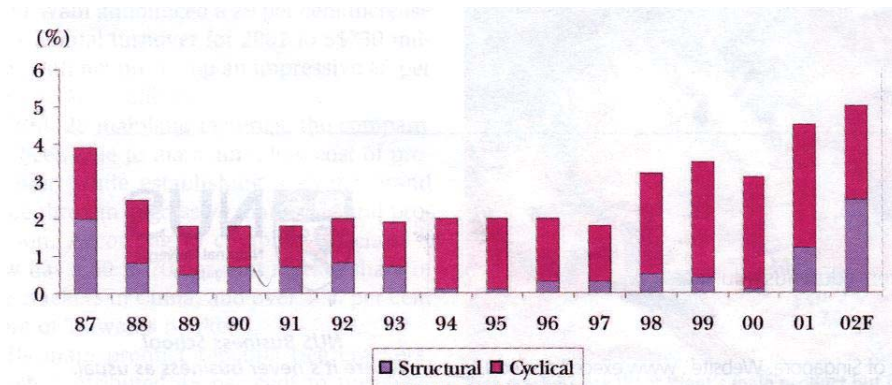
Given the typical lag of six to nine months, we expect headline unemployment to fall and return to its natural unemployment rate of 2.5 per cent next year, as Singapore GDP growth trends back to its long-term target of 5.0 to 6.0 per cent.

(Adapted from a recent report by UOB Kay Hian, published in "The Edge", March 2002)

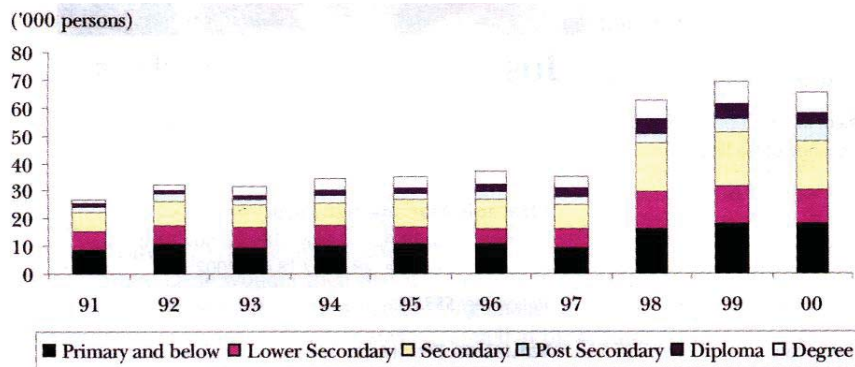


Extract 2

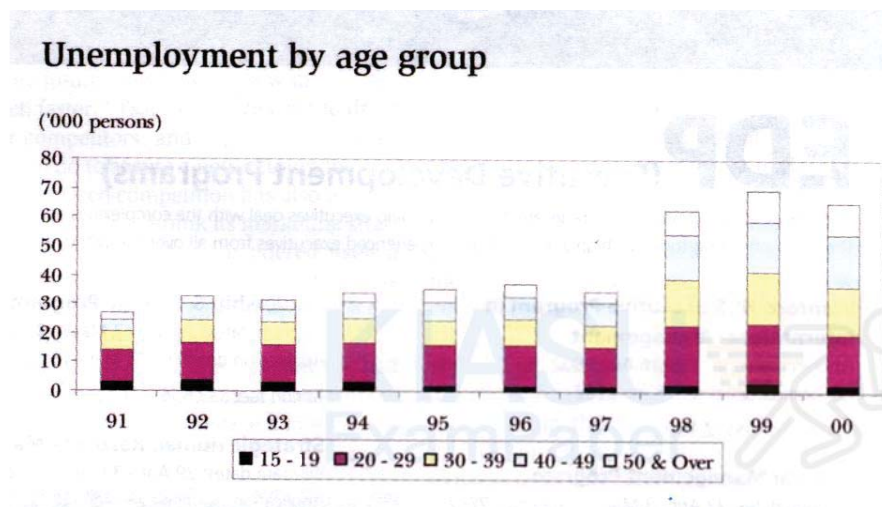
Graph 1 – Changes in Structure of Unemployment



Graph 2 – Unemployment by Education Level



Graph 3 – Unemployment by Age



Extract 3

SOME OFF-BUDGET MEASURES ANNOUNCED BY THE SINGAPORE GOVERNMENT AT THE END OF 2001 TO COPE WITH THE ECONOMIC DOWNTURN

Employment Assistance for Workers & Executives

An important part of the package is to help retrenched workers and unemployed workers. The main approach is to encourage and fund training and skills upgrading programmes.

These are critical for lifelong employability, and are the real antidote to unemployment. Workers and executives with up to date skills have a better chance of finding good jobs, and a lower risk of redundancy. It is therefore important to help as many workers and executives as possible to upgrade quickly.

Despite the economic downturn and the larger numbers of unemployed, there are still jobs which go unfilled because of mismatches in expectations between employers and job seekers. Ministry of Manpower has organised many job fairs, but often with discouraging results. We must strive harder to improve our job matching efforts and promote available job opportunities to the unemployed.

Expansion of People for Jobs Traineeship Programme

This is a programme for older workers, that seeks to help unemployed workers aged 40 and above to make career transitions. Companies participating in the programme set up traineeship/mentorship arrangements to help newly recruited older workers to fit into the new jobs.

Enhancement of Skills Redevelopment Programme

The taskforce has recommended that the government enhance the Skills Redevelopment Programme to make it more attractive for employers to hold and train their workers and for unemployed workers to upgrade their skills. Government will increase funding support for training through the Skills Development Fund (SDF).

(Adapted from a speech given by DPM Lee Hsien Loong in Parliament on 12/10/2001)



Tasks:

In your role as an economic adviser to the Ministry of Manpower of Singapore, you have been asked to consider the recent changes in unemployment in Singapore and to produce a report which includes

- (a) an explanation of the nature of unemployment present in Singapore in years 2000-2002 and to give reasons why. [6]
- (b) an analysis of how an increase in unemployment will affect the Singapore economy [6]
- (c) (i) an evaluation of the off-budget policy measures to tackle the problem of unemployment [8]
(ii) a discussion of the wider implications of the above measures for the Singapore economy. [10]

Suggested Answers:

- (a) an explanation of the nature of unemployment present in Singapore in years 2000-2002 and to give reasons why. [6]

It is evident from extract 2 that the two main types of unemployment present in Singapore are structural and cyclical unemployment.

Structural unemployment occurs when there are fundamental changes in the structure of the economy. In the case of Singapore, as the country moves into production of high-end products like IT, bio-technology, pharmaceutical, etc, much of the labour force lacks the relevant skills and educational qualifications. There is the presence of a mismatch between the skills demanded by the employers and those that the workers possess. This is especially true for the older workers above 40 years of age. In recent years too, there is a rising trend of service workers becoming unemployed e.g. in the financial sector with the consolidation of banks. At the same time, Singapore also experience a hollowing out of lower value-added industries as foreign investors shift production to labour abundant countries like China.

Cyclical unemployment, on the other hand, occurs when there is a deficiency in the demand of the country's product. Singapore faces cyclical unemployment when there is a drastic reduction in world demand for its electronic goods. The recession in US worsens the situation. As US demands for less of our electronic and IT-related goods, firms are forced to retrench their staff as they lower production in these uncertain times.

L1	Recognition of 2 types of unemployment	1-2
L2	Good explanation with analysis of data	3-6

- (b) an analysis of how an increase in unemployment will affect the Singapore economy. [6]

Rising unemployment results in the public being more cautious in their spending. The fall in consumption results in a reduction in aggregate demand. Moreover the fall in demand for especially properties and buildings reduces the gross fixed capital formation. The fall in aggregate spending will result in a negative multiplier effect on the economy with a fall in output and employment (Keynesian Cross Diagram to illustrate). The fall in national output implies that less labour is required and hence worsens the unemployment situation already present. The whole vicious cycle starts again, pushing the country to lower growth.

Cyclical unemployment is generally undesirable but it is short term. Once the economy recovers from the recession, aggregate demand will increase again and the unemployment problem diminishes. Structural unemployment, on the other hand, is more long term. It takes time for the retrenched workers to retrain and relearn new skills to become employable. This may make the recovery of the economy slower. However, structural unemployment may not necessarily harm the economy. As Singapore undergoes an economic restructuring towards higher-end products, the value of G&S produced may actually increase leading to an improvement in GDP. Moreover, the adoption of new technology may see lower employment levels but better quality of goods produced.

L1	Recognition of some relevant concepts	1-2
L2	Explanation of concepts in this context	3-4
L3	Application of concepts to data with examples specified	5-6

- (c) (i) an evaluation of the off-budget policy measures to tackle the problem of unemployment [8]

Students need to recognise that these policies are proposed to tackle the problem of structural unemployment.

The training and skills upgrading programmes are useful as these help to increase occupational mobility of the workers and for older workers, above 40 years of age, solve the mismatch problem in the job market. However there is the time-lag involved between the actual training of new skills and the time workers can re-join the work force and contribute towards increasing national output. This may not immediately solve the problem at hand. In the case of older workers, many may be unwilling or unable to learn new skills. Sole breadwinners are also less willing to forgo the time and income.

The issue of funds for such programmes also needs addressing. Employers are less likely to be willing to bear retraining costs solely in these difficult times. If the government agrees to funding, there may be wider implications on society.

L1	Recognition of how policy can help tackle problem	1-2
L2	One-sided analysis of usefulness of policy instruments	3-5
L3	Clear analysis of policy measures with recognition of both strengths and weaknesses	6-8

- (ii) a discussion of the wider implications of the above measures for the Singapore economy. [10]

Funding for the training and upgrading of skills involves an opportunity cost as these are diverted from elsewhere. At the government's level, there may be a need to finance these from taxes. An increase in taxes brings along with it many negative disincentives to saving, investment, work effort and consumption. Raising taxes also has contractionary effects on the economy in terms of a fall in national output and employment.

In the long run, however, the workforce becomes more efficient, skilful and can better compete in the global market. This can lead to an increase in foreign investment and hasten the recovery of Singapore. The future may see a need for Singapore to change its comparative advantage and reduce reliance on manufacturing/electronics sectors and perhaps diversify into high-end products like bio-technology and pharmaceuticals, etc.

L1	Recognition of 1-2 implications	1-2
L2	Understanding of important implications and provide explanation for implications	3-6
L3	Discussion of implications on society with examples specified	7-10

CSQ 2: [2008 SRJC H2]

Extract 4: Growth in Jobless a Problem for Asia as Exports Surge

Asia's economic boom may have generated formidable wealth in the region's most robust economies in recent years, but the surge in exports has resulted in a rise in inequality, higher unemployment, and persistent food insecurity, according to a United Nations Development Programme (UNDP) report published today.

The UNDP report says that trade liberalisation has resulted in "jobless growth" in some parts, particularly in East Asia, and has had a severe impact on agriculture.

The report found that despite formidable growth rates in China and the surge in exports from the region, young people still face chronic unemployment problems. Fewer jobs were created in the Asia-Pacific region in the 1990s as compared with the 1980s. As a result, overall unemployment in the region shot up from 3.9 percent to 6.3 percent, even though manufacturing output went up by almost 180 percent.

The main burden of unemployment has fallen on young people: in 2004, while those aged 15-24 made up one-fifth of the labour force, they constituted nearly half of the unemployed. Women too have lost out: in most countries their unemployment rates are higher than men's. At the same time, the problem of jobless growth has been acute in the booming economies of East Asia, with the worst scenario in high-trade countries such as China and Singapore, where unemployment rates have increased substantially. The principal cause has been the shift in manufacturing from low-tech, labour-intensive industries, such as garments and leather, to hi-tech and more capital-intensive ones, such as electronics.

Another disturbing outcome of the rapid increase in trade has been the rise in income inequality. Countries which have grown faster have become unequal faster and in China, the rural-urban gap has increased phenomenally. In this context, the redistribution policies of governments become extremely important. In addition, the UNDP report calls for greater investment in rural development. It also says that the region's huge foreign exchange reserves - which are seen as protection against another Asian financial crisis - could be better invested in health, education and physical infrastructure.

Adapted from The Guardian, 29 June 2006

Table 1: Trade Balance for Selected Asian Economies (US\$ million)

Country	2003	2004	2005	2006
China	44,652	58,982	134,189	217,746
Singapore	29,427	31,040	37,084	43,397
South Korea	21,952	37,569	32,683	27,905
Taiwan	24,867	16,113	17,897	23,404

Source: Asian Development Bank Outlook 2008

Table 2: Growth Rate of Real GDP for Selected Asian Economies (% per Year)

Country	2003	2004	2005	2006
China	10.0	10.1	10.4	10.7
Singapore	3.1	8.8	6.6	7.9
South Korea	3.1	4.7	4.0	5.0
Taiwan	3.4	6.1	4.0	4.6

Source: Asian Development Bank Outlook 2007

Table 3: Unemployment Rate for Selected Asian Economies (%per year)

Country	2003	2004	2005	2006
China	4.3	4.2	4.2	4.1
Singapore	4.0	3.4	3.1	2.7
South Korea	3.6	3.7	3.7	3.5
Taiwan	5.0	4.4	4.1	3.9

Source: Asian Development Bank Outlook 2007

Extract 5: The Welfare State

One in ten of those people who draw jobseeker's allowance has spent six of the past seven years on benefits, yet in many areas there are unfilled low-skilled jobs alongside high rates of unemployment. If the jobs are there, why don't the unemployed take them?

Things may not be as simple as they appear to be. Most of the work that is available is in part-time hotel and catering, bar work and waitering with unsocial hours. Those running programmes to help the unemployed into work say these are student jobs, or for young foreigners: the hardcore unemployed are simply not equipped to do this work. Many live on peripheral estates miles out of town with no night buses back - a taxi costs three hours' work at the minimum-wage. It was thoughtless of the UK's Secretary of State for Work and Pensions, John Hutton, to say of East European migrants: "If workers from Poland can take advantage of these vacancies in our major cities, why can't our own people?"

Of course, employers would choose a perky young Polish graduate with no family to support, renting floor space in a communal flat, to wait tables, instead of the last remaining long-term claimants, depressed, lacking confidence and public face-to-face skills. The UK government boasts of two million more jobs in a booming economy, yet British and EU policy lets more attractive workers roll in, undercutting wages without any balancing obligation on employers to give jobs and training to the unemployed. The government is in denial about the full impact of the migration that helps power the economy by keeping down wages. Meanwhile, the minimum wage is so low that it is possible for someone to be left worse off if he works.

Adapted from The Guardian, 19 December 2006

Questions

- (a) (i) Compare the trends in trade balance for the Asian economies in Table 1. [2]
- (ii) How would you assess the impact of trade on an economy? [3]
- (b) Using Table 2, with what confidence can you conclude which country is likely to face the least fall in unemployment rate in 2007? [4]
- (c) With reference to Extract 4, explain why there is rising inequity and one possible policy that a government can adopt to address this problem. [5]
- (d) Do you agree that low-wage migrant workers help to power the UK economy? [6]
- (e) With reference to Extract 5, justify the policies that you would recommend to lower the unemployment rate in the UK. [10]

Suggested Answers:

- (a) (i) Compare the trends in trade balance for the Asian economies in Table 1. [2]

Trade surplus or an increasing trade surplus for all economies

Only Taiwan shows an overall decrease in trade surplus (1m)

China has the highest percentage increase (387.65%) in trade surplus. (1m)

- (ii) How would you assess the impact of trade on an economy? [3]

- *% change in real GDP, unemployment rate and other economic indicators (e.g. MEW, HDI, Gini coefficient to measure inequity)*
- *If ↑ in real GDP and fall in unemployment coincides with trade surplus, it can be deduced that trade could have a positive impact on an economy*
- *Economic analysis: When (X-M) rises, AD rises, cp.*
- *National output rises, leads to economic growth as production increases results in increase in demand for labour, hence a fall in unemployment*
- *The greater the increase in real GDP, the greater the impact trade has on an economy.*

- (b) Using Table 2, with what confidence can you conclude which country is likely to face the least fall in unemployment rate in 2007? [4]

Taiwan experienced the slowest economic growth among the four selected Asian economies in 2006. This could suggest that AD could be rising the slowest in Taiwan in 2006. If this were to continue in 2007, the rise in national output would be the smallest among the four countries. This would translate into the least fall in unemployment rate in Taiwan. Source of information is a credible one. Hence, the above deduction is made based on reliable info.

- (c) With reference to Extract 4, explain why there is rising inequity and one possible policy that a government can adopt to address this problem. [5]

Reason - rising inequity due to rapid increase in trade - export-oriented industries would expand rapidly - lead to rise in incomes in these industries.

But labour/workers in rural areas - subsistence farming would not benefit from this rapid increase in trade thus their incomes remain stagnant and the income gap widens ("rural-urban gap increased" ⇨ rising inequality).

One possible policy: Greater investment in rural development (paragraph 6)

Government could adopt supply-side policies such as spending on education or infrastructure for the rural population.

- *By raising the educational level of the rural population –increasing ability - command a higher wage with their higher level of knowledge and skills.*
- *By improving the infrastructure in the rural area - more accessible - facilitate a greater flow of goods from rural to urban area - rise in incomes of the farmers.*

- (d) Do you agree that low-wage migrant workers help to power the UK economy? [6]

Migration helps to power the UK economy:

- *Influx of migrant labour helps to keep wages low (Extract 5, paragraph 3). With a rise in supply of labour, ceteris paribus, surplus of labour would exert a downward pressure on the wage rate. Hence wages would fall. When this happens, the cost of production in the economy would fall.*
- *This would lead to a downward shift in AS, resulting in a surplus of goods and services, which would translate into a rise in national output, income and employment, and a fall in the general price level.*

Migration does not power the UK economy:

- *willing to work for low wages, firms would hire these workers and would not train local workers (Extract 5, paragraph 3). This would have a detrimental effect on labour productivity in the long term. When the skills of the workers are not kept up-to-date, labour productivity fall, leading to a fall in AS.*

Hence, there would be a decrease in production, employment and income, and a rise in the general price level.

Conclusion:

The influx of low-wage migrant workers does not bode well for the UK in the long run. This is largely due to the fact that many of these workers are not highly skilled.

- (e) With reference to Extract 5, justify the policies that you would recommend to lower the unemployment rate in the UK. [10]

What are the causes of unemployment?

- 1. Mismatch of skills*
- 2. Low minimum wage that acts a disincentive to work*
- 3. Unemployment benefits given to unemployed, making them dependent & not taking the initiative to look for jobs*
- 4. Geographical immobility*

1. Cause of unemployment -- mismatch of skills

(Extract 5: not equipped to do this work; lack of training given by employers to the unemployed).

Policy: Government can adopt interventionist supply-side policies by investing more in education and retraining of workers - help to raise the level of knowledge and skills of the workers, hence making them more employable - with higher education, the productivity of labour would rise, leading to a rise in AS and rises in production, employment and income.

Evaluation: difficult to change mindset of "hardcore" unemployed stuck with the mentality of being better off collecting unemployment benefits than working as minimum wage is very low - limits the effectiveness of the policies.

2. Cause of unemployment: Low minimum wage that acts a disincentive to work

a. Policy: market-oriented supply-side policy by removing the minimum wage thereby allowing a freer play of market forces in the determination of wages
→ the wage rate would fall back to market equilibrium rate. This would result in a rise in employment as the initial surplus of labour would be eliminated once the minimum wage is removed.

b. Evaluation:

In the LR, workers would be encouraged to go for skills upgrading when wages are tied more closely to their education level and productivity. This would benefit the UK as a rise in productivity would make the economy more competitive.

3. Cause of unemployment: Unemployment benefits given to unemployed, making them dependent & not taking the initiative to look for jobs (Extract 5, paragraph 1).

a. Policy: market-oriented supply-side policy by reducing or even removing the unemployment benefits

→ encourages workers to accept jobs at lower wages and thus increase national output and employment.

b. Evaluation:

Reducing unemployment benefits would improve the fiscal position of the UK govt. Assuming that the govt is already running a budget surplus, a reduction in unemployment benefits would further increase the budget surplus. This would translate into more funds that can be injected into economic development such as expenditure on infrastructure and capital goods.

4. Cause of unemployment: Geographical immobility (Extract 5: many live very far away from town) hinders the movement of labour from the suburbs to town. This results in frictional unemployment.

a. Policy:

Fiscal policy through improving public transport or provide subsidised housing for workers near their places of work. Entice the unemployed to move to town where there are possibly more job opportunities.

b. Evaluation:

With increased expenditure on public transport and subsidized housing, there would be an opportunity cost to the UK government, i.e. money could have been spent on other areas in the economy, e.g. healthcare and education

→ a small price to pay as compared to benefits to be enjoyed with a fall in unemployment rate, e.g. rise in national output and fall in social discontent.

The most effective policies are the ones that can address the root cause of the problem of unemployment.

As a long-term solution to unemployment, the UK government should inject more funds into education and retraining.

Not only can this policy reduce unemployment, it can also promote sustainable economic growth, which is another key economic goal.

SECTION 3: Essays
SECTION 3A: Lower-Order Skills

1. a. Explain the causes of unemployment. [10]

Suggested Answer:

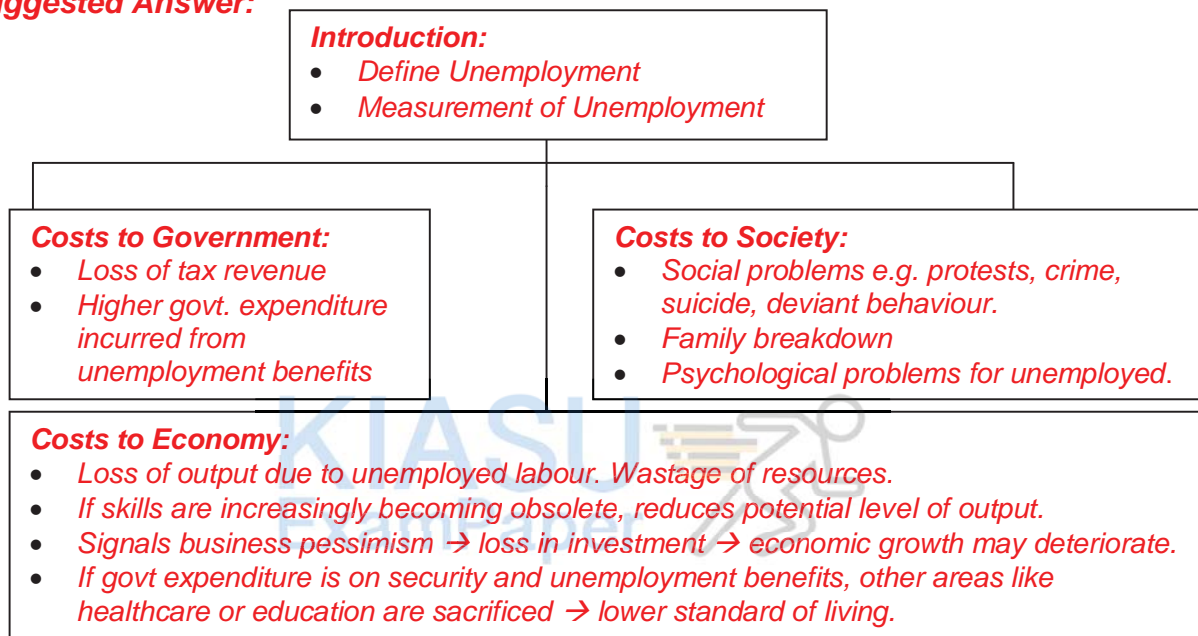
- (i) Define unemployment.
Measurement of unemployment – number of unemployed people expressed as a percentage of the total labour force.
- (ii) Different types and causes of unemployment:
Cyclical unemployment, structural unemployment, seasonal unemployment, frictional unemployment

L3	<i>Good knowledge and explanation of unemployment and its various types. Good use of examples. Accurate and well developed answer.</i>	7-10
L2	<i>Ability to point out different types of unemployment and explain how each type of unemployment arises. However, facts are accurate by undeveloped.</i>	5-6
L1	<i>Some knowledge of unemployment. Inadequate explanation and contain basic error.</i>	1-4

2. “Singapore’s unemployment rate could surge to a 20-year high of 5 per cent next year. This would be the highest level of unemployment since 1986.”
The Straits Times, 25 February 2009

(a) Explain the cost of a high unemployment rate to Singapore. [8]
[NYJC Promo Paper, 2009]

Suggested Answer:



L1	<i>Mere listing of the costs of unemployment, lacking elaboration. Answers are mostly towards the impact on society, lacking economic analysis.</i>	1 - 3m
L2	<i>An explanation of two economic and one non-economic reason. However, answers are not well-explained.</i>	4 - 6m
L3	<i>Clear illustration of the costs of unemployment to the different sectors of the economy, with relevant economic analysis. Three reasons, with strong economic application.</i>	7 – 8m

3. “The 2010 FIFA World Cup is viewed as a defining moment for South Africa, with \$75 billion in improved roads, airports and other infrastructure; a reduction in unemployment and the potential enhancement of international investment and tourism.”

Source: The New York Times, 27 June 2009

Explain the impact of hosting the 2010 FIFA World Cup on the different types of unemployment in South Africa. [10] NJC, 2010]

Suggested Answer:

Introduction

- *Hosting of the World Cup has brought about significant changes in the South African economy. Although it is a one month long event, preparation for the tournament actually started years before 2010 and its effect on the economy may be felt for years to come.*
- *To “address the unemployment situation”, one should address the different types and causes of unemployment which may be present: mainly cyclical, structural and frictional unemployment.*
- *Define the various types of unemployment.*

Body

- *The hosting of the World Cup will cause an increase in the various components of aggregate expenditure (AE). Increase in the various components of AE leads to a rise in AE. Through the multiplier process, this leads to a multiplied increase in national income, employment and output.*
- *Cyclical unemployment: With a higher level of output, this increases demand for labour in South Africa, leading to a fall in cyclical unemployment. In particular, construction and tourism-related sectors are likely to experience the most significant rise in demand and hence, job creation.*
- *Structural unemployment: Explain how this type of unemployment may have increased/decreased due to the hosting of the World Cup*
- *Frictional unemployment: Explain how this type of unemployment may have increased/decreased due to the hosting of the World Cup*

Conclusion

- The hosting of the World Cup is able to address unemployment to a certain extent, mainly through the reduction of cyclical unemployment by boosting AE in the economy. The impact on the other types of unemployment is likely to be less significant.

Level	Descriptors
Level 3 7 – 10	Answer shows good knowledge about the effect of hosting the World Cup on the three main types of unemployment which South Africa is likely to be experiencing. There is a clear ability to give examples of how skills mismatch and search time for job seekers may be affected by hosting the event.
Level 2 5 – 6	Answer shows knowledge about the effect of hosting the World Cup on components and AE/AD, with a clear link made to cyclical unemployment. However, other types of unemployment may not be considered or well-developed.
Level 1 3 – 4	Answer shows some knowledge about the effect of hosting the World Cup on components of AE/AD, but there are basic errors in theory and the link to cyclical unemployment may be unclear.
1 – 2	Answer is mostly irrelevant with no evidence of understanding about the effect of hosting the World Cup on the economy.

SECTION 3B: Higher-Order Skills

1. Speaking in Washington DC, President Bush announced that additional fiscal spending is needed to reduce the increasing unemployed numbers in the USA".
Adapted from the Economist, June 2008

(a) Explain the likely causes of unemployment in Singapore. [10]

(b) Assess whether Singapore will solve the problem of increasing unemployment differently from the USA. [15]

[HCI, 2009]

Suggested Answer:

(a)

The aim of the question is to identify and explain the principal causes of unemployment in Singapore.

Define & explain unemployment & how unemployment is calculated.

The types of Spore's unemployment are cyclical, structural and frictional.

Explain causes of **cyclical** unemployment from Spore's perspective:

- Demand deficient unemployment – applicable during global recession. As the external sector is large in Singapore, firms aiming to maintain export competitiveness try to reduce costs of production by reducing output & employment.
- Workers are retrenched and unemployment rises.
- Singapore has gone through 3 major periods of high unemployment in 5 years from 1998 – 2003 due to external shocks. External influences play an important role especially since Singapore is very dependent on external demand.
- Singapore is still largely dependent on electronics exports and hence its economy has to suffer from the volatile cycles experience by the electronics sector.

Explain causes of **structural** unemployment in Spore:

- As Spore's economy has to cope with globalization and outsourcing, it has to restructure its economy, and in the process structural unemployment will also result.
- E.g. Though Spore is into biomedical sciences, it is by and large focusing on R&D activities, the actual production of drugs is likely to be carried out in cheaper locations like India and China. This will deprive job creation for the low-wage manufacturing workers doing mass production kind of work in Spore.
- Even in service sector, there is intense competition regionally. For example, ports around the region, such as Port Tanjung Pelepas in Malaysia have upgraded its facilities and offers competitive services to shippers as well. With fewer businesses, Spore's PSA have to layoff its workers if their productivity is not higher.

Explain causes of **frictional** unemployment in Spore:

- Frictional unemployment arises because it takes time for workers to be matched with suitable jobs. The unending flow of people into and out of the labour force and the process of job creation and job destruction create the need for people to search for jobs and for firms to find suitable employees. Since both employers and employees spend time searching what they believe will be the best match available, frictional unemployment arises.
- Frictional unemployment could arise when workers leave declining industry for expanding ones. It could also arise when the recurring stream of students passing out from schools and institutions of higher learning start to look for jobs but have not found them yet.

Conclusion: Spore's unemployment level is very much caused by internal & external factors. Structural unemployment is the most significant problem as the economy restructures in the face of globalization.



Level	Mark	Descriptors
1	Lower (1–2)	• Answer is largely vague in definition. • Only few valid points made incidentally.
	Upper (3–4)	• Answer shows some knowledge of unemployment but the focus predominantly on the types of unemployment rather than the causes.
2	Lower (5-6)	• Evidence of ability: (a) identify the appropriate types of unemployment in Spore (b) explain the causes to these types of unemployment although underdeveloped explanation. • Lacks illustrative points.
	Upper (7-8)	• Evidence of a more thorough relevance to the question. • Able to pinpoint the salient features pertaining to Spore, for example, the external environment is a great influence. • Some illustrative points or examples of Spore's situation.
3	9-10	• A thorough knowledge of the 3 main types of unemployment relevant to Spore. • Demonstrate a good ability to describe and explain in a precise, logical, reasoned manner. • Clear evidence of ability to illustrate in the context of Spore: how external factors such as globalization and competition affect Spore's unemployment position greatly. • Conclusion is stated.

(b)

The aim of this question is to assess whether fiscal spending could be effectively used in Spore to curb rising unemployment. There is certainly substantial room for evaluation in the answer to the question.

Recognise that the US government uses expansionary fiscal spending to reduce unemployment. Explain the effect of how an increased fiscal spending raises AD and hence increase production and reduces unemployment

For Spore, **cyclical unemployment** (demand deficiency) is usually caused by downturn in external demand conditions, ie, economic downturn of our trading partners. Spore government spending is unlikely to reverse or match up the size of the external demand.

Nonetheless, to help domestic economy cushion the severity of external downturn, fiscal spending such as public works spending, infrastructure spending, subsidized training programs for workers and transfer payments like the Economic Restructuring Shares could shift Aggregate Demand to the right to mitigate the fall due to external conditions.

Effectiveness of increased government spending to reduce unemployment:

- Our high MPM and MPS mean a large amount of leakages in the circular flow of income which make our size of national income multiplier small.
- Time lags of fiscal spending- time to recognize the need for spending and the time taken to get Parliament's approval.
- How would the increased in G be funded?

As Singapore's economy is an open economy, and if there is a lack of external demand due to our lower export competitiveness leading to increasing unemployment, we could use the exchange rate policy. **Exchange Rate Policy:** Depreciation of exchange rate to boost export which could bring about increases in AD and thus reduces unemployment. Explain how this process works (discuss Marshall Lerner conditions)

Evaluation:

- Higher prices of imported inputs, hence higher cost of production for some producers, reducing the effect of cheaper S\$.
- Drives up cost-push inflation

For structural unemployment, supply-side policies are more appropriate. **Supply-side:** Retraining, reduce business costs (e.g. CPF, wage cuts / flexibility.) boosting export competitiveness, tax incentives and subsidies to encourage further education and re-skilling.

Tax incentives like the reduction of corporate tax could be used. If foreign firms respond to lower corporate taxes this could retain structurally unemployed workers by conducting retraining programmes to meet their new job requirements. Government could also provide subsidies to retrain workers in the private sector.

Evaluation:

- For wage cuts - while wage cuts are not possible in other countries, they have been proven to be workable for Singapore due to the close working relationship between Trade Unions and the Spore govt.

For **frictional unemployment**, government spending in the form of making more jobs available in the civil service could help new entrants into the labour force. Govt spending in the forms of setting up employment bureaus or job fairs and job agencies in Community Development Councils would help to ease frictional unemployment.

Conclusion: Different policies have to target at the different causes of unemployment. Structural unemployment has to be tackled through SS-side policies and even for demand deficient unemployment in Spore, mere government spending would not be enough to stop the increasing unemployed if there is a global recession. Instead policies aiming to improve skills and workers' productivity are a better solution to prevent increasing unemployment.



Level	Mark	Descriptors
1	Lower (1 – 2)	<ul style="list-style-type: none"> Answer is mostly irrelevant. Only few points made in with little economic basis.
	Upper (3 – 5)	<ul style="list-style-type: none"> Answer shows some knowledge with some explanation on the impact of government spending on unemployment but does not indicate that the question has been properly grasped.
2	Lower (6)	<ul style="list-style-type: none"> Evidence of ability: (a) to identify ways of reducing unemployment using some policies (b) fair ability to apply to the methods in Singapore. An underdeveloped explanation of the facts relating to the methods of reducing unemployment.
	Upper (7-8)	<ul style="list-style-type: none"> Evidence of a more thorough answer relevant to the question. Evidence of explanation ways of reducing unemployment in different types of unemployment situations though explanation could be incomplete.
	Lower (9)	<ul style="list-style-type: none"> Expect a thorough knowledge of reducing unemployment using supply side policy, fiscal policy and exchange rate policy relevant to the question Demonstrate a good ability to describe and explain in a precise, logical, reasoned manner Clear evidence of ability to examine implication of the question Expect ability to illustrate in the context of Singapore
3	Upper (10 - 11)	<ul style="list-style-type: none"> Expect a thorough knowledge of reducing unemployment using supply side policy, fiscal policy and exchange rate policy relevant to the question with an excellent ability to describe and explain this in a precise, logical, reasoned manner relevant to the question Clear analysis Expect some attempt at a conclusion to the question Expect new illustrations relevant to the method of reducing unemployment situation in Singapore

Evaluation		
E1	Mainly unexplained judgement pertaining to the methods of reducing unemployment.	1-2
E2	Judgement based on analysis pertaining to the methods of reducing unemployment.	3-4



2. Singapore's unemployment rate rose to 3.3% in March 2009.
- (a) Explain whether demand-side or supply-side factors were more responsible for the rise in unemployment in Singapore. [10]
- (b) Discuss the extent to which problems are likely to arise from the use of fiscal policy to achieve full employment in Singapore. [15] [SRJC, 2009]

Suggested Answer:

(a)

Introduction

Explain the meaning of unemployment and why a high unemployment rate may be a problem.

Body

There are many causes of unemployment but these can be grouped according to demand or supply-side factors.

1. Demand-side factors

a. When unemployment is due to demand-side factors, this means that there is insufficient demand or fewer job vacancies than the number unemployed.

b. Unemployment can be due to fall in Aggregate Demand (AD) or AE. This type of unemployment is usually called cyclical unemployment. Evident during the downswing of the business cycle.

c. Explain the meaning of AD and its components.

d. Explain how a fall in AD or AE will lead to rise in unemployment.

e. Application: Cyclical unemployment is evident in Singapore in recent times especially in 2008 and beginning of 2009. Unemployment is largely due to fall in external demand i.e. fall in export earnings. This fall is a result of the world financial crisis and economic recession. Singapore is largely dependent on exports for its growth – export is 1.9x of its GDP. Hence, this fall in exports contributed significantly to the rise in unemployment in recent times.

2. Supply-side factors

a. Supply-side factors either refer to fall in AS or structural rigidities and labour immobility that prevent economy from reaching full-employment.

b. Fall in AS can be due to fall in labour productivity and rise in wages. Ceteris paribus, this leads to a rise in unit labour costs → ↑ prices of goods → ↓ quantity demanded → ↓ revenue and profits → ↓ production by firms → firms retrench workers → ↑ unemployment.

c. *Structural rigidities and immobility of labour is another reason for unemployment. Immobility can be due to factors such as lack of relevant skills, education, age.*

d. *For example, as a result of globalisation, countries such as China and other low-cost producers of low-end manufactured goods enter the world market and threaten the exports of developed countries. As a result of the closure of industries that compete directly with those imports, there is structural unemployment. Those who are unemployed are not able to find employment in sunrise industries due to their lack of relevant skills. Thus, it can be said that this unemployment is due to supply-side factor, i.e. labour immobility.*

(e) *Application: This is also evident in Singapore in recent years. This unemployment is usually among the older and low-educated workers. As Singapore moves towards a knowledge-based economy, there is increasing demand for high-skilled workers. Those who are not able to acquire new skills will lose their jobs permanently.*

Conclusion

Comment on which factor is more responsible: I think that currently, demand factors are more responsible for the rise in unemployment in Singapore recently. As mentioned earlier, the world economic recession has resulted in loss of jobs for Singapore due to fall in demand for manufactured exports. Structural unemployment however, has always existed as Singapore continues to restructure its economy and increasing its export competitiveness.

Mark Scheme

L3	<i>Thorough explanation with good use of examples. Evaluated which is likely to be the more responsible factor.</i>	9-10
L2	<i>Some explanation of demand or supply-side factors. However, explanation is not rigorous. Lack of relevant examples</i>	5-8
L1	<i>Limited understanding of question requirement, insufficient explanation.</i>	1-4

(b)

Introduction

Unemployment is not desirable from society's point of view. It is one of the main concerns of the government. There are many policies that governments can use to achieve full-employment, namely fiscal, monetary and supply-side policies. Usually a package of policies is needed because of certain policies are targeted at different types of unemployment. Problems would usually arise from the use of these policies and these must be considered in determining the choice of appropriate policies.

Body

- Define fiscal policy: deliberate attempt by the government to influence the level of economic activity, in this case to reduce unemployment, by changing the level of government expenditure and taxation.*
- Explain how an expansionary fiscal policy can reduce unemployment.*

- \uparrow in G on final goods and services such as building infrastructure, spending on education and healthcare $\rightarrow \uparrow AD$.
- The $\uparrow AS \rightarrow$ shortage of goods and services \rightarrow higher prices and profits. Thus, more incentive for firms to increase production $\rightarrow \uparrow$ national output, NY and employment, thus reducing cyclical unemployment.
- Explain and evaluate the problems that may arise from the use of expansionary fiscal policy to reduce unemployment.

- a. **Small multiplier** \rightarrow government needs to pump in more money to solve the problem \rightarrow budget deficit balloons. Through the multiplier effect, the initial rise in government expenditure will result in larger change in NY . In fact, the total change in $NY = k \times$ initial change in G . In Singapore, expansionary fiscal policy may not be very effective in solving unemployment because of the small multiplier.

Singapore's K is small at 1.3 due to high MPW arising from MPS and MPM .

- The high MPS arises from compulsory savings through CPF contribution where 20% of gross income is saved. In addition, households save another proportion for precautionary and other purposes. Overall, Singapore's savings as a % of GDP is 50%.
- The high MPM is due to Singapore's limited resources. Hence we import virtually all final goods and services and raw materials. Every \$1 spent, 51 cents go into imports.
- Therefore, with a small multiplier, the government has to spend even more or reduce tax further in order to achieve the desired outcome \rightarrow larger budget deficit \rightarrow makes policy very costly for future generation which bears the burden of the debt. Also, persistent budget deficit is not sustainable.
- However, this burden may not be great as the prudent Singapore government can draw on its past accumulated budget surpluses to finance its expenditure.

a. **Crowding-out Effect**

- It occurs when the $\uparrow G$ is financed by borrowing from private capital markets. The $\uparrow DD$ loanable funds $\rightarrow \uparrow i/r \rightarrow \uparrow COB \rightarrow \downarrow I$, thus crowds out private investment.
- If the crowding-out effect is large, this means that there will be a large fall in private investments.
- Explain further how a fall in private investment can hinder future economic growth.
- The crowding-out effect can be expected to be small because the amount of government borrowing to finance its expenditure is small. Again, due to its ability to finance spending from its past savings.



c. Problem of rising inflation

- $\uparrow G$ and \downarrow direct taxes $\rightarrow \uparrow AD \rightarrow \uparrow GPL$, as the economy reaches full employment. Inflation can occur for as long as AS cannot increase fast enough to meet the rise in AD. This can occur because of structural rigidities that impede increase in AS.
- The problem of inflation is one of the important trade-offs of expansionary fiscal policy. When inflation increases, this can adversely affect the economy through its effects on savings, investment and export price competitiveness.
- This problem however can be mitigated by the use of appropriate government expenditures to stimulate AS.
- Expansionary FP may also affect AS of an economy. Thus, the country is not only able to solve the problem of unemployment, it is also able to avoid inflation and at the same time, enjoy a rise in its potential output.
- Give examples of such policies are:
- The \uparrow in AS above $\rightarrow \downarrow GPL$, \uparrow output, NY and employment. Hence, there is no conflict with macro goal of inflation when growth and employment are achieved.

d. Time Lag

- The use of fiscal policy involves many time lags. The first of which is called the recognition lag where government needs to ascertain the problem. After which is the decision-making lag and implementation lag. The time lag depends very much on the efficiency of the government. In many situations, this whole process is hindered by bureaucracy.
- The problem with this is that if the time lags are very long, instead of solving the problem, the policies worsen them because of change in economic conditions.

Conclusion

State stand and justify.

L3	Thorough analysis and evaluation of problems that arise. Students stated explicitly what are the potential problems and consider the extent of the problem under different circumstances and formulate a reasonably effective conclusion.	9-11
L2	Analysis of fiscal policy and the problems faced by the government due to small multiplier, crowding-out effect and conflicts with other goals that may arise is thorough and consistently done. Evaluation of the extent of problem is limited either in scope or in depth of analysis [even if students do not state explicitly the problems, i.e. merely discussed the limitations of such policy, can be considered for this band, but keep it at 8 marks max.	5-8
L1	Some explanation of how fiscal policy works and the limitations of such policy.	1-4
E2	Judgement based on analysis.	3-4
E1	Mainly unexplained judgement	1-2

3. In the fourth quarter of 2004 Singapore's unemployment rate rose to 3.7%. Discuss whether supply-side policies are the most effective way of achieving full employment in Singapore. [25] [2006]

Examiner's Report:

This was a very popular question to which there were some mixed answers.

The best, not surprising, gave a considered and well-balanced answer that not only showed good understanding of the underlying economic analysis but gave excellent evaluation based on good knowledge of the Singapore economy. A wide range of evaluative comments was presented. These explained concerns about the use of supply side policies to solve problems caused by a lack of aggregate demand, distinguished between short run and long run outcomes and discussed the merits of alternative policies. Clear diagrams were frequently in evidence.

The key disappointment is too many candidates used this question as an excuse to write all they knew about macroeconomics and, in particular, about demand management policies. There was scant reference to the supply side and in particular to the analysis that underlies supply side policies. That said these candidates were to describe or at least show some knowledge of supply side policies. Candidates should be encouraged to use AD/AS curves to explain their answers to macroeconomic questions of this type.

SECTION 3C – Challenging Essays

1. (a) Explain the impact of labour productivity on the Singapore economy.

[10]

- (b) Compare the use of supply side policies and demand side policies in solving unemployment. [15] [NYJC, 2009]

Suggested Answer:

(a)

Synopsis

For this question there is a need for students to show the relationship between productivity and the Singapore economy (namely internal and external). The AS-AD framework should be used to show that labour productivity raises the productive capacity and hence have an impact on both the internal and external economy.

1. Introduction

Explain that there are both internal and external aspects of an economy, identify the macroeconomic variables for both aspects.

2. Body

The main focus of the body is to show how labour productivity affects the internal and external economy.

B1. Show effects of labour productivity on AS

Explain how labour productivity would lead to a shifting of the AS curve such that a higher full employment level of national income is attained.

B2. Explain how the rising AS affects the internal economy

Use the AS-AD framework to show that GPL would be falling and NY would rise. Use the idea that labour is a derived demand to make inference that employment would be rising.

B3. Explain how the rising AS affects the external economy

a. Effects on BOP

Tie in the expected change in both imports and exports to show the impact that productivity has on BOP. With greater productivity, locals may want to substitute imports with domestic goods as the GPL falls. Similarly, the falling GPL makes the country's exports more competitive and this may lead to a rise in export quantity. If we assume the PED for exports are more than one (give justification), export revenue would rise (draw diag). The resulting rise in exports and fall in imports, leads to an improvement in the BOP.

b. Effects on the domestic exchange rates

An improvement in the BOP would imply a net inflow of funds into the country. This would mean a resultant increase in demand in the country's currency. Show (draw market for local currency) that this causes an appreciation in the country's currency.

Alternatively, show that a fall in import expenditure causes a fall in the supply of domestic currency and a rise in export revenue causes a rise in the demand for domestic currency. This will cause the country's currency to appreciate.

B4. Alternative results of rising productivity on the domestic economy.

a. Effects on the internal economy

The rising productivity may result in a fall in employment as the source of the productivity may come from better capital goods. This would result in firms substituting labour with capital. Alternatively, the rise in productivity could cause a restructuring of the economy towards a particular sector such that the reallocation of resources leads to structural unemployment.

b. Effects on the external economy

The key assumption that the PED for exports is more than one, resulted in the rise in export expenditure. However, it is possible that PED for exports could be less than one (justify). This would result in the lower export prices leading to a fall in export revenue. Should the fall in export revenue exceed the fall in import expenditure, net exports would fall. This would instead worsen the BOP. The impending result in this would then cause a depreciation of the domestic currency (draw diagram to show).

3. Conclusion

The rising productivity would most likely be advantageous to the economy in terms of lower GPL, higher NY and greater employment coupled with BOP growth and a stronger currency. Nevertheless, the outcome may not be so rosy for certain variables such as employment as well as net exports as more information is needed regarding the PED for exports as well as the source of the labour productivity.

L 3	Thorough coverage of both the impacts on the internal and external economy. Ability to seek out impending assumptions may not hold and hence uncertainty of outcomes may be possible.	7 - 10
L 2	Effects were explained but not thorough, i.e. lacks coverage of either internal or external effects or internal effects were incomplete.	5 - 6
L 1	Superficial explanation of the effects of labour productivity on the economy(inability to separate into internal and external).	1 – 4

(b)

Synopsis

In this question, the illustration of both demand side and supply side policies are required, especially with reference to how they solve unemployment. For the policies illustrated, the limitation should be explained. There is a need to view the term unemployment broadly to take into account the different types of unemployment. Comparison, in terms of the effectiveness of demand side as well as supply side policies must be addressed.

1. Introduction

Simple differentiation between demand and supply side policies should be made as well as defining and highlighting the different sources of unemployment.

2. Body

The body illustrates how the demand side and supply side policies, as well as their limitations in addressing unemployment. In addition, comparison in terms of effectiveness and appropriateness is expected.

B1. The use of demand side policies in addressing cyclical unemployment

- Briefly explain cyclical unemployment
- Use a demand side policy (FP, ERP) to show how it operates and bring in the limitation of it specifically to the Singapore(optional) economy.

B2. The use of supply side policy (short term) in addressing other forms of unemployment

- Briefly explain structural/frictional unemployment
- Explain how supply side policy is useful in addressing it and bring in the limitation of it.

B3. Show that supply side policies are also used to deal with cyclical unemployment

- Bring in current examples of global economic crisis and the use of job credit scheme or past crisis and the use of CPF (employer's) contribution cut in dealing with unemployment. In these cases, the deficiency in demand were the results of external factors.

B4. Compare the use of demand side and supply side policies and their appropriateness.

- Demand side policies are more appropriate when there is cyclical unemployment. However if the deficiency in demand is due to external factors supply side policies should also be used.

3. Conclusion

The most effective way of addressing unemployment would be to identify their causes. Once this is done, intervention of the government should be based on its ability to deal with the unemployment. E.g. in the current economic crisis, cyclical unemployment resulted, but policies directed at raising AD may not be too potent. In such cases, supply side policy like the job credit scheme may be adopted even though the unemployment is due to demand deficiency.

E2	Clear explanation on comparisons between demand and supply side policies, in terms of its appropriateness or effectiveness.	3 – 4
E1	State difference between demand and supply side policies, in terms of its appropriateness or effectiveness.	1 – 2
L 3	Good use of explanation and diagrams in explaining the workings of demand and supply side policies as well as thorough in explaining their limitation.	9 – 11
L 2	Good use of explanation and diagrams in explaining the workings of demand and supply side policies but not thorough in explaining their limitation.	5 – 8
L 1	Superficial explanation of the effects of demand and supply side policies in addressing unemployment.	1 – 4



2. While the recent energy and food crisis resulted in inflation and potentially rising unemployment, the current global economic downturn has dampened inflation. However, the threat of rising unemployment remains.

Explain the above statement and comment on the measures that could have been used in your country to manage the unemployment arising from global economic downturn. [25] [TJC, 2009]

Suggested Answer:

- Define inflation & unemployment
- Energy and food crisis \rightarrow rising prices $\rightarrow \uparrow$ COP \rightarrow AS shift up $\rightarrow \uparrow$ P (cost-push inflation) & \downarrow Y (hence \uparrow unemployment)
- Global downturn $\rightarrow \downarrow$ X (recession in export markets), \downarrow C & I (weakening outlook) $\rightarrow \downarrow$ AD $\rightarrow \downarrow$ P & \downarrow Y (hence \uparrow unemployment)
- Illustrate concepts with AD-AS diagrams
- With the global economic crisis leading to falling AD, the unemployment in Singapore is likely to be cyclical
- Explain demand and supply side measures in the Singapore context
- Expansionary fiscal policy
 - \uparrow G & \downarrow T \rightarrow multiplier effect $\rightarrow \uparrow$ AD
 - * Singapore typically carries out its expansionary fiscal policy through cash grants like rebates on utilities and income tax, and acceleration of infrastructural projects
 - * Fiscal stimulus is not very effective in boosting AD because of small injection multiplier and small domestic demand relative to external demand
 - * Most of public spending is aimed at the supply side to increase the country's productive capacity or to redistribute income to help the poor better cope with the recession
- Expansionary monetary policy
 - \downarrow i/r $\rightarrow \uparrow$ C & I $\rightarrow \uparrow$ AD
 - * As Singapore operates a managed float ER with free capital mobility, she is unable to control domestic interest rates
- Exchange rate policy
 - Devaluation \rightarrow $I_{Ex} + E_m I > 1 \rightarrow \uparrow$ (X-m) $\rightarrow \uparrow$ AD
 - * Singapore with no natural resources is highly dependent on imports of necessities like food and fuel, hence households may face severe imported inflation.
 - * Singapore's exports are made up largely from imported inputs, hence rising input costs following the devaluation may offset much of the initial gains in export competitiveness
- Supply side policies
 - \downarrow business costs \rightarrow AS shifts down \rightarrow e.g. wage subsidies (Jobs Credit Scheme)

* Wage subsidies are extremely costly as it involves large subsidies to a large pool of workers (arguably, it is so costly that dipping into the reserves is required)

- Govt sharing of the default risk of business loans → encourages bank lending to help companies with their cashflow → reduces unnecessary firm closure and hence unemployment.

* However, many banks were still tight on lending as the credit crunch was very severe.


Level	Remarks	Marks
1	Definition of inflation and unemployment. Explanation of the different types of inflation and unemployment and the policies to solve unemployment that are not related to the context.	1-8
2	Explanation and illustration of cost push inflation and demand deficient unemployment.	9-13
3	Wide ranging analysis of various policies to fight cyclical unemployment covering internal demand and external demand management as well as supply side aspects.	14-21
E	Evaluating the policies in relation to the Singapore context.	+4



2011 Other JCs' Prelims - MACROECONOMIC PROBLEMS AND POLICIES - Unemployment (H2)		
1	CJC 2011	<p><i>"So far the pace of recovery from the 2008-2009 recessions has been agonizingly slow, leading to jobless recovery in many economies. There is barely enough to absorb the monthly growth in the labor force and not nearly enough to offset the job losses that have occurred. Weak demand, rather than supply side troubles, is the primary cause of continued high unemployment."</i></p> <p style="text-align: right;">The New York Times, 17 January 2011</p> <p>(a) Explain the various forms of unemployment. [10] (b) Discuss the relative effectiveness of demand-side policies and supply-side policies in tackling jobless recovery of the economy. [15]</p>
2	HCI 2011	<p>(c) Using examples, explain why the size of the national income multiplier for different countries may differ. [10] (d) Assess the role of the multiplier in influencing the policies used by the Singapore government in managing unemployment in recent years. [15]</p>
3	IJC 2011	<p><i>The US Senate voted on 16th June 2011 to defeat a proposed extension of unemployment benefits for workers who have been jobless for nearly two years.</i></p> <p>(a) Explain the likely causes of unemployment in Singapore. [10] (b) Assess the extent to which the Singapore government's approach to solving unemployment may differ from the US. [15]</p>
4	MJC 2011	<p><i>Singapore government supply-side policies have created a more dynamic and flexible labour market. Between 2003 and 2008, unemployment fell from 4.0% to 2.2% but inflation rate rose to 6.6%.</i></p> <p>(a) Explain how supply-side policies can lower the level of unemployment. [10] (b) Discuss whether the Singapore government should ever be concerned about the economic consequences of falling unemployment. [15]</p>
5	NYJC 2011	<p><i>"Singapore's unemployment rate rose to 2.1 per cent in June from 1.9 per cent in March 2011. The Ministry of Manpower (MOM) said 1,500 workers were retrenched and 400 had their contracts terminated prematurely, resulting in a total of 1,900 workers being made redundant in the second quarter of 2011."</i></p> <p style="text-align: right;">Adapted from www.todayonline.com</p> <p>(a) Explain possible causes of unemployment in Singapore. [10] (b) Assess the view that the Singapore government should focus on achieving low unemployment as its main macroeconomic goal. [15]</p>

6	SAJC 2011	Discuss whether maintaining low unemployment rate will lead to an improvement in the standard of living in an economy. [25]
7	YJC 2011	<p>(a) Explain why reducing income inequality and keeping unemployment rate low are important objectives to be pursued by the Singapore government in recent times. [10]</p> <p>(b) Discuss whether the measures adopted by the Singapore government have been successful in achieving these two objectives. [15]</p>



 NYJC	2013 JC1 H1 & H2 ECONOMICS
	How The Macroeconomy Works: 12. Economic Problems – Economic Growth

Review on: Economic Problems – Economic Growth

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Economic Problems - Economic Growth	Tick
1. What is economic growth?	
2. How is it measured?	
3. How is potential growth different from actual growth?	
4. What is a recession?	
5. What are the main causes of economic growth?	
6. How can AS/AD be used to illustrate economic growth in an economy?	
7. What is the government objective in relation to economic growth?	
8. What is the significance (effects) of a falling or rising economic growth?	
9. How can the economic growth rate be used to assess the economic performance of a country?	
10. What are the limitations of using the economic growth rate to assess the economic performance of a country?	
11. How can demand side policies be used to achieve economic growth?	
12. How can supply side policies be used to achieve economic growth?	
13. How can labour productivity impact economic growth?	



SECTION 1 – Concept Reinforcement

1. What does it mean when a country achieves economic growth?
2. What is the difference between potential and actual growth?
3. What are some of the benefits and costs to a country when there is increasing economic growth?
4. What are some of the strategies that a country can adopt to promote economic growth?
5. What might have fueled the high economic growth achieved by India?
 - (a) An increase in interest rates
 - (b) An increase in exports***
 - (c) An increase in unemployment
 - (d) An increase in imports
6. Which of the following might not result in economic growth?
 - (a) Upgrading the skills of workers
 - (b) Improvement in technology
 - (c) Investment in capital goods
 - (d) Increase prices of goods***
7. What is likely to be a disadvantage of attaining economic growth?
 - (a) Fall in unemployment
 - (b) Fall in standard of living
 - (c) Depletion of resources***
 - (d) Fall in government tax revenue
8. One of the ways to achieve economic growth is by _____.
 - (a) Increase in income tax
 - (b) Increase the range of consumer goods
 - (c) Increase in the investment in capital goods***
 - (d) Increase in unemployment benefits
9. Which of the following may be caused in the long term due to economic growth?
 - (a) A rise in structural unemployment***
 - (b) A rise in interest rate
 - (c) A high level of inflation
 - (d) A fall in standard of living



SECTION 2 - Case Study

CSQ1: [2007 MJC H2]

Ageing Population

Extract 1: Japan: A country in crisis?

Japan is ageing inexorably. Its population peaked last year just short of 130 million. It has just passed Italy to become the country with the highest proportion of over-65s anywhere and the lowest ratio of children under 15. If the more extreme projections are to be believed, by the turn of the next century, there could be fewer than 50 million Japanese. The country faces a decline in its population on a scale unprecedented in the developed world. While Japanese are living longer, its women are producing too few children. The gravity of the situation became apparent this spring, when official figures for 2005 showed another fall in the average number of children a Japanese woman bears in her lifetime from 1.29 in 2004 to 1.25 last year - the fifth straight year of decline.

Whole areas of government and business are slowly coming around to the reality of an ageing population - and the financial sector senses opportunity along with risk. Dormant for the past decade, Japan's economy is awakening. And who is driving the tentative recovery but Japan's flourishing band of pensioners.

Tetsuro Sugiura, chief economist at the Mizuho research institute in Tokyo, describes it as the "grey boom". It used to be, he said, that the elderly were anxious about the future and saved even into their dotage. This is no longer true. Japan's pensioners are spend, spend, spending. They are buying luxury goods, travelling, and indulging their taste for expensive foods.

One of Japan's most innovative financiers, Yoshitaka Kitao said that Japan's low birth rate will mean a slow growth rate and continuing ultra-low interest rates. He believes that those with savings will look beyond conventional deposit accounts to increase their returns. He sees the future in share-owning and e-trading for small investors. The skill will be to make such financial instruments attractive and accessible to this generation.

It is inevitably the state pension system that will be the first to feel the negative effects of the declining population. Prudently, the government of Junichiro Koizumi introduced a pension reform two years ago, with later retirement and higher contributions from employers, employees and the government. But the calculations, which derived from the most conservative demographic projections available, were not conservative enough. Unless the birth-rate rises - which looks unlikely - either pensions will have to fall, or a new round of reforms will be needed.

The more immediate worry, though, is not the pension system but economic growth and employment. Businesses already face difficulties finding new recruits. The unemployment rate is below 4 per cent across much of Japan, and at its highest - on the island of Okinawa - is still less than 8 per cent. It has plunged since the recession ended two years ago, even though some companies are still slimming down.

Younger workers are already at a premium, and things will only become more difficult from now on. The labour force in the 15-24 age bracket, which stood at more than 8 million in 1990, will have shrunk to 5.3 million by 2015. Search and recruitment agencies are growth businesses in Japan these days.

One solution is for manufacturers to set up affiliates in China, but the results have often been disappointing. It's no good, one analyst said, staffing a factory with Chinese workers

at one-tenth of the cost of Japanese, if the end product is substandard. Migrant labour is another option. While the assumption abroad has been that Japan is culturally ill-disposed to migration, resistance is shrinking. There are in fact two million foreigners living in Japan.

Software engineers have been recruited in India, and Japanese companies have set up training schools in Beijing and Ulan Bator (Mongolia) as a prelude to bringing the graduates as staff to Japan. And while some employers fear the intrusion of new ideas and practices into Japan's hierarchical working ways, others welcome the foreigners - often other Asians - as not only eager and hard-working, but bearers of a more mobile and energetic work culture. Japan, it seems, is not as immune to globalising tendencies as many assumed.

There is another - more obvious and perhaps less controversial - remedy: encouraging men to work post-retirement and mobilising the supposedly under-used resource that is Japanese women.

Source: Independent Online Edition, 26 Aug

Extract 2: The Challenge of the Widening Income Gap

The disparity in household income had widened in 2000, reflecting the faster income growth for the higher-income households. Although our economy is growing well, incomes are only increasing slowly at the lower end, or not at all, and income gaps are widening. This is a problem for those at the bottom, but it is also a problem for the rest of society if those at the bottom feel left out.

The solution is not to grow more slowly, or to focus less on growth and more on redistribution — although some people think we should do that. If we do that, it will only hurt the people we are trying to help. Slow growth will make everybody worse off, but it will have the greatest impact on those at the bottom. Jobs will be lost and incomes will fall through the floor for those at the lower end of the workforce, while at the top end, talented Singaporeans and those with the ability to seize opportunities elsewhere will up and go.

Slow growth will not assure us of a more equal society, as long as we live in a globalised world.

To facilitate the hiring of older low-wage workers, the employers' CPF contribution rate will remain at 13% or be reduced for employees aged 35 and above who are earning \$1,200 or less. To make up for the reductions in the CPF contributions, the government will give topups to these workers under the new Workfare Income Supplement Scheme

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256

(WIS). The tripartite Committee on Employability of Older Workers is also considering a re-employment law under which workers can continue to work even after retirement.

Source: The Budget Speech 2007

Table 1: Tax Rates in Singapore from 2003 – 2007

Types of taxes		Tax Rates (%)					
Personal Income Tax	Year	Chargeable income (\$)	2003	2004	2005	2006	2007
	On the first	20,000	0	0	0	0	0
	On the next	10,000	4	4	4	3.75	3.5
	On the first	30,000					
	On the next	10,000	6	6	6	5.75	5.5
	On the first	40,000					
	On the next	40,000	9	9	9	8.75	8.5
	On the first	80,000					
	On the next	80,000	15	15	15	14.5	14
	On the first	160,000					
	On the next	160,000	19	19	19	18	17
	On the first	320,000					
	Above	320,000	22	22	22	21	20
Corporate Tax			22	22	20	20	20
Goods & Services Tax			4	4	5	5	7

Source: <http://mytax.iras.gov.sg>

Table 2: Gini Coefficient in Singapore 2000 – 2005

All Households ²			Employed Households ³	
	Gini Coefficient ¹	Ratio of Average Per Capita Income of Top 20% to Lowest 20%	Gini Coefficient ¹	Ratio of Average Per Capita Income of Top 20% to Lowest 20%
2000	0.490	20.9	0.442	10.0
2001	0.493	19.5	0.455	11.0
2002	0.505	25.4	0.455	11.2
2003	0.512	28.1	0.458	11.4
2004	0.517	29.6	0.463	11.6
2005	0.522	31.9	0.468	12.1

1 The Gini coefficient takes values from zero to one. The more unequal the income distribution, the larger is the Gini coefficient.

2 Based on ranking of all resident households by per capita monthly household income from work.

3 Based on ranking of resident households with income earners by per capita monthly household income from work.

Source: Key findings of general household survey

Questions:

- (a) Compare the trend of direct taxes and indirect taxes from the period of 2003-2007. Account for the trends. [4]
- (b) Explain why Japan's population is ageing so rapidly. [4]
- (c) Assess the impact of ageing population on the labour market. [6]
- (d) Discuss how an ageing population would affect Singapore's economic growth. [8]
- (e) With reference to the data where relevant, discuss the ability of the Singapore government in achieving a more equal income distribution. [8]

Suggested Answers:

- (a) Compare the trend of direct taxes and indirect taxes from the period of 2003-2007. Account for the trends. [4]

Comparison of trend

Direct taxes (personal income taxes and corporate taxes) are going down while indirect taxes (GST) is going up.

Students must be able to associate direct taxes to corporate and income taxes and associated indirect taxes with GST.

Reasons for Fall in direct taxes

Reasons for Increase in indirect taxes

- (b) Explain why Japan's population is ageing so rapidly. [4]

Increase in life expectancy (longevity). Cite evidence

Increase in life expectancy due to better access to healthcare services and also more advanced medical facilities in Japan, Japanese are also more educated leading to better personal hygiene.

Fall in birth rate (Fall in fertility). Cite evidence

Consistent fall in the average number of children a Japanese woman bears in her lifetime possibly due to the high cost of child rearing and higher labour participation by woman.

*Both reasons **reinforce** one another so that Japan's population is ageing at such a fast rate.*



- (c) Assess the impact of ageing population on the labour market. [6]

Impact of ageing on the labour market. In the short run reduces the supply of labour. Use DD/SS framework support the analysis. Provide reasoned evaluation of arguments by appealing to the evidence in the case materials. Consider the long-run effect by questioning the ceteris paribus assumption.

Level Descriptors Marks

L2: Developed answer within a DD/SS framework.

Evidence and examples from the case study is quoted to support arguments. 4-6m

L1: Identify & explain the impact on supply of labour and hence on equilibrium wage rate and employment. 1-3m

- (d) Discuss how an ageing population would affect economic growth. [8]

Impact of ageing on actual and potential growth within the Singapore content. Examine the impact of ageing on consumption and hence AD as well as productivity and hence AS. Use AS/AD framework support the analysis.

Provide reasoned evaluation of arguments by appealing to the evidence in the case materials.

Level Descriptors Marks

L3: Competent answer that is able to apply closely to the Singapore context with a clear D/AS framework with elaborated evaluation. 7-8m

L2: Undeveloped answer on both the effects on the actual and potential some elaboration and explanation why the effect occurs OR

Developed answer on either of actual and potential growth impacts

Examples from the case study is quoted

Use the AD/AS model to depict the impact on economic growth 4-6m

L1: Attempts to identify either impact on potential growth or actual growth 1-3m

- (e) With reference to the data where relevant, discuss the ability of the Singapore government in achieving a more equal income distribution. [8]

Justification for govt intervention. Explain and elaborate on a range of policy measures such as taxes, subsidies & supply side measures which work to creating incentive to work and employ. Evaluate these measures and comment of the appropriateness in the context of Singapore.

Level Knowledge, Understanding, Application & Analysis Marks

L3: Discussion of the likely impact on resource allocation demonstrating a proficient judgment on the most appropriate policies in S'pore's case. 7-8m

L2: Clear explanation of the various policies in improving resource allocation but lacks depth and rigour OR

A largely theoretical response that fails to address S'pore's context. 4-6m

L1: Brief response to the question and commenting on one policy only. 1-3m

SECTION 3: Essays

SECTION 3A: Lower-Order Skills

1. Explain why a sustained and stable economic growth rate is the top priority for economic survival for the Singapore economy.

[10] [MI, 2008]

Suggested Answer:

- *Sustained economic growth i.e. consistent increases in per capita real GNP will mean that real incomes are growing with increases in reserves and government budget surpluses.*
- *Thus, there will be funds available for schemes to combat the other macroeconomic problems like subsidies to help those affected by high costs of living, high costs of production or from high unemployment. This makes high economic growth a top priority for Singapore.*
- *High growth rates which are fluctuating will bring about instabilities i.e. businesses will find it difficult to make investment decisions when demand and expectations might be fluctuating.*
- *Other macroeconomic aims, although important, will instead take a backseat when compared to that of economic growth.*
 - *High inflation rates, for example, are inevitable in Singapore's case. With such an open economy highly dependent on trade, it is clear that Singapore cannot avoid importing inflation, both for food and inputs for production. However, as long as income growth is higher than the inflation rate, real incomes would still be increasing.*
 - *High unemployment rates, especially from structural changes in the economy, are also inevitable in the face of rapid globalization and greater mobility of capital and labour resources as well as the faster pace of change. All these mean that there is greater competition for jobs as markets open up to freer trade. Skills will be redundant and new skills will have to be learnt. In such cases, it would help if economic growth brings in higher incomes and higher savings and funds for upgrading of skills.*
 - *Balance of payments disequilibrium or exchange rate fluctuations are not key problems in Singapore as it is currently pursuing an effective exchange rate appreciation policy which both helps to control inflation as well as stimulate economic growth through higher export revenues.*

L3	<i>For a clear justification of the relative importance of a sustained and stable economic growth rate.</i>	7-10
L2	<i>For an undeveloped explanation that explained some reasons or without much justification for a sustained and stable economic growth rate.</i>	4-6
L1	<i>For an answer that shows some knowledge of the reasons for a sustained or stable economic growth rate.</i>	1-3

2. “India, which is keen to sign a Free Trade Agreement (FTA) with China, is increasingly open to foreign competition and is attracting increasing amounts of overseas funds. The economy was boosted by growth in the tourism and financial sectors, and a strong manufacturing performance. High oil prices and sluggish exports failed to dampen growth.
- (a) Explain how changes in injections may affect a country’s ability to achieve sustained economic growth. [10]

Suggested Answer:

- Define sustained growth: non-inflationary stable economic growth
- Explain what is meant by an injection into the circular flow of income
- Assuming a 4-sector economy, an increase in injections may come from an increase in I, G, X Explain the multiplier effect of an increase in injections by means of a numerical illustration and a diagram. Explain how actual growth takes place given an increase in national income. Explain that an increase in I would also generate potential growth through capital stock accumulation and increases in productive capacity which is beneficial in promoting low stable prices to sustain growth.

L1 1-4	For a descriptive answer with some basic correct facts about injections but little/no attempt in explaining effects on economic growth.
L2 5-6	For an ability to explain the effects of changes in injections on actual economic growth by means of the multiplier process and/or some reference to potential growth.
L3 7-10	For an excellent ability to explain the effects of changes in injections on both actual and potential growth. The use of the multiplier principle is evident. Expect an ability to recognise the importance of maintaining low stable prices in sustaining economic growth.

3. (a) Explain the relative importance of factors that enhance economic growth in Singapore. [12] [NJC, 2008]

Suggested Answers:

- Define economic growth (distinguish between actual & potential growth)

Explain factors that enhance actual growth

- If the economic outlook is promising with positive business sentiments, households and firms will be enticed to spend more thus contributing to actual growth.
- When the global economy picks up, trading partners would also import more goods and services thus giving a boost to Singapore net export earnings.
- In times of a slow down in the economy or recession, the Singapore government would intervene to inject into the economy so as to stimulate actual growth.

Explain factors that enhance potential growth

- To increase the domestic supply of labour, incentives like income tax rebate were given to married female professionals with the aim to encourage them to join the labour force.
- Low personal income tax rates attracted foreign professionals and skilled workers to join our labour force and these aim to increase the growth rate of the labour input that is needed as Singapore moves towards the knowledge-based economy.
- The Singapore government also devotes relatively large amount of funds on education, and health care to build up a highly productive and robust labour force.
- The increase in foreign direct investments (FDI), especially those from the advanced countries also brought in their expertise in the various fields and assisted in the transfer of technology, management and marketing skills into Singapore.
- This helped us to improve on efficiency and the quality of products as well as the quality of her labour force, all of which are important factors towards expanding her productive capacity.
- The productive capacity of an economy will also be enhanced by improved infrastructure such as better transportation linkages and telecommunications. In addition, investment in research and development would lead to technological advancement which can increase potential growth.
- Entrepreneurs organize and co-ordinate factors of production, explore new markets, innovate and take risks in anticipation of demand. To enhance entrepreneurship in Singapore, the government has set up the Enterprise Promotion Centre, infuse promotion of entrepreneurship in our schools, change laws governing bankruptcy and provide many tax incentives and financial help to encourage budding entrepreneurs.
- Support explanation with the use of AD/AS diagram

Explain the relative importance of factors

- Singapore has a small domestic market and is heavily reliant on the export market for growth
 - the foreign trade sector is a crucial source of growth for Singapore.
 - extremely important to keep the price of our exports competitive in the international market.
- Singapore is also dependent on FDI for its potential growth and employment.

Knowledge, Application, Understanding and Analysis		
L3	Answers show well-developed analysis of how various factors enhance actual and potential growth in Singapore with explanation of its relative importance.	9 - 12
L2	Answers show understanding and explanation of how various factors enhance economic growth in Singapore.	6 - 8
L1	Answers show descriptive knowledge on various factors that enhance economic growth in Singapore.	1 - 5

SECTION 3B: Higher-Order Skills

1. "The government has not pursued a 'grow-at-all-costs' policy. It 'went for growth' by making Singapore more competitive."
Source: Mr Tharman Shanmugaratnam, The Straits Times 28.2.2008
 - (a) Explain why the government has not pursued a 'grow-at-all-costs' policy. [10]
 - (b) Assess the supply-side policies that the government has adopted to promote long-term economic growth. [15] [VJC, 2008]

Suggested Answer:

(a)

Economic growth can be actual growth and potential growth. To achieve actual growth the economy must have excess capacity given any increase in aggregate demand. The result will be higher material well-being and measured with a rise in real GDP. To achieve potential growth, the economy will have to expand the quantity and quality of its resources, improve the level of technology so as to be able to sustain the actual growth without a rise in general price level.

All economies wish to achieve growth due to the benefits enjoyed like improvement in standard of living, ability to achieve other macro objectives (both internal and external stability). Internally, with economic growth, there will be greater demand for resources. Greater demand for labour will keep unemployment low while greater output will enable the economy to achieve price stability while externally, growth can increase the ability to export, improving balance of trade and improvement in redistribution of income to ensure equity.

However growth may also incur costs.

To achieve growth, there will be a need to increase investment. To increase the level of investment, there is a need for more savings. Present consumption will be forgone. (Opportunity cost incurred.)

Growth will also require structural economic changes in Singapore given new regional challenges from growing economies like India, China and Vietnam with lower costs but skilled labour affecting our low end manufacturing. Different groups of labour with different skill and education will benefit differently. (for some low skilled and educated factors they might be structurally unemployed)

We can then expect the different groups to have differing rates of return resulting in widening disparity in income.

Growth result in higher level of productive activities. This often results in higher level of negative externality especially when producers ignore external cost of production in their private marginal cost. Such spill over effects on third parties can result in lower consumer well being. (increase in non-material negative consequences)

With the rise in AD at a faster rate than the increase in AS, the economy is expected to

suffer from demand pull inflation. (growth is too fast)

With growth, the level of income rises inducing a rise in import which is income induced. (we are small and open) The balance of trade and services will worsen. Balance of payments will worsen. (assuming capital account is unchanged)

The govt has not pursued “grow at all costs” as it needs to ensure that overall benefits of pursuing growth outweigh the overall costs. The government must thus study the cost benefit analysis of its growth policies and pursue growth only if overall benefits outweigh the overall costs. In deciding to pursue growth, it will at the same time deploy policies to tackle the various costs of growth.

L1	Mere knowledge without explanation. List some relevant points.	1-3
L2 L2	Explanation on the negative outcome of growth at all costs with 2-3 specific examples of such but without an attempt to explain benefits. Explanation on the negative outcome of growth at all costs with 2-3 specific examples of such and at least state the benefits of economic growth.	4-6
L3	Uses analysis to underpin the discussion on the negative consequences (when costs outweigh the benefits) from growth at all costs. Did acknowledge the benefits from growth initially and at least referred to Singapore in passing. Answer here should offer more than 3 specific examples of internal and external costs.	7-10

(b)

Supply side policies are various policies that increase the productive capacity of the economy causing a rightward shift of the AS. This can be achieved through measures to improve the quantity and quality of resources and improvement in technology.

Increasing the quantity of capital.

In Singapore, the government provide tax incentives like higher depreciation allowance, tax holidays for pioneer status investors. The advantage from inflow of FDIs over local investment is the inclusion of technology transfer by FDIs. (tax incentives attracted the largest solar panel maker in the world from Norway to relocate to Singapore) Deregulation of the local financial market to foreign financial institutions participation in the local financial sector to enhance the status of Singapore as a financial center. More jobs created and sources of funding for investment.

Lower the restriction of foreign ownership of local companies on the stock exchange to enhance efficiency of local companies with foreign management.

However should there be a large financial outflow the impact on the exchange rate is a depreciation. With Singapore's reliance on trade, it can result in imported inflation, raising our cost of living and production. While a large financial inflow result in an appreciation which affect export competitiveness and can result in a current account deficit

Increasing quantity of labour.

Government schemes such as 'workfare' to assist the lower skilled and educated get back into the workforce and pro-family work policy and procreation incentives to support working women have added a larger number to the local labour force.

To increase inflow of foreign talents, the government has lowered direct tax at the top end of personal income tax to compete with other economies for such talents.

Foreign service workers have also been drawn to work in new growth areas like the IRs and the health sector. Foreign manpower policies have eased to allow hiring of a greater number of such workers for such industries.

However, the mobility of skilled and foreign talents can disrupt management and more of such outflow and inflow can be expected with a larger proportion of the workforce with them. Service workers also tend to job hop more regularly from minor pay differences and raises cost of training them.

Development of human capital.

Higher education raises the mobility of workers and ease their ability to acquire new skills to meet new structural changes that come with growth. Hence the Singapore government has invested up to 5% of GDP annually for education. Such heavy budget allocation reduces the cost to the individual. As a merit good, education by the free market can be under produced and consumed. Thus the Singapore's government subsidize heavily at all level of education.

Educational institutions like the ITEs, polytechnics and universities have expanded intake and introduced new courses to meet the manpower requirement projections in new and existing sectors to sustain actual growth.

With the uncertainties over the long term MNCs role in Singapore, the government has over the years supported the local SMEs with various fiscal and other policies to enable them to be regional and global players. IE Singapore trade mission overseas have always played a big role in opening doors for such SMEs to grow an external wing.

Existing workers have support from the government in the form of the skill development fund (a co-funding training mechanism by both the worker and the government) to draw on for skills upgrading.

The policy is sound and beneficial. However, the huge expenditure will have an opportunity cost on spending in other areas. The government also acknowledged the greater mobility of such educated Singaporeans venturing overseas to work and not returning to the local economy after gaining a world class education here. There is also a long gestation period to train a student to gain the benefit.

Increase the level of technology.

It will improve the quality of capital by enhancing productivity to promote long run growth. In Singapore, the government has given large fiscal incentives for firms with high R and

D expenditure to spearhead new growth areas. The biotechnology, nanotechnology, gaming and digital animation and green technology are some sectors targeted to achieve higher potential growth. The positive spillover effects of growth in related industries are reasons for huge overall R and D grants given locally.

Singapore is likely to do well in the above due to our strong intellectual property right adherence and legal penalties for violators. However, the only setback is the occasional poaching of leaders in such industries by other countries or the en bloc departure of a whole team of researchers due to better monetary and non-monetary incentives offered elsewhere.

Singapore's supply side policies have succeeded in the past. With new regional challenges, the government will have to review its policies to keep pace with the ever changing future challenges. Adopting the right policies to ensure sustained growth is all the more important for Singapore's small and open economy without natural resources to tide over any external shocks.

L1	<i>Brief and weak explanation of supply side policies and no attempt to refer to context of Singapore.</i>	1-5
L2	<i>Explanation of supply side policies impact on quality and quantity of factors, one policy on each or both policies on quality or both on quantity.</i>	6-8
L3	<i>Must have evaluated each policy to gain this band. There should be at least 3 clear policies to explain long run potential growth.</i>	9-11
E1	<i>Not substantiated and weak assertion.</i>	1-2
E2	<i>Substantiated statements on effectiveness.</i>	3-4

2. (a) Explain why economic growth is regarded as a major macroeconomic objective by most governments. [10]
- (b) Discuss the view that, in the long run in Singapore, the macroeconomic objectives of economic growth, price stability, full employment and a strong balance of payments can be achieved without conflicting with each other. [15][YJC, 2009]

Suggested Answer:

- (a)
- *Explain economic growth in terms of actual growth and potential growth. Use diagrams to illustrate how actual and potential growth can be attained.*
 - *Actual growth involves increases in utilization of existing capacity caused by increase in aggregate demand. Shown by a movement from within PPC to boundary of PPC and potential growth involves increase in the productive capacity of the country caused by increase in aggregate supply. It is shown by a shift of the entire PPC.*

- Hence, a government wanting to achieve higher economic growth will need to ensure firstly that the economy's potential is increased, and secondly to ensure (if necessary) that this increase in potential is used.
- Explain reasons for government wanting to achieve economic growth
 - Growth is an important avenue through which better living standards and lower rates of poverty can be achieved.
 - To create more jobs and hence reduce unemployment
 - To help improve BOP.
 - To create the necessary wealth to provide relevant public good and improve the quality of merit good.
- Explain the other macroeconomic objectives and why economic growth is a major objective of most governments
- A higher economic growth will help to reduce unemployment and improve living standard. If the growth is sustained, it will also help maintain price stability and reduce poverty in the country and hence is regarded as a major objective.

L1	Mere knowledge about economic growth without explanation. List some relevant points.	1-3
L2	For an undeveloped explanation that explained the reasons why governments want to achieve economic growth.	4-6
L3	For a well-developed answer that explains why achieving economic growth is a major objective when compared to other macroeconomic goals.	7-10

(b)

A review of macroeconomic objectives: economic growth, price stability, full employment and an equilibrium balance of payments.

Briefly explain the importance of the 4 macroeconomic objectives.

- Full employment -Benefits of low unemployment. -better utilization of resources to raise living standard -high employment minimizes the payments of social benefits and thus reduces the government budget burden and resources can be channelled to areas of development.
- Economic Growth -Benefit of high and sustained economic growth
 - Helps to alleviate other macroeconomic problems such as demand-pull inflation which will result if there is no increase in productive capacity of a country
- Price Stability -High inflation would deepen income inequality and it also erodes the competitiveness of exports which is particularly detrimental to an export-oriented economy.
- An equilibrium BOP -A persistent BOP deficit will destabilize the external economy

Thus, all governments aim to implement policies to achieve these 4 goals.



Explain the potential conflicts in the pursuit of these 4 goals.

- (i) E.g. full employment and price stability -Explain how the use of demand-management policies to achieve full employment may result in higher inflation. Use AD-AS analysis or the Phillips curve to illustrate the conflicts that would arise in the short run.*
- (ii) E.g. economic growth and balance of payment equilibrium -Explain how the use of expansionary fiscal and monetary policy to achieve economic growth may result in deterioration of BOP. -The trade-off is evident when the main source of rising AD is a high level of consumer spending. When aggregate demand is high and domestic producers are unable to meet all of this demand, the demand for imported goods and services will increase leading to an increase in the trade deficit.*

Explain how the use of supply side policies can help to achieve the four macroeconomic objectives simultaneously in Singapore.

- Supply-side economic policies are mainly micro-economic policies designed to improve the supply-side potential of an economy, make markets and industries operate more efficiently and thereby contribute to a faster rate of growth of real national output without a rise in inflation.*

(i) For eg., Singapore government has deregulated the markets to allow greater competition. The aim of deregulation of markets is to increase market supply (driving prices down) and widen the range of choice available to consumers. The discipline of competition should also lead to greater cost efficiency from producers – who are keen to hold onto their existing market share. Good examples of deregulation are the postal services, telecommunications, and gas and electricity supply.

(ii) The reduction of corporate tax to attract FDI and increase the percentage of GDP on R& D to increase the LRAS.

(iii) Supply side policies designed to improve the quality and quantity of the supply of labour available to the economy. They seek to make the labour market more flexible so that it is better able to match the labour force to the demands placed upon it by employers in expanding sectors thereby reducing the risk of structural unemployment. For eg., the adoption of a relaxed foreign labour policy.

Evaluation :

- In the short run, the government may accept a degree of conflict as long as there is confidence that it is being monitored and controlled. However, in the long run the 4 macroeconomics objectives can be achieved by using both supply-side policies and demand management policies. Supply side reforms are not sufficient to achieve the goals. There must also be a high enough level of aggregate demand so that the productive capacity of an economy is actually brought into play. If there is insufficient AD, it is unlikely that better supply-side performance can be achieved over a number of years. On the other hand, if aggregate demand grows too quickly, acceleration in wage and price inflation might require the use of deflationary fiscal policies that ultimately harm a country's productive potential.*

- Use a diagram as shown below to illustrate how higher growth can be attained without a rise in inflation in the long run.

L1	For an undeveloped answer that merely explain the importance of the 4 macroeconomic goals.	1-5
L2	For an answer that shows a basic understanding of the potential conflicts that arise in the pursuit of the 4 macroeconomic goals.	6-8
L3	For a comprehensive and detailed analysis on how macroeconomic objectives of economic growth, price stability, full employment and a strong balance of payments can be achieved without conflicting with each other.	9-11
E1	For an unexplained assessment, or one that is not supported by analysis	1-2
E2	For an evaluative assessment based on economic analysis	3-4

3. In Singapore, inflation hit a 26-year high of 7.5 per cent in April and May partly due to the rise in the Goods and Services Tax over the previous year. In response, the Monetary Authority of Singapore (MAS) gave the Singapore dollar an immediate boost to help offset more expensive imported goods. However, the MAS reversed its Singdollar position in October that year, adopting a neutral stance that signalled its change of priorities from targeting inflation to stimulating economic growth”

Source: The Straits Times: 30 Dec

(a) Explain the rationale for the change in the stance on the Singapore dollar over this period. [10]

(b) Discuss whether this policy alone was adequate to stimulate the economic growth in Singapore. [15] [NJC, 2010]

Suggested Answer:

(a)

Students are expected to explain the rationale for the change in the context of the given quotation.

- Define inflation
- Recognise that the increase in GPL (inflation) is partly due to the rise in GST, an indirect tax levied on all goods and services. This increase is also due to the increase in oil prices, around that period, which accounted for the more expensive imported goods.
- Explain that the S\$ is weighted against a basket of currencies, under a managed-float exchange rate system.
- As Singapore is highly dependent on imports both for local consumption as well as for producing exports, the S\$ cannot be too weak or strong. In this case, what MAS did was to strengthen the S\$, making its currency relatively more expensive against a basket of currencies. When the S\$ is strengthened, its imports, bought with S\$ will now be relatively cheaper. The price of imports has fallen. Price of exports is now

relatively more expensive, hence X may fall. Hence $(X-M)$ may fall \rightarrow fall in AD \rightarrow lower growth, higher unemployment but keeping prices down and checking inflation.

- As inflation is kept under control, MAS changed its stance to that of maintaining a neutral stance. This is a cue showing MAS was prepared to let the S\$ slide in value. This meant that price of imports may increase should the S\$ weaken in value. At the same time, this means that the price of exports will be relatively cheaper, hence increasing its competitiveness. The increase in demand for exports will translate to increase in AD and through the multiplier, an increase in employment, national income & economic growth.

Levels	Descriptors
L3	Clear, logical and analytical essay on the change in the stance of MAS in response to different macroeconomic need of the country. Clear explanation of how the price of oil affects inflation.
L2	Recognition that the cause of inflation is only partly caused by GST. Evidence of some attempt at explaining the difference in stance. These answers would also explain the context given in the question.
L1	For an answer that has some basic correct facts about Singapore's exchange rate system. Underdeveloped analysis. Limited contextualisation to the question. Answer is mostly irrelevant with no evidence of understanding the relationship between inflation and exchange rate.

(b)

Explain what economic growth is and how it is measured.

Explain, using AD/AS diagram, how economic growth can be achieved by increasing AD and AS.

Explain how this policy of a neutral stance in the S\$ helps to stimulate economic growth.

- Having a neutral stance would mean the price of exports will be kept competitive $\rightarrow X$ increase (as PED for exports is >1) \rightarrow AD increase \rightarrow if full employment has not been reached, this will have an expansionary effect on employment, income and growth. This is assuming *ceteris paribus* for the countries Singapore is exporting to. If this assumption is relaxed, there may not be an expansionary effect on the economic growth

This exchange rate policy may not adequate to stimulate economic growth. Eg, the demand for our exports to other countries may fall due to other reasons instead of the price alone.

Other policies:

- Expansionary Fiscal Policy to stimulate AD domestically
- Supply side policies to increase AS – market oriented and interventionist so that growth is not at the expense of inflation
- Trade policy to increase demand for Singapore's exports

Conclusion:

- Exchange rate policy is not adequate to stimulate the growth. This policy helps to maintain the competitiveness of the country's exports but may conflict with other aims eg while exports are more competitive and AD rises, this may also bring about inflationary pressures if AS is not increase.

Level	Description
L3	<ul style="list-style-type: none">• Answer shows excellent knowledge and analysis of the exchange rate and at least 2 other policies to stimulate economic growth.• Explanation has good reference to the AD-AS model.
L2	<ul style="list-style-type: none">• Answer shows explanation of how the exchange rate policy can stimulate growth but lacks other policies.• Explanation has some reference to the AD-AS model
L1	<ul style="list-style-type: none">• Answer shows some knowledge about policies to stimulate growth but there are basic errors in theory.• A few valid points made incidentally in an irrelevant context
E2	Judgment based on economic analysis
E1	Mainly unexplained judgment

SECTION 3C: Challenging Essays

1. "Our first priority is to keep the economy competitive and growing through continually upgrading and diversifying the economy to make ourselves more resilient to external shocks, strengthening ties with the vibrant Asian economies, and tapping new areas of growth."

Adapted from May Day Message 2008 by PM Lee Hsien Loong

Discuss whether economic growth should be the main objective of Singapore's macroeconomic policy. [25] [CJC, 2008]

Suggested Answer:

Define growth as a rise in real GDP per capita

Distinguish between short term (actual) & long term (potential) growth: Shortterm growth makes use of spare capacity whereas long term growth increases productive capacity. - Long term economic growth: an expansion in the productive capacity of an economy, represented by the outward shifts of its production possibility curve or the rightward shifts of the aggregate supply curve. Short term growth: a movement from a point within the PPC to a point on the PPC, caused by an increase in AD in the short run in a less than fully employed economy. Brief discussion on how policies in place in Sg help attain growth



Thesis

1. Economic growth can bring about a rise in the living standards, provided economic growth exceeds population growth, real GDP per capita will rise → a higher level of consumption of goods and services. This means greater quantity and better quality goods & services such as better housing; more efficient better quality public transport; for the general population.
2. Growth brings about business confidence and raises employment Through higher investments, jobs creation In addition, a growing economy signifies a stable economy → attracts greater inflow of FDI → generate greater long term growth
3. Rise of economies such as China and India posing as serious threats to the continued relevance and competitiveness of Singapore in global economy. Singapore's exports face intense competition and hence threatening potential growth of the economy. 'Our first priority is to keep the economy competitive'. Increase in real GDP means more financial muscle to achieve with other objectives: Long term growth can bring about price stability through increases in AS: growth that is attained through AS growth can address demand pull inflation through reduction of supply bottlenecks Actual growth can bring economy closer to full employment to bring down unemployment Keeping our export competitive can ensure healthy balance of payment
4. Growth can bring about more equitable income distribution Growth → income rises, the govt. can redistribute income from the upper income group to the lower income group without the need to raise tax rates In addition, economic growth → firms' profit level rises → pays more corporate tax → a positive effect on government finances → boosting tax revenues and providing the government with extra funds to spent on programs to alleviate poverty and close the income gap between the rich and poor.
5. Any other benefits such as concerns about environmental conditions and development of the art scene as a result of increasing affluence when the basic requirements for necessities have been met by a majority of the population.

Anti-thesis

1. Widening income gap

Some Singaporeans may find that their skills are no longer relevant. Structural unemployment affects the low skilled workers who are less well off. Others may be forced to take up employment with lower pay. If the means to higher growth are greater incentives (such as cuts in income tax), then the rich might get richer with little benefits for the poor. Apply to Sg's context: rising Gini Coefficient, payouts with more distributed to lower income households e.g. growth dividends.

2. Environmental Costs

Rising incomes make it possible for more people to own cars, but this could lead to problems of pollution and traffic congestion

3. Lower quality of life

Material SOL may have improved but quality of life can deteriorate overall due to non-monetary factors e.g. higher stress level

4. Possible Conflict between the pursuit of economic growth and stable prices

- Short term economic growth → higher price levels due to rising AD → reduce unemployment.
- Lower unemployment rate but inflation rate rises reflected by the Phillips curve
- Explain how the intensity of the use of resources as a result of increasing AD → higher output → higher GPL (inflation rate rises) → overheating in the economy

Evaluation:

Sg has focused on long term growth through supply side policies e.g. education & training to raise productivity, R&D, conducive investment climate

5. Possible Conflict between the pursuit of growth and external equilibrium

- As AD keeps rising → shortterm economic growth → NY rises → level of import rises (rise in consumer goods and/or imported resources such as fuel, raw materials and capital goods for domestic production).
- If exports do not rise sufficiently → BOT deficit and a possible current account deficit → BOP deficit (if the surplus in the capital account is not huge enough to offset the deficit in the current account).

Evaluation: Is this of concern to Singapore?

Other possible discussion points: Current Situation in Sg: any other overriding problems other than growth? Other objectives may be more important currently: price stability?

Attainment of noninflationary growth may be a more accurate objective through monetary policy centered on a strong S\$ supported by fiscal prudence

- Helps prevent imported inflation – main source of inflation in Singapore and in turn maintain export competitiveness

Supply side policies (Continual upgrading)

- To improve productivity for sustained growth

Trade Policies

- Active establishment of bilateral free trade agreements to tap on growth opportunities through trade

Synthesis and conclude



Levels	Description	
L1 Knowledge/ Recognition (Description) <ul style="list-style-type: none"> • <u>Identify</u> the key theory without explanation • <u>Outline</u> a list of relevant factors 	<u>1-5m:</u> The answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context.	
	<u>6-9m:</u> The answer shows some knowledge e.g. understanding and explanation of the various economic aims, but does not indicate that the meaning of the question has been properly grasped. Basic errors of theory and/or inadequate development of analysis may be evident.	
L2 Consolidate (Application without analysis) <ul style="list-style-type: none"> • <u>Explain</u> what happens in a descriptive manner • <u>Clarify</u> using example without explanation 	<u>10-11 m:</u> The answer shows the ability to identify facts, some ability at graphs, fair ability to apply laws to new situations. E.g. Ability to explain various policies to increase economic growth with little attempts to apply to the Singapore context.	
	<u>12-14m:</u> The answer has a more thorough relevance to the question but the theory is incompletely explained.	
L3 Elaborate (Extend to include analysis) <ul style="list-style-type: none"> • Analyze relevant theory to aid explanation • Apply explanation in the context of the question 	<u>15-17m:</u> A good knowledge of facts and theory of the question, clear evidence of the ability to use facts and theory with accurate reference to the question that may have presented the candidate with a novel application. E.g. Students are able to explain growth and its policies and analyze whether this results in conflicts. Students can be awarded these marks as long as one of these conflicts is well applied.	
	<u>18-21m:</u>	
E1	1-2	Mainly unexplained judgement
E2	3-4	Judgement based on analysis



2. The sources of growth can be internal or external, but countries like China will need to prepare for a future in which it relies more on the strength of growth at home rather than on the strength of growth in the rest of the world.

Discuss this assertion.

[25] [RJC, 2008]

Suggested Answer:

Possible Approach

The essay can be approached in two parts: the explanation of sources of growth and the discussion of the relative merits/demerits/importance of external sources and internal sources of growth.

Introduction & Clarification

Define economic growth → potential and actual

It is preferred that an economic framework (PPC or AD/AS) be used to illustrate the difference between potential and actual growth.

Clarify “prepare for a future” → sustained economic growth

Development

(A) Explain “sources of growth can be internal or external”

1. Growth due to internal sources

(i) AS Side

- *Abundant natural resources*
 - *Inputs into production of goods and services*
 - *E.g. huge land area, abundant mineral deposits*
- *Abundant human resources of high quality*
 - *Utilise natural resources and turn them into products*
 - *Quantity – Larger population size + longer work week = higher growth*
 - *Quality – Better education + health + mobility of workers = higher growth*
- *High rate of capital formation*
 - *Stock equipment and structures that are used to produce goods and services.*
 - *Quantity – more capital = more production = more growth*
 - *Quality – up-to-date*
 - *Depends on rate of savings which determine the rate of investment*
- *Advanced technology*
 - *Given amount of resources to result in larger output*

→ E.g. new production techniques, improvement in performance or machines, better organization and management, more efficient transport and communication systems, etc

(ii) AD Side

- Supply side factors alone is insufficient → must have increase in AD to “absorb” the extra goods and services produced
- Depends on the changes in the components of C, I and G, which in turn may depend on many other factors, e.g. expectations, affluence, government policies, etc

(iii) Other non-economic reasons

- Political Stability
- Social harmony

2. Growth can be due to external sources

(i) AS side

- Foreign talents abroad may move into the domestic country
→ Might be due to low wages in foreign countries (push factor)
→ Augments the quality and quantity of labour
→ Possibly also reduces labour cost in the domestic country
- FDI inflow
→ Might be due to political instability in home country (push-factor)
→ May bring in transfer of technological knowledge

(ii) AD side

- Strong growth in the region or globally
→ Improves external demand for exports from domestic country → (X-M) affected
- Especially relevant for open economies

(iii) Government policies in domestic countries may influence domestic sources of growth

- Due to relaxed domestic immigration laws → pull-factor for foreign talents
- Due to domestic tax incentives for MNCs → pull-factor for FDI
- Due to domestic export subsidies that lower price of exports to foreigners → induces X

(B) Discuss whether internal growth or external growth is more important for China

1. Thesis: Internal growth is more important for China

(i) Supply-Side Issues

- China has a huge land size and abundant mineral resources
- China has a huge population → higher growth
- Asian virtue of thrift → high savings rate → high rate of investment

(ii) Growth in aggregate demand

- Huge domestic market → able to sustain growth to some extent just on domestic demand alone

(iii) Other non-economic issues

- Nationalistic feelings → support local brands

(iv) Limitations of simply depending on external growth

- Dependent on global sentiments and growth of trading/investment partners
- Dutch disease
- Inevitable that growth in China will slow given rising inflation

2. Anti-thesis: External growth is more important for China

(i) Limitations of simply depending on growth at home

- Exhaustion of natural resources → stunts sustained growth
- Educational and health facilities still need much improvement + “brain drain” due to lure of higher wages abroad → reduces quality of labour → stunts sustained growth
- China’s comparative advantage (at least in the short term) still seems to be in cheap labour → technological advancement still lacking compared to large economies around the world → limited long term growth
- Domestic demand may switch to imported goods rather than home-grown products due to change in tastes and preferences with growing affluence

(ii) Need to maintain external demand

- Not just for China’s exports to stimulate growth
- FDI will bring in technological advancement as well as increases in potential growth
- But also tap on China’s relatively cheap labour resource → in so doing may bring in FDI and foreign talent → sustained growth

3. Link to AD/AS framework

Conclusion:

Make a stand and justify

Ultimately, internal and external growth sources are complementary



Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> Content (arguments & counter-arguments) placed in the given context: <ul style="list-style-type: none"> -Student is clear about the important issues involved and the context Well-balanced answer <ul style="list-style-type: none"> - Explanation of internal and external sources of growth - Discussion on relative importance of domestic and external growth Rigour in economic analysis <ul style="list-style-type: none"> - Provides technical definition(s) to key terms in preamble/question - Effective use of economic framework <ul style="list-style-type: none"> * AD/AS framework * E.g. clear diagrammatic illustration - Economics is explained - Examples are explained Structure and linking sentences Considered only 1. or 2. of (A) with both 1. or 2. of (B): 15-17m Considered both 1. and 2. of (A) with both 1. and 2. of (B): 18-21m 	15 – 21
L2	<ul style="list-style-type: none"> Content (arguments & counter-arguments) placed in the given context (explanation may have some lapses) Just need to mention the word “China” Attempt to use the AD/AS framework Considered only 1. or 2. of (A) with either 1. or 2. of (B): 9-11m Considered both 1. and 2. of (A) with either 1. and 2. of (B): 12-14m 	9 – 14
L1	<ul style="list-style-type: none"> Content: Weak and incomplete understanding of the question and context: <ul style="list-style-type: none"> -Mainly irrelevancies -OR substantial glaring conceptual errors -Does not go beyond listing No consideration of (A) with either 1. or 2. of (B): 5-6m No consideration of (A) with both 1. or 2. of (B): 7-8m 	1 – 8
Evaluation (Evaluating individual ideas in the body or make a stand in the conclusion)		
E2	<ul style="list-style-type: none"> For an evaluative assessment based on economic analysis Excellent synthesis in which the student is able to justify and arrive at a convincing stand (based on earlier arguments and counter arguments). 	3 – 4
E1	<ul style="list-style-type: none"> For an unexplained assessment, or one that is not supported by analysis No conclusion: max 2m Possible evaluation <ul style="list-style-type: none"> - Counter-arguments - Evaluate counter arguments 	1 – 2

3. Singapore's Ministry of Trade and Industry (MTI) announced on 14 July 2010 that it expected the economy to expand by 13.0 to 15.0 per cent in 2010. The economy's real economic growth rate in 2009 was -1.3%.

Discuss whether small and open economies such as Singapore should adopt different economic policies from those of large economies in order to sustain healthy economic growth. [25] [ACJC, 2010]

Suggested Answer:

Some generalizations about the characteristics of small and open economies

- *High dependence on external demand*
 - Conventional measure of external reliance of an economy is the ratio of exports to total demand. For Singapore in 2008 this was 73.4% (inclusive of import content). The import adjusted proportion was 53.5% Singapore's GDP proportion of net exports in 2008 & 2009 was about 21%.
 - Foreign direct investment is another source of demand for small and open economies.

Large and open economies also look to exports and FDI for source of demand but the degree of dependence is much lesser.

- *High import content of domestic production*
Singapore's import content of domestic demand was 43% and of exports was 60%, for Ireland (another example of small and open economy) it was 17% and 50%. Japan's import content in domestic demand was 9% and of exports 19%. (source of above statistics: Singapore Economic Survey 3rd quarter 2009)
- *Reliance on foreign labour and talents supply*
With small population, inflow of foreign workers is needed to boost domestic labour market. With more acute scarcity of resources compared to large economies, the growth strategies of small and open economies necessarily have to be anchored on talents and technology. This requires such countries to allow the inflow of foreign professionals and experts.
- *Reliance on investment and technology*
With limited labour supply and reliance on external demand, investment is highly essential to boost productivity and innovation is the key to acquire and sustain comparative advantage in trade.



Requirements for 'sustain healthy rates of economic growth'

Sustaining growth requires countries' capacity for production to cope with growth in aggregate demand hence avoiding overheating/inflationary pressures that can slow down or even reverse the expansion.

- Growth in aggregate demand/expenditure
- Growth in potential output

Students can use a diagram to make the requirements clearer.

Students can form different perspectives in their approach to this question.

Example 1: they can argue that

- Because of their unique economic characteristics, small and open economies should adopt policies which are distinct from those prevalent in large economies. They use exchange rate policy and much more of supply side policies in order to grow external demand and potential output. They also cannot afford to have continuous budget deficit, unlike the observed problem in large economies.
- But, when come to economic downturns, these small economies should still adopt deficit budget as pump-priming method. The effectiveness is limited in reversing contraction but it buffers the economy against larger contraction.

Example 2: they can also argue that

- Policies used by both groups of economies are essentially the same but because of the difference in the economic characteristics, there ought to be a difference in the emphasis placed on policy instruments.
- When economies slow down, expansionary demand policies apply to both types of economies but in small and open economies these policies on their own are not sufficient to activate a recovery. Fiscal policy being less effective does not mean that they should not adopt deficit budget during recession. However, the monetary policy instrument to adopt to stimulate demand should be exchange rate depreciation instead of interest rate policy.
- To sustain continuous growth in aggregate demand during normal economic conditions, both types of economies should not rely on expansionary demand measures because sustainability of economic growth requires attention on the effectiveness of supply side measures.

Role of expansionary demand policies during economic downturns (eg: recession)

For large economies, the large proportion of domestic demand over the overall aggregate demand makes these policies appropriate and effective to power up growth in aggregate demand. Governments may adopt these policies:

1. expansionary monetary policy
2. expansionary fiscal policy

Students to explain and illustrate

- how during slack economic condition, by keeping interest rates low the central banks in large economies can sustain or raise domestic consumption and investment
- how sticking to deficit budget allows government spending to support domestic demand.

In the 2008-2009 economic slowdown, big economies have gone the full throttle in fiscal stimulus via government spending and interest rates have been kept very low. Just in

August this year, when US government identified that the economy was slowing down it had announced 'quantitative easing' (expansion in money supply and letting domestic interest rate stays at low level).

Should small and open economies adopt expansionary fiscal policy?

Expansionary demand management will not enable these economies to recover from a slowdown but expansionary fiscal policy is still necessary to avoid excessive negative economic growth. Example: Singapore adopted counter cyclical deficit policy in 2009 and 2010 budgets to fight the recession.

However, the extent of the impact of expansionary fiscal policy is limited by

- small proportion of domestic demand over total demand
- small multiplier effect due to high marginal propensity to import

Should small and open economies adopt expansionary monetary policy?

Yes they should but because of the large importance of external demand, exchange rate is a more appropriate policy instrument compared to interest rate and money supply intervention. Singapore adopts 'zero appreciation' policy, hence allowing Singapore Dollar to depreciate during economic downturns in order to lower export prices overseas and stimulate demand.

How do the economies create aggregate demand during normal economic conditions

Large economies can continue relying on domestic demand to power up economic growth but for small and open economies they need to look at ways of generating external demand. The key for the latter is through sharpening international competitiveness - by keeping prices stable and improving quality of production.

Keeping domestic inflation low is fundamental and in this respect again exchange rate policy is important because the high import content of production makes the strength of exchange rate a more potent factor to stabilize import prices and domestic cost levels.

Students can also argue that the openness of the domestic funds market to the entry and exit of foreign funds make it difficult for the central bank to influence domestic interest rate, for the purpose of influencing domestic demand.

Role of supply-side policies

The significance of supply-side policies to boost productive capacity and to improve international competitiveness applies to both economies. They both need to grow productive capacity to be able to continue producing more goods and services with price stability. Emphasis on R & D for example is a critical factor for economic growth in both economies.

But, supply-side improvements to improve the country's potential output are more crucial to small and open economies because of the labour constraints they face and the need to continue creating external demand through competitiveness.

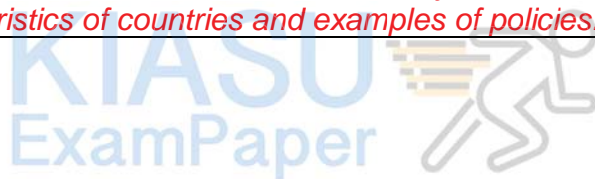
Answer to go into

- definition of supply-side policies (improving the efficiency, productivity and cost conditions – LRAS and SRAS)
- some examples of these which are implemented in Singapore, with a focus on how these measures improve potential output and the ability to attract external demand. Examples: training and wage policies, pro-competition policy.

Synthesizing:

- We cannot say that small & open economies should adopt different policies because creating potential economic growth lies fundamentally in supply side conditions and this applies to both types of economies. But small & open economies need to use supply-side policies more actively to deal with their resource constraints and to sharpen international competitiveness.
- The clear-cut distinctiveness is in the use of exchange rate policy as their monetary policy approach, unlike the case in large economies which tend to adopt interest rate /money supply intervention.
- Both economies adopt fiscal policy but the intensity as a fiscal stimulus differs. Small economies use fiscal policy too but the orientation is more towards improving supply side. The budget is typically counter-cyclical but it functions to reduce the magnitude of fluctuations in aggregate demand rather than reversing it.

L3	Well justified and well applied (examples used at many parts of answer as support of claims) Use the economic characteristics of small and open economies to justify why the relative importance attached on policies they use differs from large economies. Few examples of policy measures given.	15-21
L2	Appropriate economic policies for small and open economies are justified, basing them on the economic characteristics of these countries. Relevant answer but <ul style="list-style-type: none"> • Lacking in depth of explanation • Non-comparative, not elaborating on why relative importance between types of policies differs between the two groups of economies differs. 	9-14
L1	Narrates economic policies for economic growth without justifying how these are relevant to small and open economies.	1-8
E2	Uses the economic characteristics of countries as basis of arguments about how policies differ/ vary in orientation on how demand is created.	3-4
E1	Argues that small & open economies use different policies/ adopt different orientation in policies but these claims are mostly unsubstantiated with economic characteristics of countries and examples of policies.	1-2



**2011 Other JCs' Prelims - MACROECONOMIC PROBLEMS AND POLICIES
– Economic growth (H2)**

1	CJC 2011	<p><i>“The Economic Strategies Committee set up in May 2009 recommends that in order to grow our economy, we will need to do so not only through increased efficiency, but restructuring our economy to provide more room for rapidly growing and innovative enterprise.”</i></p> <p align="right">Ministry of Finance</p> <p>Discuss whether this emphasis on supply-side policies is the reason why Singapore has remained relatively unaffected through this global economic crisis. [25]</p>
2	MI 2011	Evaluate the effectiveness of supply-side policies in sustaining economic growth and improving the balance of payments position in Singapore. [25]
3	NYJC 2011	<p><i>‘Fiscal policy can be used to influence the circular flow of income to achieve economic growth’</i></p> <p>(a) Explain this statement. [10] (b) Assess alternative policies that might be more appropriate for the Singapore economy to achieve economic growth. [15]</p>
4	RI 2011	<p><i>The Economic Strategies Committee was set up by the government in May 2009 to chart Singapore’s future growth directions. The Committee’s key recommendation is to raise Singapore’s annual productivity growth from an average of 1 percent in the past decade to 2 to 3 percent over the next decade. This is a major shift from the government’s past strategy of heavy reliance on labour inputs to generate economic growth.</i></p> <p>(a) Explain the key macroeconomic objectives of a government. [8] (b) Discuss whether the shift towards productivity-driven growth will help Singapore achieves its macroeconomic objectives? [17]</p>
5	SAJC 2011	<p><i>The relative importance of aggregate expenditure components in influencing the outcome of the economy differ among economies, depending on their size, openness and the government policies.</i></p> <p>(a) Explain the above statement. [10] (b) Assess the policies which the Singapore government could adopt to achieve sustainable growth for its economy. [15]</p>
6	SRJC 2011	<p><i>To be considered successful, an economy needs to achieve long-term economic growth and stability.</i></p> <p>(a) Explain this statement. [10] (b) Discuss whether supply-side policies are the most effective way for Singapore to sustain a successful economy. [15]</p>

7	TPJC 2011	<p><i>"With the opening of Resorts World Sentosa and Marina Bay Sands in early 2010, the Ministry of Trade and Industry projects that each of the Integrated Resorts (IRs) would add \$2.7 billion to Singapore's Gross Domestic Product (GDP)."</i></p> <p style="text-align: right;">Source: Economic Survey of Singapore 2010</p> <p>(a) Explain possible factors that may limit the effectiveness of the integrated resorts in generating short-term economic growth in Singapore. [10]</p> <p>(b) To what extent might macroeconomic problems result from Singapore's strategy to promote tourism via the integrated resorts? [15]</p>
8	TPJC 2011	<p>'The most important goal of a government should be to achieve a sustained increase in Gross Domestic Product which would also improve standard of living.' Discuss. [25]</p>
9	YJC 2011	<p><i>During the last recession in Singapore, 2008-2009, the level of GDP fell by a negative 1.3%. In 2011, during the recovery phase, the rate of growth of GDP was 14.5%.</i></p> <p>Assess how supply-side reforms can help to reduce such fluctuations in economic growth during an economic cycle. [25]</p>
10	YJC 2011	<p><i>'US demand will not be the engine of global growth that it was prior to the crisis. To ensure robust and sustainable global growth, trade imbalances need to be corrected.'</i></p> <p style="text-align: right;">Adapted from The Straits Times, 23 May 2011</p> <p>(a) Explain the determinants of sustained economic growth. [10]</p> <p>(b) To what extent can the trade imbalances be solved by the trade surplus nations allowing their currencies to appreciate. [15]</p>

Other JCs' Prelims - MACROECONOMIC PROBLEMS AND POLICIES (H1)		
1	AJC 2011	<p>(a) If you were asked as an economist to evaluate the performance of an economy, explain what information you would need. [10]</p> <p>(b) Discuss the possible policy options that a government could adopt to improve the performance of an economy. [15]</p>
2	ACJC 2011	<p>(a) Explain why governments should be concerned with high inflation. [10]</p> <p>(b) To what extent is gradual appreciation of the Singapore Dollar the best policy in maintaining low inflation in Singapore? [15]</p>

3	CJC 2011	<p>(a) Explain why price stability is a primary macroeconomic objective of Singapore. [8]</p> <p>(b) Discuss the effectiveness of using an exchange rate policy in dealing with the main macroeconomic problems faced by Singapore in recent years. [17]</p>
4	DHS 2011	<p>In the recent Global Financial Crisis, Singapore experienced a sharp recession and an increase in unemployment given its high dependence on external demand.</p> <p>(a) Explain the possible causes of high unemployment in Singapore. [10]</p> <p>(b) Discuss whether demand-management policies can best address the problem of high unemployment in Singapore. [15]</p>
5	HCI 2011	<p>Inflationary pressures in Singapore are rising due to higher property and COE prices. Singapore reduced its growth forecast for 2011 as a faltering US economy and the European debt crisis heightened the risks to global expansion.</p> <p>(a) Explain how inflationary pressures are a threat to sustained economic growth and improvement in living standards. [10]</p> <p>(b) Assess the effectiveness of the policy options available to deal with both economic threats facing the Singapore economy. [15]</p>
6	PJC 2011	<p>(a) Explain the key determinants of aggregate demand. [10]</p> <p>(b) Discuss the view that economic growth is determined by a rise in aggregate demand. [15]</p>
7	RI 2011	<p>Higher rentals and oil prices are among the factors that have prompted the Monetary Authority of Singapore (MAS) to revise its inflation forecast for this year to between 4 and 5 per cent, up from between 3 and 4 per cent.</p> <p>(a) Examine the effects of a higher rate of inflation. [10]</p> <p>(b) Assess the view that monetary policy is the best way for the Singapore government to achieve price stability. [15]</p>
8	RVHS 2011	<p>(a) Explain the key strengths and weaknesses of expansionary fiscal policy in Singapore. [10]</p> <p>(b) Discuss the extent to which expansionary fiscal policy can help Singapore preserve jobs during a worldwide recession. [15]</p>

9	SRJC 2011	<p>(a) Explain why a government might be concerned with inflation. [10]</p> <p>(b) Discuss whether raising interest rate is the most appropriate policy to deal with the problem of inflation. [15]</p>
10	TJC 2011	<p>Singapore's economy is smaller and more open than Australia's. To facilitate trade, Singapore has chosen to reduce exchange rate volatility by embracing a managed float.</p> <p>(a) Explain the domestic and external impact of a depreciation in the exchange rate. [10]</p> <p>(b) Discuss the extent to which exchange rate volatility affects the circular flow of income for Singapore and Australia. [15]</p>
11	TPJC 2011	<p>"With the opening of Resorts World Sentosa and Marina Bay Sands in early 2010, the Ministry of Trade and Industry projects that each of the Integrated Resorts (IRs) would add \$2.7 billion to Singapore's Gross Domestic Product (GDP)."</p> <p style="text-align: right;">Source: Economic Survey of Singapore 2010</p> <p>(a) Explain possible factors that may limit the effectiveness of the integrated resorts in generating short-term economic growth in Singapore. [10]</p> <p>(b) To what extent might macroeconomic problems result from Singapore's strategy to promote tourism via the integrated resorts? [15]</p>
12	VJC 2011	<p>(a) Explain the factors that result in inflation. [10]</p> <p>(b) To what extent will supply side policies help to tackle inflation in Singapore? [15]</p>
13	YJC 2011	<p>(a) Explain why low unemployment is an important macroeconomic objective. [10]</p> <p>(b) Discuss whether monetary policy is the best policy to reduce unemployment. [15]</p>

PAST YEARS A LEVEL QUESTIONS (H2)

No.	Year	Question
1	2007 H2	<p>'To be considered successful, an economy needs to achieve low unemployment, low inflation and stable economic growth.'</p> <p>(a) Explain this statement. [12]</p> <p>(b) Discuss whether fiscal policy is the most effective way for Singapore to sustain a successful economy. [13]</p>

2	2008 H2	Discuss the most appropriate policies that a government could adopt to encourage both actual and potential economic growth. [25]
3	2008 H2	Discuss the relative significance of the multiplier, the price elasticities of demand for imports and exports, and crowding-out in influencing macroeconomic policy decisions. [25]
4	2009 H2	<p>The relative importance of the components of the circular flow of income for a small and open economy, such as Singapore, is likely to be different from a large and less open economy, such as the USA.</p> <p>(a) Explain this statement. [10]</p> <p>(b) Assess whether a change in the external value of its currency is more likely to have a larger impact on Singapore or the USA. [15]</p>
5	2009 H2	<p>Economic measures of the Singapore economy for 2007 indicate that GDP was S\$243 billion. The current account on the balance of payments was S\$59 billion in surplus.</p> <p>(a) Explain how you might use GDP and balance of payments data to measure the performance of an economy. [12]</p> <p>(b) Assess whether these economic indicators are the best measures of economic performance and standard of living in Singapore. [13]</p>
8	2011 H2	<p>(a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]</p> <p>(b) Discuss the extent to which conflicts in government macroeconomic objectives limit the scope for the use of fiscal policy in any economy. [15]</p>

PAST YEARS A LEVEL QUESTIONS (H1)

No.	Year	Question
1	2007 H1	<p>(a) Explain how fiscal and monetary policy can be used to influence the circular flow of income. [12]</p> <p>(b) Discuss whether effective supply-side policies are the best way for the Singapore government to achieve long-term economic growth and stability. [13]</p>
2	2008 H1	<p>(a) Explain the factors that results in long term economic growth. [10]</p> <p>(b) Assess the view that the Singapore government should focus on achieving economic growth as its main macroeconomic goal. [15]</p>

3	2009 H1	<p>Many economists argue that achieving a low and stable rate of inflation is the single most important macro-economic objective for governments.</p> <p>(a) Explain how a high rate of inflation can be caused. [10]</p> <p>(b) Discuss the view that a government's fiscal and monetary policies should be focused primarily on achieving a low and stable rate of inflation. [15]</p>
4	2010 H1	<p>(a) Explain one possible supply-side policy that can be used by a government as part of its efforts to achieve the macroeconomic policy objective of non-inflationary economic growth. [10]</p> <p>(b) A government decides that its economy is currently operating at with an unacceptably high level of unemployment. Discuss the view that its best option as a method of reducing unemployment is to use discretionary fiscal policy. [15]</p>





NYJC

2013 JC2 H1 & H2 ECONOMICS

International Economics: 19. International Trade, Finance & Globalization

Review on: International Economics: International Trade, Finance & Globalization

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

International Trade	Tick
1. What does it mean when it is said that a country has comparative advantage in producing a good?	
2. What is the theory of comparative advantage?	
3. How can the theory of comparative advantage be applied to everyday living?	
4. What are the benefits of the theory of comparative advantage in terms of specialisation, division of labour and exchange?	
5. How can the concept of comparative advantage explain the gains from international trade?	
6. Apart from the concept of comparative advantage, how else do country benefit from trade?	
7. Use demand and supply analysis to explain pattern of trade between countries.	
8. Explain Singapore's pattern of trade with the rest of the world and recent developments (e.g. FTAs)	
9. What are the different ways a country may protect its domestic market?	
10. Analyse the microeconomic and macroeconomic impact when a country imposes a tariff or quota.	
11. What are the arguments for protectionism?	
12. What are the arguments against protectionism?	
13. Explain the trend towards globalisation.	
14. How has globalisation impacted trade in goods, capital flows and international movement of labour?	
15. What is the role of the World Trade Organisation (WTO) in promoting free trade?	

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BOP	Tick
16. What are the main accounts of the BOP?	
17. What are the components of these accounts?	
18. What is the government objective in relation to its BOP?	
19. What is the significance of a falling or rising BOP?	
20. How can the BOP be used to assess the economic performance of a country?	
21. What are the limitations of using BOP to assess the economic performance of a country?	
22. How can labour productivity impact BOP?	
23. How does foreign direct investment, impact BOP?	

Exchange rates	Tick
24. What is the significance of a falling or rising exchange rate?	
25. How is the exchange rate linked to the BOP?	
26. How can the exchange rate be used to assess the economic performance of a country?	
27. What are the limitations of using the exchange rate to assess the economic performance of a country?	
28. What determines the demand for the Singapore dollar?	
29. What determines the supply of the Singapore dollar?	
30. What are the causes of a change in the exchange rate?	
31. How is the interest rate linked to the exchange rate?	
32. What are the effects of a change in the exchange rate on the economy?	
33. How can labour productivity impact the exchange rate?	



SECTION 1: Concept Reinforcement

1. Explain three reasons why countries may want to engage in international trade.

- differences in factor endowments
- international immobility of FOP
- to reap internal and external EOS

Focus on how trade overcomes these and leads to benefits reaped by the participating countries.

2. Assume 2 countries, X and Y engages in free international trade and divide their resources equally between the 2 production of two goods they produce, the outcome are as follows:

Country	Tractors (units)	Wool (units)
X	300	100
Y	400	200

Is there a theoretical basis which asserts that the two countries should trade with one another? Why or why not?

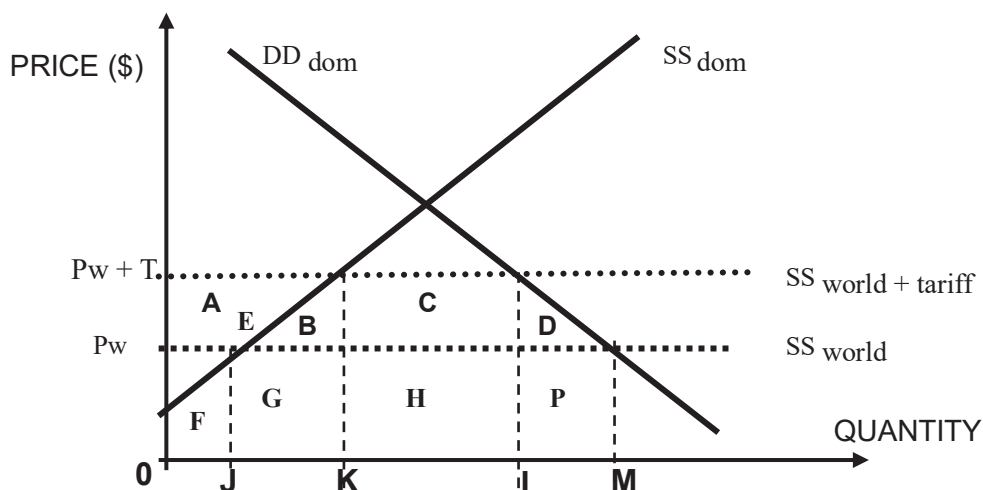
Theory	Comparative advantage – when a country more productively efficient than another - can produce a gd with a lower o/c in terms of other gds forgone			
Basis	Country X is able to produce tractors at a lower o/c than Y, whereas country Y is able to produce wool at a lower o/c than X.			
Country	Opp. cost	Specialization	World o/p	Mutually Ben. ToT
X	1T:1/3W; 1W:3T	Tractors	-100 units of T	T: $1/3 W \leq 1T \leq 1/2 W$
Y	1T:1/2W; 1W:2T	Wool	+100 units of W	W: $2T \leq 1W \leq 3T$
Benefits	Higher world output - despite a fall in the number of tractors produced (-100 units) by country X and a higher output of wool produced (+100 units), a favourable term of trade (TOT) between the 2 countries will allow both countries to consume more goods had they been self-sufficient.			

3. Explain three drawbacks to participating countries resulting from free trade.

- Increased economic and political dependency may promote vulnerability.
- Greater contagion effect - Open to booms/slumps of trading countries (are passed over to one another) → leads to periods of price instability and unemployment.
- May be victims of unfair competition/trade practices (e.g. dumping - *explain concept*) → may drive local manufacturers to close down which will lead to a fall in NY and employment for the importing country.



4. Explain the differences in effects between tariffs and import quotas.



Effects	Tariffs	Import Quotas
Mechanism	$P_M \uparrow \rightarrow M \text{ qty} \downarrow$	$M \text{ qty} \downarrow \rightarrow P_M \uparrow$
Consumer welfare	Similar fall in consumer surplus (Area A+B+C+D)	
Domestic pdr welfare	Similar rise in producer surplus (Area A)	
Government welfare	Tax rev gain (Area C)	Nil
Foreign pdr revenue	Area H	Areas H + C
Deadweight Loss to society	Similar losses (Area B + D)	
Nation's Total Welfare Loss	Equals deadweight loss	Equals deadweight loss + \uparrow foreign pdr revenue (Area C)

5. What is a Free Trade Agreement and what are the fundamental principles that compels the Singapore economy to want to be a part of these agreements?

- FTAs are a legally binding agreement between 2 or more countries to liberalise (promote free) trade and bring closer economic integration
- The Singapore economy is:
 - Very trade dependent – trade is an engine of growth
 - Pro-free market system – promotes responsiveness to changing market signals and conditions
 - Its openness promote business competitiveness between local and foreign businesses/firms (based locally) – due to its openness



6. What does the term 'globalisation' mean in economics?

- markets that are no longer demarcated or restricted by a country's borders
- freer movement (& greater mobility) of all forms of factors of production ('money capital', physical capital and labour).
- less insulated economies - economic shocks in one economy are easily transmitted and felt in other economies around the world.
- technological changes (ie. communication and transportation technologies) makes possible new structures, new organisational and geographical arrangements of economic activities (functions & operations), new products and new processes, while not making the particular outcomes inevitable or predictable
- growing significance of the Transnational Corporations (TNC) - a firm that has the power to coordinate and control operations in more than one country, even if it does not own them – that may impact the affected countries.

7. What are the key areas that the Singapore economy is currently focusing on in its attempts to promote globalisation?

- Customer needs – IE Singapore's widening networks of overseas centres & business support offices acts as a platform to bolster business links between companies in Singapore and other countries
- Market connections – organize seminars, business missions & participate in international trade fairs to develop key industry clusters
- Firm-level competency – capitalizing on infrastructure to provides essential information to Singapore-based enterprises in their quest to go international
- Access to capital – assist companies going international to secure the necessary capital to finance their global aspiration

8. Explain the following terms.

a) Free Trade Area	Where member countries remove tariffs and quotas between themselves, but retain whatever restrictions each member chooses with non-member countries
b) Customs Union	Similar to FTA, but in addition, member countries must adopt common external tariffs and quotas with non-member countries.
c) Common Market	Similar to CU, but with the addition of free movement of factors of production (eg labour and capital) between member countries.
d) Trade creation	Where consumption shifts from a high cost producer to a low cost producer (within a CU) – benefits of trading with member countries
e) Trade diversion	Consumption shifts from a lower cost producer outside the CU to a higher cost producer within the CU – costs derived from not being able to trade with non-member countries

9. Briefly explain one argument in favour and against globalisation?

- Pro – more efficient resource allocation → lower prices, increased employment & output
- Con – unrestricted free trade benefits those with more financial leverage (rich) at the expense of the poor; promotes corporate interests (max. profits) while limiting individual freedom/welfare; compels a re-shaping of the political policies of nation-states (eg. Singapore)



10. What is meant by the 'balance of payment' and what are its main components?

- A comprehensive record of international receipts and international payments between the residents & government of a country and the rest of the world over a period of time usually a calendar year.
- Current account (comprising visible & invisible trade accounts, unilateral transfers & income flows)
- Capital account (relates to capital flows comprising FDI and Portfolio investments)

11. Why does the overall balance of payments always balance?

1. System of recording all transaction → Principle of double entry book-keeping. Every transaction recorded as a credit/debit in one account (eg. Current account visible credit item) has a corresponding debit/credit entry in another account (eg. Capital account debit item). Hence the sum of all debit & credit items must be equal.
2. Sum of all accounts in the balance of payments must be zero. Thus the Total Currency Flow surplus (overall balance) will necessitate an opposite entry (debit/deficit) in the official financing accounts.
3. Balancing items ensures that the value of all recorded transactions and those accounts kept by the central bank tally.

12. Why might a reduction in domestic interest rates have an adverse effect on a country's balance of payment on current account?

- A. It will cause a rise in the exchange rate
- B. It will make the country's industry less competitive
- C. The resulting higher level of economic activity is likely to increase imports**
- D. There will be an outflow of capital from the country

13. Would an improvement in the Balance of Trade (BOT) necessarily mean an improvement in the Balance of Payment (BOP)? Why?

- BOT ("visible") is only one component of BOP. Other components of BOP include the services or "invisible" trade and funds or "capital" movements. An improvement in the BOT could be negated by a worsening of the other components.

14. Explain the difference between the fixed and the floating exchange rate systems.

Criterion	Fixed Exchange Rate	Floating Exchange Rate
Exchange rate determination	Govt fixes & guarantees the official price of its currency in terms of other foreign currencies.	Free mkt forces of dd & ss in the forex mkt determine pr of the home currency.
Govt's role	Committed to maintain the fixed ER by buying/selling its currency in the forex market using its reserves (gold & foreign exchange) to exactly offset the changes in the market dd & ss.	Non-interventionist attitude.
Related terminologies	Revaluation or devaluation of exchange rate	Appreciation or depreciation of exchange rate



15. Explain the differences in meaning between ‘money supply’, ‘foreign exchange rate’ and ‘foreign reserves’.

- Money supply: the total stock of money in the economy; currency held by the public plus money in accounts in banks.
- Foreign exchange rate: the rate at which one currency can be exchanged for another, traded on foreign exchange markets, usually expressed as the value of the one in terms of the other.
- **Foreign exchange reserves** (also called **Forex reserves**): In a strict sense are *only* the foreign currency deposits and bonds held by central banks and monetary authorities. However, the term in popular usage commonly includes foreign exchange and gold, SDRs and IMF reserve positions. This broader figure is more readily available, but it is more accurately termed **official international reserves** or **international reserves**. These are assets of the central bank held in different reserve currencies, such as the dollar, euro and yen, and used to back its liabilities, e.g. the local currency issued, and the various bank reserves deposited with the central bank, by the government or financial institutions.

16. If a country has a deficit on its balance of payments the domestic money supply is likely to

- A. **fall, because importers have to exchange domestic money to obtain foreign currency.**
- B. remain unchanged, because the balance of payments always balances.
- C. remain unchanged, because imports are bought with foreign currency.
- D. rise, because the counterpart of the deficit will take the form of a foreign loan.

17. What are most countries concerned with a large or persistent balance of payment deficit?

- Implies a net leakage of income/money/gold/foreign reserves outflow
- threatens jobs and real incomes
- leads to downward pressure on the exchange rate

18. In which of the following circumstances will devaluation of the external value of a country’s currency have the greatest beneficial effects in its balance of trade?

- A. Imported raw materials are a large proportion of the total costs of its exported manufactured goods.
- B. There is full employment in the country.
- C. The government has implemented expansionary fiscal policies.
- D. The demand for its imports is price inelastic.
- E. **There is high price-elasticity of demand for its exports.**

19. A country is faced with a deficit in the current account of the balance of payments and over-full employment. Which one of the following would simultaneously contribute to a solution to both of these problems?

- A. **Raising interest rates**
- B. Expanding government expenditure
- C. Budgeting for a deficit
- D. Devaluation



SECTION 2: CASE STUDIES

Case Study Question 1 (International Trade)

Fare Well, Free Trade

Extract 1: Trade Protectionism Shadows Recession

Facing pressure to keep jobs at home, leaders around the world have edged closer to protectionism, which could eventually choke global trade and prolong the recession. Many economists believe that 'trade protectionism shadows recession' as there are empirical evidence that economic crisis drives many governments to introduce measures that restrict or distort trade. So far, there have been no blatant breaches of the rules, but these may be severely tested as unemployment continues to rise. Governments should have contingency measures that help their industries survive the global economic slump without restricting cross-border commerce, World Trade Organization (WTO) economists said. As the only international organization dealing with the global rules of trade between nations, WTO's main function is to ensure that trade flows as smoothly, predictably and freely as possible. At the heart of the system — known as the multilateral trading system — are the WTO's agreements, negotiated and signed by a large majority of the world's trading nations. These agreements are the legal ground-rules for international commerce.

The WTO is now forecasting a fall of 10% in the volume of world trade this year -- a post-war record, and slightly worse than its previous 9% estimate.

Source: *Forbes.com*, 16 July 2009 and *Bloomberg*, 22 July 2009

Extract 2: Protectionism Could Prolong Recession

Addressing protectionism ranks high on the agenda of the G20 summit next week in London. At their last meeting in November, the leaders of 20 industrialized and developing nations pledged to fight anti-trade policies. In January, the WTO reported no significant increase in protectionism. But a World Bank report released last week found that of the G20 members, 17 have failed to keep that promise, prompting calls by world leaders and others for the group to adopt a tougher stance this time. There have been several instances of countries raising tariffs, within the limits of their WTO commitments. America, the European Union and Switzerland have all introduced new farm subsidies. Russia and India have raised tariffs on cars and steel respectively. Politicians from Washington to Beijing are being pressed to help troubled industries, regardless of the consequences for trade. As China's exporters go bust by the thousand, industries from textiles to steel have been promised handouts and rebates. But changes in trade policy have not all gone one way. Several countries, from Australia and China to Ecuador and Paraguay, have moved in a liberal direction, reducing import duties since the beginning of March.

Source: *Washington Post*, 27 March 2009

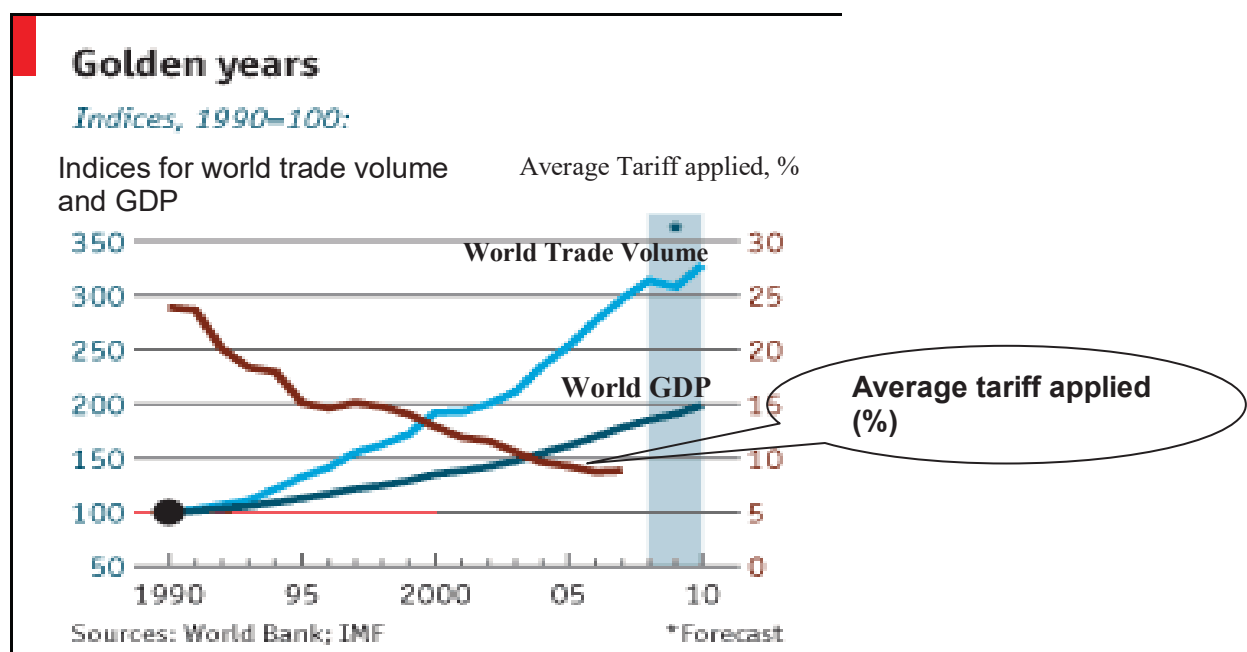


Figure 1: World Trade and GDP



Source: *The Economist*, 26 March 2009

Figure 2: Trade statistics



Source: *The Economist*, 18 December 2008

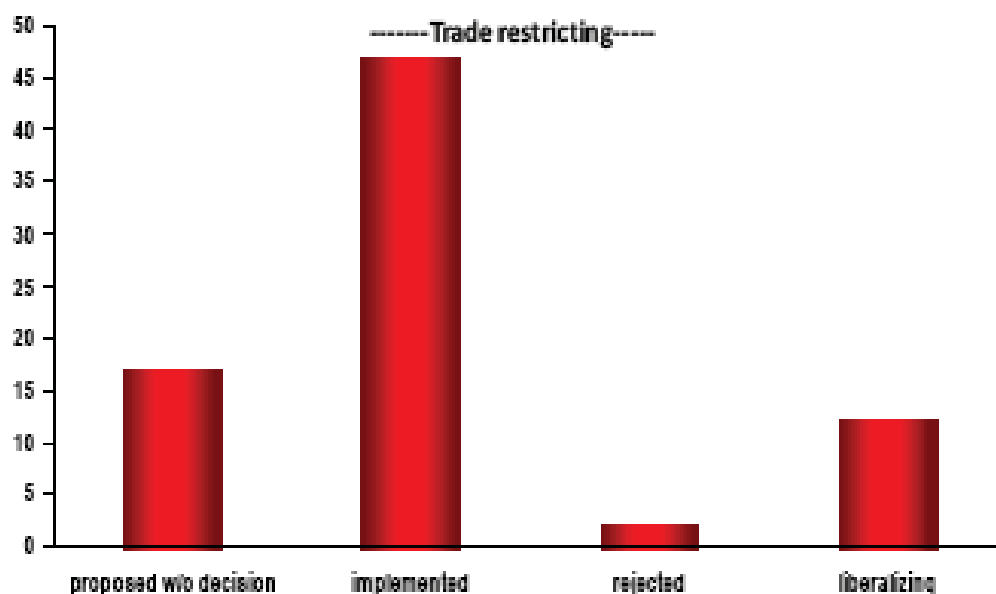
Extract 3: Unpredictable tides

The worst global economic slump has generated reams of measures of world trade. Lately, the news has been more encouraging. Trade is far from booming, but it has at least stopped declining. Whether global commerce makes a speedy and lasting recovery depends, in the first place, on how quickly and sustainably global demand picks up. But it also depends on two other factors. Firstly, if the main culprit was the

drop in global demand, as most economists believe, trade should recover smartly when demand picks up. But if it was an increase in protection, trade will be slow to emerge from the doldrums. Such measures, as past crises show, are easier to put in place than to remove. The second is global trade politics. Governments will continue to be under pressure to erect trade barriers as unemployment continues to rise and as their room for more fiscal and monetary expansion becomes cramped. Leaders of the world's biggest economies have repeatedly promised to conclude the Doha round 1 of trade talks, which have already dragged on for more than seven years. This is why the politics of trade—not least the prospects of completing the Doha round¹—remain important. Some of the round's doubters have questioned its value because it promises no substantial further reductions in actual tariffs, merely aiming to limit countries' scope to raise them. Unfortunately, a successful conclusion to the Doha round is still far from certain. The last attempt collapsed in July 2008, when India insisted on more protection for its farmers against sudden surges in imports than America was willing to accept.

Source: *The Economist*, 23 July 2009

**Figure 3: Increase in number of new trade restricting measures
(New measures taken from October 2008 to February 2009)**



Source: World Bank staff based on public information and published press reports.
Excludes anti-dumping cases.

¹ The Doha round is the current trade-negotiation round of the World Trade Organisation (WTO) which commenced in November 2001. Its objective is to lower trade barriers around the world, which allows countries to increase trade globally.

Questions

(a) (i) With reference to Figure 1, compare the changes in world trade and changes in GDP from 1990 to 2000. [2]

(ii) To what extent does the data suggest that the change in GDP is the main reason for the change in world trade from 1990 to 2000? [6]

(b) With reference to Extract 2, explain **two** ways in which countries can restrict trade. [4]

(c) With reference to the case materials, discuss whether the statement “trade protectionism shadows recession” (Extract 1) is valid. [8]

(d) Assess whether the removal of trade barriers is the most appropriate measure to accelerate the global economic recovery. [10]

[Total: 30]

SUGGESTED ANSWERS TO A FULL CASE STUDY Question 1

(a) (i) With reference to Figure 1, compare the changes in world trade and changes in GDP from 1990 to 2000. [2]

- [Similarity] Both GDP and trade increased. (1)
- [Difference] % Increase of world trade is greater than that of GDP. (1)

1m awarded for similarity.

1m awarded for difference.

(ii) To what extent does the data suggest that the change in GDP is the main reason for the change in world trade from 1990 to 2000? [6]

Thesis: Change in GDP is the reason for the increase in world trade

- Higher GDP (Figure 1) → higher income for the people → higher purchasing power → higher M → higher volume of trade. 2m

Anti-thesis: The increase in world trade is due to other factors.

- Figure 3 shows that an increase in world trade may be due to a reduction in tariffs, leading to freer trade. Lower tariffs → Fall in domestic prices of imported goods → Cheaper imports → increase in quantity demanded for goods imported → higher volume of trade. 2m

Furthermore, there is insufficient or no data on other possible reasons for an increase in world trade, such as data on whether more countries have signed FTAs under the auspice of the WTO to create more open economies in the world, leading to higher volumes of trade. 2m



(b) With reference to Extract 2, explain **two** ways in which countries can restrict trade. [4]

- Tariffs - These are taxes on import commodities. Tariffs raise the domestic price of imports in the domestic economy thus reducing the quantity demanded of imports. **2m**
- Subsidies - Subsidies can be given to domestic producers to lower costs of production thus allowing the local producers to price their goods cheaper than foreign commodities. This will increase the price competitiveness of local goods and discourage the consumption of imported goods. **2m**

(c) With reference to the case materials, discuss whether the statement “trade protectionism shadows recession” (Extract 1) is valid. [8]

Thesis: Countries adopt protectionism during recession.

1m
1m

- **Extract 2** shows that a growing number of countries have protected their domestic producers by either raising tariffs on imports or reinstating subsidies to domestic producers during the recession.
 - 17 of G20 members have failed to keep their promise not to implement anti-trade policies;
 - Russia and India have raised tariffs on cars and steel, respectively, and
 - US, the EU, Switzerland and China have all given subsidies to their domestic producers.

During a recession, there is a fall in both national income & employment. By adopting protectionist measures, like the imposition of tariffs and giving of subsidies, governments are able to protect their domestic industries as well as their home employment.

- Figure 3 shows that, according to WTO statistics, there is increase in the number of new trade-restricting measures between October 2008 and February 2009 when the global recession is at its peak.

Anti-thesis: some countries adopt freer trade instead of protectionism during the recession.

- **Extract 2** shows that some countries have adopted freer trade during recession.
 - Countries, like Australia, China, Ecuador and Paraguay, have actually reduced their import duties since the beginning of March 2009 when the global recession is at its peak.

Freer trade → increase in trade → higher national incomes → economies recovering faster from recession. Also, an increase in demand for exports → higher domestic production → increase in incomes & employment for people → higher standard of living.

- **Extract 2** also stated that the WTO reported no significant increase in protectionism in January 2009 when recession was at its peak.

Evaluation

- In conclusion, there is case study material to support, as well as case study material to refute the statement that “trade protectionism shadows recession”.
- However, whether the statement is valid depends on the nature of the economy. Generally, small economies which have little resources and are more dependent on trade tend to avoid protectionism during recession, while big countries which are rich in resources are more likely to resort to protectionism to protect their domestic industries and home employment.

Mark Scheme for part (b)(ii)

Knowledge, Application, Understanding and Analysis		
L2	Balanced argument supported with evidence from case materials <u>or</u> No reference to case materials (max of 4)	4-6
L1	One sided analysis to statement supported with some evidence from case materials <u>or</u> Descriptive understanding of either side of the argument with no support of data materials	1-3

Allow up to 4 additional marks for Evaluation		
E2	Evaluative comments with justification	2
E1	Evaluative comments, unexplained.	1

(d) Assess whether the removal of trade barriers is the most appropriate measure to accelerate the global economic recovery. [10]

Global economic recovery means there is rising AD and hence increase in NY of the economy.

- **Thesis: Removal of trade barriers can help to accelerate global economic recovery**
 - The **removal of trade barriers** can be an **appropriate measure** to accelerate global economic recovery. With the removal of trade barriers, there will be **trade creation** between countries. *This can substantiated by evidence in Figure 2 which shows that world trade volume increased as average tariff rate fell between 1990 and 2008.* When countries' export revenue increases, AD will increase, resulting in the **national incomes in these countries to rise** by a multiplied amount as a result of the multiplier process. As a result, this increase in national income can help to spur the global economic recovery.
 - In this globalised world, many countries worldwide are dependent on trade as an engine for growth. The removal of trade barriers can further stimulate the global economic recovery by helping **export-oriented industries in the various countries** gain access to a larger export market. With an increase in production, firms will have to employ more factors of production, including labour. The decline in demand-deficient unemployment can lead to **higher consumer expenditure** and hence increase AD.
- **Anti-thesis: Removal of trade barriers may not help to accelerate global economic recovery (limitations)**
 - On the other hand, the removal of trade barriers **may not play a part in accelerating global economic recovery**. Though consumers may be able to gain access to cheaper goods, they may not be willing to increase spending or they may even reduce spending due to the poor global business and consumer sentiments. Furthermore, *as shown in Extract 3, unemployment continues to rise in this current economic situation.* This gloomy market outlook and uncertainty about future employment may cause consumers to be cautious about spending. Hence, despite the lower prices, consume expenditure (and export revenue) may still be low. Thus, removal of trade barriers **may have limited or no effect** in helping to accelerate global economic recovery.

- **Anti-thesis: Other policies may be more effective in helping to accelerate global economic recovery**
 - Other possible policies that the governments of all or most countries (especially developed countries) *can* undertake to accelerate global economic recovery include **expansionary fiscal and monetary policies** (as mentioned in Extract 3). These expansionary demand-management policies can help to stimulate further increase in AD.

Evaluation

- Whether the removal of trade barriers can help to accelerate global economic recovery depends on the compliance level of the governments.

It may be a better choice to have expansionary demand-management policies **first**, before embarking on policies to promote free trade.

Mark scheme for part (d)

Knowledge, Application, Understanding and Analysis		
L3	A thorough and well balanced answer which shows how removal of trade barriers may and may not lead to global economic recovery.	7-8
L2	A balanced answer but shows descriptive understanding of how trade barriers can and cannot help to accelerate global economic recovery.	4-6
L1	One-sided descriptive knowledge of benefits or limitations of removal of trade barriers to accelerate global economic recovery	1-3

Allow up to 2 additional marks for Evaluation		
E2	Evaluative comments with justification	2
E1	Evaluative comments, unexplained.	1

[Total: 30]



Case Study Question 2

Extract 1: Singapore's Changing Trade Pattern

Economic growth is often accompanied by increased capital accumulation and a deepening pool of skills. These changes have transformed Singapore from a labour-abundant third world to a relatively capital and skill-abundant first world country during the last few decades, with far-reaching implications for the country's trade. The rise of lower-cost competitors and government policies to encourage higher value-added investments are also significant influencing factors.

Table 1 Singapore Domestic Exports by Selected Commodity

	Commodity	1998	2004	% Change 1998-2004
		Million Dollars (S\$)		
1	Total	105,917.60	166,502.50	57.2
2	Oil	13,472.90	33,724.60	150.3
3	Non-oil	92,444.70	132,777.90	43.6
3a	Chemicals	7,163.20	28,684.80	300.5
3b	Veneer/Plywood	12.00	9.00	-25.0
3c	Office Machines	39,916.10	32,476.20	-18.6
3d	Radio/TV Receivers	2,762.20	1,899.50	-31.2
3e	Electronic Components	17,108.80	27,316.10	59.7
3f	Clothing	717.80	551.20	-23.2

Source: Dept of Statistics, Singapore

Extract 2: Singapore - The "Dual Economy"

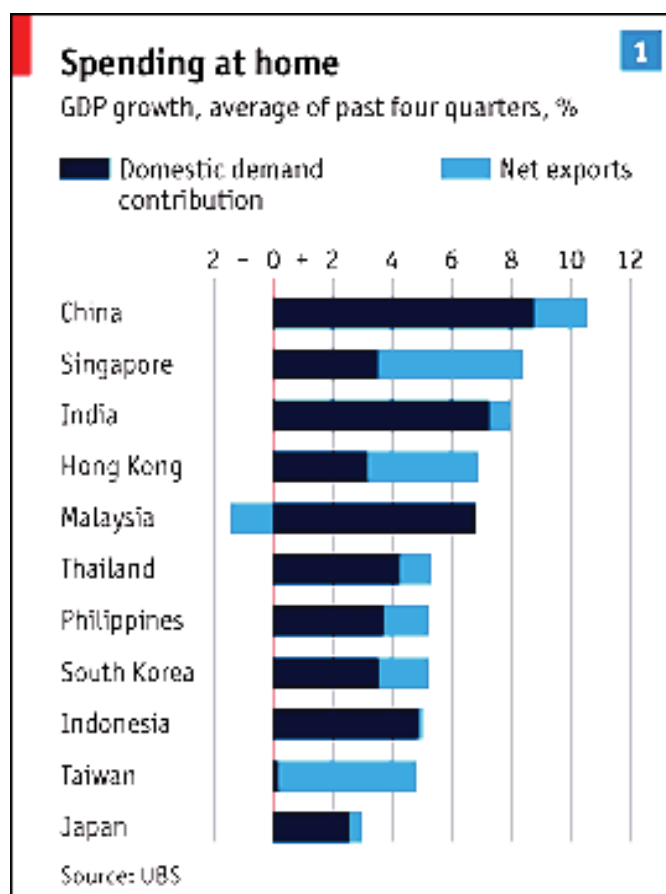
According to a Citigroup study, globalisation may be giving rise to a two-speed 'dual economy' in Singapore: a fast-growing globally-oriented sector and a slower domestic-oriented sector. Businesses catering to international markets are expanding strongly since 2001, spurred by strong growth in drug-making, private banking and oil rig building. However, those that sell to the domestic market are seeing sluggish growth.

Divergent growth patterns between different income groups and businesses have become quite stark. Average monthly household income has, for the top 10 per cent group, risen by 2.8 per cent annually from 2000 to 2005. In contrast, the second-lowest 10 per cent group saw a 4.3 per cent fall annually.

Policies on Central Provident Fund (CPF) contributions, free trade agreements, foreign talent and a greater reliance on indirect tax, while necessary to increase competitiveness, may also have accentuated these divergent forces. These policies to restructure the economy mean that employers will increasingly have a wider pool of international workers to choose from, with some more suitably qualified and yet willing to work for lower wages than their local counterparts whose median age has risen rapidly, from 33 years in 1990 to 40 years in 2006.

Source: Adapted from The Straits Times August 20th 2006

Figure 1 GDP Growth of Asian Countries, 2006



Extract 3: China – Asia's Manufacturing Powerhouse

Over the last two decades, China's emergence as a manufacturing powerhouse in Asia was largely driven by huge Foreign Direct Investment (FDI) inflows which surged over 900 times between 1980 and 2004, during which China's share of FDI inflows into Asia rose from 2% to 65%. This has in turn led to significant changes in the global trade pattern. While China's exports of low-end labour intensive consumer goods to G3 (U.S., EU, and Japan) increased five-fold since 1990, those from the EA-7 economies (Korea, Taiwan, Singapore, Malaysia, Indonesia, the Philippines and Thailand) have stagnated.

This period also saw China moving up the value chain and diversifying its manufacturing base to become a significant exporter of low and mid-range capital and intermediate goods. In 1990, China's exports of capital and intermediate goods to the G3 were just one-fifth of those of EA-7. By 2004, this proportion has risen to more than four-fifths.

Contrary to China's predominance as a world exporter, Chinese exports contained a relatively low proportion of domestic inputs. Labour costs comprised only an estimated 10% to 30% of total manufacturing costs, the rest being the cost of component parts and raw materials, half of which are imported. This has led to China's rapidly growing demand for high-end capital and intermediate goods, as well as raw materials. This has helped spur the growth of intra-Asian trade. China's trade deficit with the EA-7 has nearly tripled since 2001. EA-7 exports to China as a proportion of the group's total exports rose from 5% to 22% during 1980 - 2003. In the long-run, the rise of China's middle-income consuming market will also boost its demand for imports.

China's dependence on high-end foreign inputs is expected to persist in the foreseeable future. Weak intellectual property rights are likely to discourage foreign companies from shifting production of high-end goods into China. Some foreign governments continue to maintain restrictions on the transfer of certain types of high-end technology to China.

Notwithstanding China's attraction as an investment destination, there are reasons to believe that the EA-7 economies will not hollow out. Foreign companies will still want to maintain operations outside China to diversify their risk. The EA-7 economies have carved out a niche in higher value-added activities, while China's advantage remains largely as a manufacturing and assembly base for low-end products. Moreover, investment in China may not necessarily be profitable due to hidden non-wage costs. For example, manufacturing a car in China is actually more expensive than in Germany because labour only accounts for a small portion of the overall cost. As a result, some foreign companies have left China.

Source: Adapted from Monetary Authority of Singapore, Dec 2005

Questions

- (a) (i) Explain the concept of comparative advantage. [2]
- (ii) Account for the changing pattern of Singapore's domestic exports. [6]
- (b) (i) With reference to Figure 1, suggest a reason for the relative importance of external demand to the Singapore economy. [1]
- (ii) Identify three economic problems facing Singapore in Extract 2. [3]
- (iii) "Economic growth often gives rise to a host of problems".
To what extent does the openness of the Singapore economy aggravate the economic problems identified above? [8]
- (c) Evaluate the impact of China's rise as Asia's manufacturing powerhouse on trade and investment in Singapore. [10]

Total: 30 marks

SUGGESTED ANSWERS TO FULL CASE STUDY QUESTION 1

- a (i) Explain the concept of comparative advantage. [2]**
A country is said to have a CA in a good when it can produce the good at a lower opportunity cost. Opportunity cost of a good is the amount of another good forgone to produce an additional unit of the good.
- a (ii) Account for the changing pattern of Singapore's domestic exports. [6]**
The underlying reason for Singapore's changing composition of domestic exports is its **changing pattern of factor endowment and CA due to econ growth.**

Rising investment and greater educational opportunities and the consequent rise in skills and productivity **alters a country's factor endowment** from one with abundant low-pay unskilled labour, scarce capital & low level of technology to one that is more capital and skill-abundant and labour scarce.

With this, the country's CA will also change from labour-intensive to capital-intensive products. This explains the **rapid growth of capital-intensive high-tech exports like chemicals and oil refining on the one hand, and the**

decline of labour-intensive and low-tech manufacturing activities like clothing, office machines – note: % to domestic was low even in 1998. (3m)

Singapore's changing CA & pattern of trade is also due to the **rise of lower cost producers**, especially China, with its abundant land and labour in which Singapore is relatively scarce. This led to the relocation of both new and existing labour-intensive industries to China and the neighbouring ASEAN countries which also have lower labour cost than Singapore. (1m)

Singapore's changing trade pattern can also be attributed to the **government's deliberate policies** to move up the value chain by attracting FDI to develop new areas of CA, such as Bio-tech and petrochemical industries, which contribute to the rapid growth of exports of chemicals. (1m)

Extra

Singapore's strategic location between the middle-east oil producers and the East Asian major oil consumers also gives it a CA in oil refining. Rapid growth in East Asian countries provides a demand factor.

- b (i) With reference to Figure 1, suggest a reason for the relative importance of external demand to the Singapore economy [1]**

External demand accounts for more than half of Singapore's econ growth in 2006. (1m) This is due to the small size of domestic market. (1m)

- (ii) Identify three economic problems facing Singapore in Extract 2. [3]**

- Growing income disparity with middle-income or second-lowest 10% income group suffering falling income.
- Structural unemployment among local workers who may lack the necessary skills required by the market.
- Ageing pop workforce as reflected by the increase in median age of workers (1m each)

- (iii) "Economic growth often gives rise to a host of problems". To what extent does the openness of the Singapore economy aggravate the economic problems identified above? [8]**

Elaboration on the 3 main problems

Problems of structural unemployment, growing income gap and ageing workforce tend to arise as a consequence of economic growth.

- Income disparity arises because the benefits of growth are not evenly distributed.
- Increasing affluence & technological progress lead to changes in the structure of demand and production and results in structural unemployment.
- Economic growth leads to ageing population due to longer life expectancy on the one hand, and falling birth rates with greater education and career opportunities for women.

How openness aggravates the problems

The openness of the Singapore economy & the fast pace of globalisation have aggravated these problems due to the different groups' ability to exploit the opportunities from globalisation.

Worsen income disparity

- Those involved in the Singapore's export-oriented sector will enjoy faster income growth and job opportunities from the larger external market. In contrast, the growth of the domestic sector will be constrained by the small size of the domestic market.
- Similarly well-educated workers are internationally mobile and earn globally competitive wages, while wages of less skilled workers are depressed by their immobility and accentuate the income gap.

Worsen structural unemployment

External developments such as the rise of lower cost producers, influx of foreign talents and the opportunities for outsourcing and relocation also worsen the problem of structural unemployment and depress the wages especially of the unskilled. **Evaluation:** *On the other hand, the inflow of foreign talents and immigrants helps to **rejuvenate our workforce**.*

Level	Mark	Descriptor
L3	6-8	Excellent explanation and good evaluation
L2	4-5	Able to explain how openness aggravates the economic problems supported with evidence but little evaluation.
L1	1-3	Only explained the economic problems but failed to answer how openness aggravates them, Or, Merely lifting evidence from the passage but not no clear link to economic problems.

c. Evaluate the impact of China's rise as Asia's manufacturing powerhouse on trade and investment in Singapore. [10]

Approach

Students are expected to discuss both the negative and positive effects on Singapore economy, using both economic analysis & evidence from the case material.

Students have to make a judgment regarding the net effect on Singapore economy.

Introduction

China's rise as a manufacturing powerhouse may bring about negative impacts in the short run to Singapore's trade and investment but in the long run, there will be positive impacts.

Body

Negative impacts:

- Singapore will lose some FDI low-end labour intensive consumer goods industries as well as low end capital and intermediate goods (exports) to China. China is more attractive due to lower labour cost and larger domestic market. This will in turn dampen investment and export demand in Singapore, leading to slower econ growth & job creation.
- Existing industries in these commodities may also relocate to China. This aggravates the econ slow down and causes structural unemployment amongst the retrenched workers.

In the Long-run, positive impacts:

Trade

With China's demand for raw materials, Singapore firms can also help Chinese firms source for inputs in other ASEAN countries.

With its strategic location as a port of call, Singapore will benefit from the rapidly growing volume of intra-Asian trade due to China's growing importance in world trade. The extract refers to China's trade deficit with EA-7 countries. It could well be that Singapore already enjoys a trade surplus with China.

As China achieves rapid econ growth through its export-oriented industrialisation, its growing affluent middle-income group will demand more high-end consumer goods and services. Singapore can tap this huge potential market, e.g. in wealth management & tourism services.

China's role in world trade and capital flows will in the LR benefit the world community, including Singapore.

Investment

Singapore's relatively abundant capital and management expertise can complement China's abundant labour and lower land cost. Hence China can be an attractive destination for Singapore entrepreneurs. This will boost Singapore's strategy to grow its 'external wing'. Investment income, profits and dividends could be remitted by Singapore companies operating in China will improve our BOP and increase our GNP.

Note: China is the recipient of the largest amount of FDI within Asia from Singapore.

As MNCs may not want to put all their eggs in one basket in China, Singapore can be a viable alternative to site their production plants, especially for high-end, capital intensive component parts final assembly in China. Singapore is an ideal choice in view of our strong IP laws which are especially crucial in the production of high-tech commodities in which China currently still lacks the technology and the necessary IP legal framework.

China's advantage lies in its low land & labour costs. It may not be as cost-competitive if non-wage cost is a predominant cost component for an investor. With Singapore's high labour productivity and good infra-structural support, overall cost of doing business may be lower in Singapore. Hence Singapore can still remain an attractive destination for FDI.

Additional Responses:

- China's trade friction with other countries resulting in protectionistic measures taken against her may further increase risk of FDI in China. Singapore on the other hand is an attractive location for FDI as we managed to sign many FTAs with many countries.
- Recent report on poor quality control over food products and toys may tarnish China's as the world' factory.

Conclusion (Take a stand)

Free trade & FDI provide powerful engines of growth that will be mutually beneficial for all participating countries, though in the SR, there may be adjustment problems. For Singapore, though there are short-term pains, these are easily offset by long term gains as elaborated above since trade which is 4 times of our GDP is our main engine of growth.

Level	Mark	Descriptor
L3	7-10	Excellent explanation, well-balanced view and includes a judgment regarding the net effect on Singapore economy.
L2	4-6	Able to link evidence to economic concepts but answers tend to be lopsided or disorganised.
L1	1-3	Merely lifting evidence from the passage but no clear link to economic problems; disorganised.

Case Study Question 3

International Trade & Globalisation

Table 1: Australia's Economic Statistics

	2003	2004	2005
GDP per capita based on PPP (US\$)	29 682	31 406	32 961
Real GDP (US\$ billion)	512	618	692
Population (million)	19.73	19.94	20.15
Trade balance (US\$ million)	-15 275	-18 070	-13618
Current Account balance (US\$ million)	-29 579	-39 943	-41 918

Table 2: China's Economic Statistics

	2003	2004	2005
GDP per capita based on PPP (US \$)	5 087	5 542	6 193
Real GDP (US\$ billion)	1417	1 649	1 843
Population (million)	1 299	1 307	1 315
Trade balance (US\$ million)	44 812	59 194	134 256
Current Account balance (US\$ million)	46 039	68 906	160 899

*1 billion = 1000 million

Source: *EconStats* website

Table 3: Composition of Trade

Australia

Main exports	Main imports
Coal	Crude petroleum
Iron ore	Passenger motor vehicles
Gold	Refined petroleum

Aluminium ores	Computers
Aluminium	Telecommunications equipments

China

Main exports	Main imports
Machinery & equipment	Electrical & electronic goods
Electrical & electronic goods	Machinery & equipment
Clothing	Oil & mineral fuels
Textile	Paper pulp
Plastic products	Soy

Source: *The Australian Government Dept of Foreign Affairs and Trade (DFAT) website*

Extract 1: China's trade relation with Australia

China was the second largest destination for Australia's merchandise exports in 2005-2006 with exports rising by 39 per cent to US\$18.1 billion (12 per cent of total exports). China was the largest source of imports, with imports rising by 17 per cent to US\$23.2 billion (14 percent of total imports).

In 2005, China launched negotiations to sign a free trade agreement (FTA) with Australia which is economically the biggest country that China has negotiated an FTA with, and also one of the few countries in the world that has an FTA with the United States.

Trade complementarities between China and Australia will guarantee the rapid growth of bilateral trade which may even reverse the current trade deficit that Australia has with China.

For instance, Australia has a big capacity to supply China with some big necessities including natural resources, energy and food. Australia has the world's largest deposit of uranium, about 40 percent of the world's total. It is also rich in liquefied natural gas and has significant expertise in renewable energy, notably wind power. China is the world's largest coal producer and consumer, and Australia is the world's largest coal exporter. So there is a real affinity of interest between Australia and China.

Furthermore, most goods in Australia are made in China, but the rapid growth in export of services has also been noted. Educational exchange is one of the shining examples of how co-operation benefits both sides.

In 2006, more than 100,000 Chinese students were studying in Australian educational institutions, with about 70,000 in Australia and another 30,000 in its institutions operating in China. An FTA will definitely enable more Australian institutions to supply the widening education market in China and that works very much to the advantage of Chinese students because some of them cannot afford to study in Australia.

Environment is another area where China and Australia have a huge potential to co-operate. China is dealing with tremendous environmental challenges, which Australia can aid by helping China come to grips with its environment management issues.

The reality is that coal will still be the basis of China's energy for many years to come. Australia is working with China on developing new clean coal technology, so China can still use coal without damaging too much of the environment.

In business, finance, commerce, sports and arts too, there are incredible exchanges between Australian and Chinese people. Hence liberalised trade and investment flows by lowering or removing existing trade barriers between Australia and China might be beneficial to both countries.

However, given that relations between the USA and China are often strained, would Australia's interest best be served by closer connections with the USA, or with China?

Balancing both, as Australia is trying to do now, poses a range of difficulties. Furthermore, while Australia receives economic benefit from trade with China at present, the latter may become an even more gigantic competitor against whom it will be vain to struggle.

There are already clear winners and losers in the relationship, and the long-term advantages of an FTA that might make competition even easier for China must be called into question. Notwithstanding, perhaps Australia should still seek an FTA as a gesture that might help to keep China on its side.

Adapted from *The China Daily*, *DFAT*, *South Australia Policy Online* websites

Extract 2: Has Globalisation hurt workers in rich economies?

In its semi-annual *World Economic Outlook*, the IMF examines how trade, technology and immigration have stitched the world's labour markets together at an astonishing rate, leaving rich-country workers unsure of where they stand.

The IMF estimates that global labour supply has in effect risen fourfold since 1980 as China, India and once-communist countries have opened up. Most of the extra workers got no further than secondary school (although the relative supply of graduates has gone up by 50%). With this surge of competition, shrinking of labour's share of GDP is to be expected.

In some cases, the competition is direct: workers cross borders to take jobs in rich countries. Although unwelcome in many places, immigrants' share of the workforce has risen a lot in some European countries (notably Britain, Germany and Italy) and in America, where it is close to 15%.

The more important channel, though, is trade: largely because of China, developing countries' share of rich countries' manufacturing imports has doubled since the early 1990s. Simultaneously, rich countries are exporting more to developing countries like China; this has led to an outsourcing or off-shoring phenomenon. Off-shoring, which means shifting production, especially of intermediate goods and some services, abroad has been on the rise. The main reasons behind outsourcing are cost cutting as labour costs in developed countries are high and capturing developing countries' most promising markets such as China and India due to their rising affluence. Nearly four-fifths of all major companies in the world could not wait to sell their products in these two countries.

So this initially led to big businesses outsourcing back-office operations to low-cost countries like India and China but very soon many micro businesses started and flourished in rich countries like the United States due to outsourcing as well as new technologies. Since many of these small companies needed no permanent workers,

their costs were kept low. Even bigger business gained as the equipment used in outsourcing destinations originated from rich countries.

Therefore globalisation cannot be the only possible reason why wages and employment in developed countries are in downturn. New technologies have probably taken a few degrees off the workers' slice of GDP too. For instance, automation of tasks has had more impact on IT job losses than offshore outsourcing to low-cost locations such as India, according to a study by the Organisation for Economic Co-operation and Development (OECD).

Another reason is that several rich countries have also fiddled with labour-market regulation, reducing wages.

Although globalisation has reduced labour's share of the pie (GDP), it has made the whole pie bigger, raising output and productivity and lowering the prices of traded goods and services. A study by the IMF states that freer trade due to globalisation has boosted average real pay in rich economies by 0.24% per year.

Labour in rich countries like US and Europe are therefore getting some of the extra growth due to globalisation in terms of employment and wages. However, that is unlikely to silence the grumbles. Many people believe that most workers have not gained much from globalisation at all. In fact, they believe many jobs have been lost and real wages have declined. The perception remains, especially in the United States, that people who already have plenty have enjoyed the bulk of the extra prosperity.

Adapted from the Economist, BusinessWeek, Independent and USAToday Online websites

Questions

- (a) (i) Using Tables 1 and 2, compare the trends of trade balances of Australia and China. [2]
- (ii) How would economic theory account for the composition of the main items of trade for both countries in Table 3? [4]
- (iii) Is the link between trade performance and economic prosperity evident in Australia and China? [4]
- (b) (i) What is meant by a 'Free Trade Agreement' (FTA)? [2]
- (ii) Is it desirable for Australia to enter into an FTA with China? [8]
- (c) Discuss whether globalisation has hurt workers in rich economies. [6]
- (d) Assess one policy that the US government can adopt to deal with the main problem arising from globalisation. [4]

Total: 30 marks

CASE STUDY QUESTION 3

(a) (i) Using Tables 1 and 2, compare the trends of trade balances of Australia and China. [2]

China- increasing trade surplus (increased by 200% over the period/increased by US\$89 444m)

Australia- falling trade deficit.

(ii) How would economic theory account for the composition of the main items of trade for both countries in Table 3? [4]

Basis of international trade is the theory of Comparative Advantage based on factor endowment.

- Definition of Comparative Advantage theory
- The top 5 exports of Australia are minerals reflecting Australia's resource endowment in natural resources.
- The top 5 exports of China are mainly in labour intensive products reflecting an abundant supply of cheap labour.
- Both countries are reliant on the import of fuel (petroleum and oil) – scarcity of this resource, OR
- Though China's top 2 imports and exports appear to be in similar categories – this does not contradict the theory of CA because of product differentiation.

(iii) Is the link between trade performance and economic prosperity evident in Australia and China? [4]

- To a certain extent, there is a link between trade performance and economic prosperity.
- China- a more successful trader with increasing positive trade balance compared to Australia (trade deficit) and enjoys economic growth.
- Higher (X-M) m(an autonomous injection into the circular flow (AD or AE (higher equilibrium NY through the multiplier effect.
- Data show that despite their difference in trade balances, both countries enjoyed economic growth (% increase in real GDP). This shows that there are other factors affecting a country's prosperity besides trade, eg. growth in domestic demand.

(b) (i) What is meant by a 'Free Trade Agreement' (FTA)? [2]

A free trade agreement exists when countries abolish and/or reduce tariffs and trade barriers between member countries while maintaining their own individual trade barriers to non-members.

(ii) Is it desirable for Australia to enter into a FTA with China? [8]

Advantages:

- Australia's trade position may improve: exporting more goods, energy (coal) and services such as education and environment management services to China.
- Greater investment from China helps improve economic growth.
- Expansion of markets makes it possible to increase production and enjoy EOS.

- Greater goodwill creates political stability which may encourage both ST and LT capital.
- Higher DD for Aussie Dollars may lead to the currency strengthening. (Students need to explain why this will have a positive impact)

Disadvantages:

- China may become an even bigger competitor using the imports from Australia such coal and education. Currently Australia is running a trade deficit. With the FTA, this may result in an even larger trade deficit as China may be able to capture a larger part of the Australian market.
- Trade position may not improve at least in the SR as FTA takes time to be effective.
- Create friction with US with which it has a FTA already, so may face conflicts of interest.

Overall, the advantages outweigh the disadvantages as China is a main regional importer of Australian products and services.

Students need to present 2 different advantages and 1 disadvantage or vice versa depending on their stand. A balanced answer is required.

Level	Mark	Descriptor
E	1-2	Students have to come to a reasoned conclusion/judgment.
L3	5-6	Discusses the advantages and disadvantages to Australia of an FTA between Australia and China and comes to a reasoned conclusion
L2	3-4	Discusses the advantages and disadvantages to Australia of an FTA between Australia and China.
L1	1-2	Discusses the advantages or disadvantages to Australia of an FTA between Australia and China. No explanation or elaboration of the advantages or disadvantages.

(c) Discuss whether globalisation has hurt workers in rich economies. [6]

Yes:

- Loss of jobs to migrants
- Outsourcing/off-shoring
- Wage cuts/ downward pressure on wages (global lab ss ↑ fourfold since 1980, China & India opened up)
- Increased import expenditures on goods from developing countries hurt domestic industries → ↑ unemployment

No:

- Outsourcing reducing cost, encouraging entrepreneurship and ensuring international competitiveness.
- Firms more cost effective – more/increased markets for output - EOS
- Labour in rich countries eg US and Europe benefitted in terms of employment & wages.

- Real average wages actually increased (globalization boosted ave real pay in rich economies by 0.24% per year).
- Although labour share of GDP ↓ but GDP has ↑ due to rising output and productivity and lowering prices of traded goods and services. [could be used to explain why real ave wages ↑].
- Equipment required in outsourced countries have to be imported → create employment in rich economies.
- Increased income in outsourced countries □□greater demand for exports of rich countries. (nearly 4/5 of all major companies in the world could not wait to sell their products in these 2 countries) → □workers in rich countries benefited.
- Other reasons like new tech more harmful to workers as may cause job losses.
- Govt intervention may have resulted in reduction in wages. Govt “fiddled with labour market regulation, reducing wages”.
- Conclusion:
To a certain extent, has hurt workers in rich economies but has positive impact overall.

Level	Mark	Descriptor
L3	5-6	Clear presentation of both sides of the argument. Points well explained. A reasoned conclusion is evident.
L2	3-4	Both sides of the argument are present but lack adequate explanation. A weak attempt in conclusion is shown
L1	1-2	A few valid points with a weak attempt in explanation with or without conclusion and/or one-sided argument.

(d) Assess one policy that the US government can adopt to deal with the main problem arising from globalisation. [4]

- □Identify an appropriate policy to deal with the main problem arising from globalisation.
 - choice of DD-side policy, SS-side policy or protectionism to deal with unemployment.
- Assess the policy in terms of its strength/s and limitation/s in reducing unemployment.
For example, students could have identified SS-side policy to reduce unemployment.
 - Strength of this policy could be to increase productivity of workers, labour mobility and hence lead to both higher output and employment.
 - Limitation: if the job creation is not fast enough to absorb the pool of trained workers then these workers may be lost to other countries.
 - Conclusion on whether the policy will be effective in reducing unemployment; students have to mention whether strength(s) outweighs limitation(s).

Case Study Question 4

Extract 1: Will the rising yuan solve China's problems?

Despite the yuan's appreciation of around 7% since it was unpegged to the US\$ in mid-2005, China's trade surplus with America increased to \$233 billion last year, accounting for almost 30% of America's total trade deficit and its foreign-exchange reserves continued to grow. In the first three months of this year, China added \$135.7-billion worth of foreign currency to its reserves, compared with \$247.3 billion for all of 2006.

Relations between China and America have been getting tense due to the alleged flow of cheap Chinese goods into American markets. Some policy makers in America would like to see the yuan rise by double digits and have threatened trade sanctions if that does not happen. In fact, some sanctions have already started. Last month, America slapped anti-dumping duties on high-gloss paper from China in response to a complaint from domestic manufacturers. It has also filed a complaint at the World Trade Organisation against Chinese pirating of DVDs and CDs.

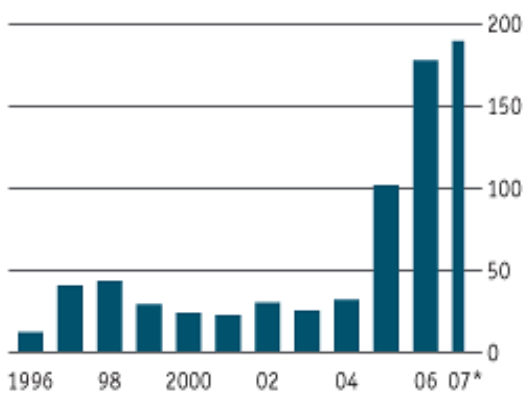
The Chinese government may themselves be also considering a faster appreciation of the yuan to cool down the overheating economy. It announced late last week that economic growth stood at an annualised rate of 11.1% in the first quarter of 2007. Despite past tightening of interest rates and credit conditions, the economy has yet to cool down. Raising the yuan could help China let off some economic steam and control its runaway growth.

It's not clear how much a higher yuan will affect its trade balance. China is merely an assembler for many its exports with parts made and imported from elsewhere. Such manufacturing accounts for more than half of all exports in China. China also has a huge growing domestic demand that is sucking in imports in the process. Rather than for consumption, much of such imports are in the form of raw materials like fuels, metals, timber and capital goods that are needed to feed the China's investment boom.

Fig 1: Exchange rate index of the yuan



Fig 2: China's trade surplus in goods (US\$)



Adapted from: Economist.com, Breathing fire. 24 Apr 2007 &
The Economist, Lost in Translation, 17 May 2007

Extract 2: Investing in China is not as cheap as it once was

Most industrial development in China has taken place in the country's eastern coastal regions, particularly around Shanghai and near Hong Kong. But costs in these areas are now rising sharply. Office rents are soaring, industrial land is in short supply and utility costs are climbing. Most significant of all are rocketing wages. In spite of the mass migration of workers from China's vast interior to the coast, pay for factory workers has been rising at double-digit rates for several years. In 2005 average wages for a factory worker came to almost \$350 a month in Shanghai and \$250 a month in Shenzhen. By comparison, monthly wages were less than \$200 in Manila, around \$150 in Bangkok and just over \$100 in Batam, Indonesia.

One solution is for companies to move into inland China. While this raises transport costs for exporters, other costs are much lower. In 2004 American chipmaker Intel decided to invest in a new plant in the inland city of Chengdu, about 1,600km away from Shanghai. The company's decision was influenced by generous government incentives and significantly cheaper land and utilities. However other firms like Flextronics, one of the world's largest contract manufacturers for consumer electronics like computer printers, still has all its China factories located along the eastern coastal provinces.

With rising costs in China, many firms are looking at investing more in other parts of Asia. Hong Kong-based shoemaker Yue Yuen is the world's largest contract shoe manufacturer. It produces trainers and casual footwear for brands like Nike and Adidas with most of the shoes bound for America and Europe. With each shoe passing through up to 200 pairs of hands on the production line, Yue Yuen's operations are highly labour-intensive. In China the firm is experiencing rapid wage inflation and although productivity is rising, labour costs in Vietnam and Indonesia can be as much as 35% lower than in coastal China. While production is increasing at the firm's factories in China and Vietnam, output in Indonesia is growing the fastest.

Nevertheless, China still has one key advantage. With its 1.3 billion people, 10% yearly growth rates and a vibrant emerging middle class in the big cities, China offers huge potential. ASEAN with 560m people also offers a big population. However, the problem is that ASEAN nations have yet to form a single market. While the region offers plenty of opportunity for export-based manufacturing, as a single market it remains highly fragmented. Companies want to be able to set up one factory to serve the whole region, but numerous barriers prevent them from doing so. Governments in the region have announced bold plans to create the ASEAN Economic Community by 2015, with a free flow of goods, services and investment. While removing tariff barriers, which are currently below 5% in general, may not be that difficult, the removal of non-tariff barriers could pose more of a problem, as this requires the harmonising of thousands of industry standards and customs regulations, and the setting up independent bodies to govern regional trade and mediate in disputes.

Adapted from: The Economist The problem with Made in China, 11 Jan 2007



Questions

- a) Referring to Figure 1, describe the trend in the yuan's trade-weighted exchange rate from 1994 to 2007. [3]
- b) How would the merchandise trade balance be affected by the trade-weighted exchange rate? [2]
- c) To what extent does the data support the relationship described above? [2]
- d) Explain two other factors that can affect the merchandise trade balance? [4]
- e) How could the trade sanctions imposed by the Americans help reduce its trade deficit? [6]
- f) Discuss the effectiveness of a further appreciation of the yuan in helping China to resolve its overheating economy? [6]
- g) With reference to extract 2, discuss the factors influencing the decision of a foreign manufacturer regarding where to invest in Asia. [7]

Total: 30 marks



Case Study Question 4 Suggested Answers

- (a) Referring to Figure 1, describe the trend in the yuan's trade-weighted exchange rate from 1994 to 2007. [3]**

Overall, the yuan has appreciated from 1994 to 2007 (1m) rising rapidly from 1994 to 1998 before demonstrating a downward trend with cyclical fluctuations

- (b) How would the merchandise trade balance be affected by the trade-weighted exchange rate? [2]**

An appreciating currency would cause its exports to become more expensive in foreign currency terms and its imports to become cheaper in domestic currency. Assuming the Marshall-Lerner condition holds, the merchandise trade balance should worsen. The opposite is true for a depreciating currency.

- (c) To what extent does the data support the relationship described above?[2]**

The data generally does not support this relationship with only 2001 & 2004 showing a clear negative relationship between the two variables.

- (d) Explain two other factors that can affect the merchandise trade balance? [4]**

- Recognising two relevant factors like income levels, trade barriers and productivity.
- Explanation of how the factors can affect exports and/or imports and hence the merchandise trade balance

- (e) How could the trade sanctions imposed by the Americans help reduce its trade deficit? [6]**

Anti-dumping duties makes Chinese-produced high-gloss paper more expensive for US firms and consumers. This reduces quantity demanded of such imports hence import expenditure, thereby reducing the US's trade deficit (2m).

Filing the WTO complaint will hopefully get China to clamp down harder on Chinese producers of pirated DVDs and CDs. If successful, the demand for legitimate CDs & DVDs from the US will rise. This will raise the volume of US exports to China and reduce US's trade deficit (2m).

The direct effect of trade sanctions would probably have minimal effect as they are only focused on two specific goods. However, these sanctions show that the US is willing to carry out its protectionist threats. This could influence China to allow its yuan to appreciate more. If the appreciation occurs, the effect on reducing the US trade deficit could be much greater. (2m)



(f) Discuss the effectiveness of a further appreciation of the yuan in helping China to resolve its overheating economy? [6]

- A rising yuan dampens both internal and external demand, thereby reducing demand pull inflation. A rising yuan reduces net exports and dampens external demand. Falling net exports will also via the multiplier effect, reduce national income and consumption, thereby curbing internal demand (2m).
- (Another explanation for falling internal demand is that the worsening current account and hence worsening BOP results in slower money supply growth).
- Since more than half of China's exports are assembled from imported inputs, a stronger yuan will reduce the costs of importing such inputs thereby reducing overall costs of production. Hence the rise in export prices may be much lower than the currency appreciation and the effect on reducing export revenue may be limited. (2m).
- While cheaper imports may cause a significant switch from domestically produced consumer goods to imported consumer goods, the same cannot be said for investment goods. Firstly, China may not be able to produce the raw materials or the capital goods themselves, or at least not in sufficient quantities. Secondly, the demand for imported inputs for investment is more dependent on business outlook than on prices of inputs. Therefore a stronger yuan may not have a significant effect in raising import spending as most imports are so far used for investment rather than consumption purposes (2m).

(g) With reference to extract 2, discuss the factors influencing the decision of a foreign manufacturer regarding where to invest in Asia. [7]

- A basic answer involves the explicit recognition and classification that both supply factors like costs of labour, land, utilities & transportation as well as demand factors like the size of the domestic market are at play. (2m)
- A higher level answer that demonstrates application and evaluation will need to show a realisation that the nature of the good is important in determining which factors are more significant. For example, Flextronics, which produces printers, will place more importance on transportation costs than Intel, which produces microchips, because printers are much more bulky than computer chips. Thus Flextronics has invested in the coastal regions of China rather than in inland China. With labour costs forming the main component of total costs, shoemakers like Yue Yuen, will rather invest more in ASEAN countries where unit labour costs are significantly lower. Finally, producers of goods that are meant for both the export and the domestic market would rather invest in China where the market is bigger and more integrated than in ASEAN where the markets are more fragmented. (4m)

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SECTION 3: ESSAY QUESTIONS

SECTION 3 A

1. (a) Explain the economic basis for specialization and free trade. [10]
[ACJC2010]
2. (a) Explain why protectionism still exists with globalization. [12]
[MI2010]
3. USA's trade deficit with China alone was \$201.6 billion, an all-time high for a trade deficit with any country. *Adapted from San Francisco Chronicle, Feb 2006*
Explain some possible causes of a balance of trade deficit and consider if USA should be concerned over its trade deficit with China. [12]
4. Outline the economic policies that might be used to reduce a large and persistent deficit on the current account of the balance of payments. [10]
5. It is the aim of the Singapore government to maintain a reasonably strong Singapore dollar in order to promote a sustained and non-inflationary growth for the economy.
How would the Singapore government "maintain a reasonably strong Singapore dollar"? [10]

SECTION 3 B

1. It has been asserted that "the signing of more free trade agreements (FTAs) brings about benefits to consumers at the expense of local producers".
(a) Explain how the signing of more FTAs can help an economy to achieve its macroeconomic objectives. [10]
(b) Discuss whether you agree with the above assertion. [15]
[NJC2010]
2. While Singapore has always shared strong trade ties with manufacturing powerhouse China, it recently forged closer economic relationship with mineral-rich Peru. In 2008, Singapore's trade with China amounts to S\$6.92 billion while that with Peru stood at a meager S\$75.2 million.
(a) Explain why Singapore signs FTAs with countries as diverse as China and Peru [10]
(b) Assess the extent to which globalization has changed Singapore's pattern of trade. [15][MJC 2010]
3. Singapore economy is very open to capital flows. Small changes in the domestic and foreign interest rates can lead to large and quick movements of capital.
(a) Explain the link between interest rates and exchange rates. [8]

- (b) Discuss the view that a stronger Singapore dollar has mixed implications for the Singapore economy. [17]
4. "The anemic rupiah is down 20% against the dollar just this year-level not seen since the dog days of the 1998 financial crisis." Asiaweek 415/2001.
 (a) What factors may have caused the value of the rupiah to fall against the dollar? [10]
 (b) Explain why the Indonesian government may be concerned about the exchange rate of its country and what policies it might adopt to influence the exchange rate. [15]
5. American's car makers have complained that the weak yen makes imported Japanese cars unfairly cheap. China has been accused of undervaluing the yuan in order to artificially foster economic competitiveness and distorting the global pattern of trade.
 (a) Examine the relevance of demand and supply analysis in determining the pattern of trade between countries. [10]
 (b) Discuss whether a rise in economic competitiveness via an undervalued currency is the best way to achieve a government's macroeconomic goals. [15][TPJC 2010]

SECTION 3C: CHALLENGING ESSAYS

1. Due to the global financial crisis, countries are quick to impose trade barriers to solve their domestic woes.
 (a) Explain the above statement. [10]
 (b) In view of the protectionist tendency, discuss the measures that the Singapore government can take to help alleviate the problems caused by the financial crisis. [15] [NYJC2010]
2. (a) Explain whether globalization could solve the economic problem of scarcity. [10]
 (b) Discuss the extent to which correcting a balance of payments deficit is the major reason for protectionism in the real world. [15][AJC 2010]
3. "Asia has seen a rapid growth, dramatic transformation and deepening interdependence and integration. Rapidly changing patterns of production and trade causing painful structural adjustments. However, to grow and prosper, we must stay open and integrate ourselves with the global economy."
"America and Asia : Our Shared Future" Speech by Mr Lee Hsien Loong, Prime Minister of Singapore 3rd May 2007
- Discuss whether Singapore should 'stay open and integrate.....with the global economy' to achieve its macroeconomic objectives in the light of the problems resulting from the structural adjustments. [25]
4. "The Monetary Authority of Singapore (MAS) will maintain the policy of a modest and gradual appreciation of the Singapore dollar in the period ahead. This policy stance, which has been in place since April 2004, has benefited the Singapore economy in the past few years."

Adapted from MAS Policy Statement, 10 April 2007

- Explain the key macroeconomic aims of the Singapore government and discuss how the policy mentioned above is part of Singapore's strategy to achieve these aims. [25]
5. The globalization of trade puts pressure on natural resources around the world, helping to drive the rapid depletion of tropical forests and the collapse of many ocean fisheries. On the other hand, some countries have benefited from the flow of labour into their countries.
- (a) Explain how the pattern of trade will change as a result of the changes in factor endowments stated above. [10]
- (b) Discuss the role of government in the age of globalization. [15][HCI 2010]
6. Globalisation presents both opportunities and challenges. Discuss why some countries gain more than others. [25][JJC2010]

SECTION 3A : Suggested Answers

- 1.
- a. Explain the economic basis for specialization and free trade. [10]
- b. Discuss whether Singapore is among the economies that have most to gain from freer movement of labour and capital between countries. [15]

Suggested answer

- a. Explain the economic basis for specialization and free trade. [10]

1. Why do countries trade?
2. Economic concepts: Comparative Advantage & Terms of Trade.
3. Benefits of Free trade.

1. Why do countries trade?

- Due to differences in demand and supply conditions, countries specialize. Explain the Theory of Comparative Advantage, opportunity cost and terms of trade to illustrate the gains from trade and the benefits from trade.



- The Principle of Comparative Advantage gives a theoretical explanation to the appropriate pattern of specialisation based on efficiency among countries. Based on 'comparative advantage' principle, the pattern of specialisation is based on **opportunity cost**. In spite of absolute advantage in all goods, the opportunity cost of each good is likely to differ and this country should produce/specialise in goods in which the opportunity cost is lowest.

Illustration:

Assumptions:

- Only two countries
- Only two products
- No transport costs between countries
- Perfect factor mobility between the two product industries
- Constant return to scale in production

	Shoes (units)	Machines (units)
UK	100	20
Portugal	50	5

	Shoes (units)	Machines (units)
UK	0.2 machine	5 shoes
Portugal	0.1 machine	10 shoes

UK's comparative advantage lies in machine production, where its comparative advantage is larger and its opportunity cost is lower. Portugal's comparative advantage lies in production of shoes, where her opportunity cost is lower. Therefore, based on the pattern of comparative advantage, UK should specialize in machines and Portugal in shoes.

The Terms of Trade is the ratio of export and import prices. It determines the extent of gains from trade.

	Shoes (units)	Machine (units)
UK	0.2 machine	5 shoes
Portugal	0.1 machine	10 shoes

Assuming the trade price between the two goods is 1 machine = 8 units of shoes

For both countries to mutually gain from free trade the trade price of a good must lie within the opportunity cost limits of the two countries – in this case price of machine must exceed 5 shoes and lower than 10 shoes. In terms of price of shoes 1 shoe = 0.125 machine which is a mutually beneficial trade price for both countries. Terms of trade determines whether there is a basis for trade although comparative advantage exists. TOT also determines the extent of the gain of trade.

2. Explain free trade and the benefits of free trade as a basis for its promotion.

- Free trade is a system in which goods, capital, and labor flow freely between nations, without barriers which could hinder the trade process.
- By encouraging nations to freely exchange goods, free trade can foster international cooperation and raise standard of living.



- c. Reducing tariff barriers leads to trade creation. Trade creation occurs when consumption switches from high cost producers to low cost producers.
- d. The removal of tariffs leads to lower prices for consumers and an increase in consumer surplus.
- e. Increased exports: as well as benefits for consumers importing goods, firms exporting goods where the country has a comparative advantage will also see a big improvement in economic welfare. Lower tariffs on the country's export will enable a higher quantity of export boosting jobs and economic growth.
- f. Economies of scale: if countries can specialize in certain goods they can benefit from economies of scale and lower average costs, this is especially true in industries with high fixed costs or that require high levels of investment. The benefits of economies scale will ultimately lead to lower prices for consumers.
- g. Increased competition: With more trade domestic firms will face more competition from abroad therefore there will be more incentives to cut costs and increase efficiency.
- h. Trade is an engine of growth: World trade has increased significantly, causing this to be one of the big contributors to economic growth.

L3	Clear explanation of all required concepts with links to the economic basis for specialization and free trade.
L2	An explanation of comparative advantage without links to the basis for specialization and free trade OR explanation of only the benefits of Free trade.
L1	For an answer which has some basic correct facts such as unexplained comparative advantage and benefits of free trade.

- b. Discuss whether Singapore is among the economies that have most to gain from freer movement of labour and capital between countries. [15]**

Suggested Answer

Students must focus on these key concepts:

- Meaning of freer movement of labour and capital
 - How globalization has promoted freer movement of labour and capital between countries.
 - Impact of inflow of foreign labour on LRAS and SRAS (cost conditions)
 - Impact of inflow of foreign talents on AD creation
 - Impact of inflow of foreign funds on supply of funds and cost of funds (interest rate) and increase in domestic investment.
- Singapore is one of the most open economy which permits the free movement of labour and capital within the legal framework. It is the most globally connected economy after Hong Kong. The key factor that drove Singapore to the top of the list is trade. Its trade volume is more than 300 percent of output since many goods are simply turned around at Singapore



ports. As one of the small economies, Singapore relies heavily on international trade, capital flows (including foreign portfolio investments and foreign direct investment) and labour migration for economic growth and prosperity.

- *Freer movements of labour and capital is measured by openness to labour – inflow of foreign workers and foreign talents and capital flows in terms of foreign direct investment and flows of 'hot money'.*
- With increase in globalization, more investments were brought in to generate growth. Movements of labour and capital become freer.
- Singapore's dependence on humans as a natural resource has made maintaining a competitive workforce of paramount importance in Singaporean society. There is constant emphasis on providing a sound education, retraining opportunities and institutionalized professional development for its population, hence promoting horizontal and vertical labour mobility. In this aspect, the inflow of foreign workers has expanded aggregate supply in both the short run and long run.

Benefits from freer movement of labour: Evidence & Evaluation

- The use of foreign talent is not new to Singapore. *Foreign talent is needed to boost the economy, create jobs and strengthen the country's competitiveness.* MM Lee Kuan Yew kept saying that foreign talent was the 'key to Singapore's future', that Singapore with its small population could not produce enough talent and foreigners are needed. The jump in population to 4.8m from 3.5 million 10 years ago comes mostly from the influx of foreigners. The larger population has contributed to domestic aggregate demand – increase domestic consumption.
- According to the latest projections, there could be more than three million foreigners working here by 2030 forming half the workforce. Prime Minister Lee Hsien Loong and other government leaders have emphasized the need to reduce the country's reliance on foreign workers. The Economic Strategies Committee has to consider new ways to grow the Singapore economy and relying less on foreign workers given the levy and quota system which was already introduced to control the number of foreigners in the workforce.
- **Problems may arise** as a result of freer movement of labour:
 - *Low-skilled foreign workers caused depression of wages.* Government labour reports show that wages of workers such as cleaners and labourers have stayed stagnant or even declined in the past decade, while the wages of higher-skilled workers rose. In 1996, the top 10 percent earned 4.9 times the income earned by the bottom 10 percent, in 2006, that proportion had increased to 5.7. Comparing the wage gap in 20 developed countries in 1996 and 2006, Singapore had the biggest gap in both years.
 - To remedy this, the Government is urged to re-examine its policy of bringing in large numbers of low-skilled foreigners to achieve economic growth at all costs.
 - *Brain drain.* The migration of the best of our society to another country with seemingly more attractive pay and standard of living is a controversial issue. Remedy: to offer dual citizenship to reduce the brain drain.
- Globalization has been beneficial in *increasing the competitiveness of the local workforce.* As a result of the increased fluency in travel and migration between countries, *the brightest talents have chosen to work elsewhere.* This has created a problem for Singapore as it loses precious resources.



- In 2005, Singapore was ranked 21st in net migration. Globalization, while having its advantages in building up a competent workforce, can be seen to have brought about unintended detrimental consequences.

Benefits from freer movement of capital: Evidence & Evaluation

- In relation to capital flows, almost all forms of capital controls and foreign exchange restrictions have been dismantled since 1978. As a consequence of its small open nature, the Singapore economy has often been buffeted by shocks from the external environment such as the downturn in the global electronics industry in 1996-97, the Asian crisis in 1997-1998, the burst of the information technology bubble in 2001 and the financial crisis in 2007.
- However, FDI has not only added to the stock of domestic capital to finance investment in new development projects, but simultaneously provided access to new technology and managerial and marketing know-how.
- Increase in inflow of foreign capital has led to the construction of trade links. Efforts by the Economic Development Board to lure Multi-National Corporations (MNCs) have helped Singapore workforce to gain international expertise from working for and with these foreign companies, for example, Hewlett-Packard Singapore.
- Many other MNCs in Singapore such as JP Morgan Chase and Deutsche Bank firmly believe too in sharing their expertise with local employees. By drawing from a pool of foreign expertise made possible only by strengthened trade links, the Singaporean workforce is built to be competitive, knowledgeable and flexible. Hence, globalization has proven to be beneficial.
- To draw a distinction between moderating growth and maximizing growth, the kind of foreign investments should not require excessive low-wage labour but generate jobs that are of high value. There is a trade-off between fewer foreigners and higher growth.
- Despite the fluidity of the economic environment and free capital mobility, Singapore has persistently recorded current account surpluses and exported capital abroad.
- Singapore has total stock market capitalizations that exceed her GDP. Capital markets provide a useful mechanism for the government to raise capital through the sale of state-owned enterprises, and thereby lessen their reliance on sovereign debt.

Further evaluations of capital inflow into Singapore:

- Large capital inflows often give rise to increases in money supply and domestic liquidity, appreciation of both nominal and real exchange rates, and acceleration in asset prices. Excessive capital inflows pose the challenges of inflationary pressures and loss of a competitive exchange rate (which could undermine the international competitiveness of its manufacturing sector). Despite the recent increase in capital flows, the Singapore nominal effective exchange rate has been relatively stable due to timely management and reviews by the MAS.
- A high import content of about 60% in domestic consumption as well as being a price taker in the international markets imply that Singapore is highly susceptible to imported inflation.
- It is thus unsurprising that the exchange rate is considered to be a more effective tool than the interest rate for stabilizing inflation. A unique feature of Singapore's monetary policy framework is the use of the exchange rate instead of the more conventional benchmark



policy interest rate as the key policy operating tool. Singapore, as an international financial center, has opted for free capital and labour mobility.

L3	For an explanation of freer factor mobility supported by analysis and with application of economic concepts and principles. A well-balanced response.
L2	For an undeveloped explanation that explains the concepts labour and capital movements. . OR an answer that explains how movements of labour and capital without analysis.
L1	For an answer that shows some knowledge of the concepts of movements of labour and capital across borders.
E2	For an evaluative discussion that refers to evidences of factor mobility and is based on economic analysis.
E1	For an unexplained judgement, or one that is not supported by analysis.

2. Explain why protectionism still exists with globalization. [12]

Globalisation refers to the increasing integration of national economies in terms of trade, capital flows and factor mobility. It brings about increased trade where producers tap into the world market for resources and sales of goods based on their comparative advantage. They can import cheaper raw materials and expand their exports to contribute to economic growth.

However, protection measures are still imposed to protect home industries for several reasons:

- Unfair practices like dumping or undervaluation of currency
- Unable to match the low prices of other countries or switch to producing goods in which they have a greater comparative advantage in the short run
- Retaliation against protectionism
- Huge BOP deficit and growing debt problem
- Loss of jobs especially during a recession
- Help infant industries to compete with established competitors

Conclusion:

Protectionism will hurt consumers ultimately in terms of higher prices and economic growth of countries will be affected too with less trade. Thus if more bilateral or regional trade deals can be established, governments can bargain for better deals for their producers and more benefits can be obtained from globalization.

	Marks	
L3	Good explanation of at least 3 reasons for protectionism with examples	9-12
L2	Explanation of at least 3 reasons for protectionism	6-8
L1	Some knowledge of globalization and mere listing of reasons for protectionism	1-5

(b) Discuss some measures a government can adopt when confronted with increasing protectionism.

[13]

. **1. Improve global competitiveness:** The development of comparative advantage or competitive advantage in terms of relatively lower cost/price of exports and better quality in order to reap more profits via expansion of global market share

(A) Supply Side Policies

- reduction of income and corporate tax

Increase in SS of labour & Investment to increase the productive capacity of the economy. Effects will be a fall in cost of production, making exports more price competitive. Firms will have more after tax profits which enable them to invest in R&D, resulting in dynamic efficiency.

=> improve quality of exports of goods & services or reduce cost of production (with better technology)

Evaluation: Strain on government budget

- have a strong Intellectual Property Right Law/ environment

This will attract skills & capital intensive FDI to carry out R&D, since innovative products & ideas can be patented & protected.

=> Such innovative products goods/services/design/ideas can help to develop new comparative advantage as old ones (e.g. labour intensive) are competed away.

Evaluation: Problems in enforcement

- Education & training

Subsidize education & skills upgrading/training/re-training for those who are structurally unemployed

Evaluation: Results are not immediate

- Immigration policy - openness to foreign talent

This will supplement limited pool of aging population in terms of both skilled & unskilled labour.

Evaluation: Social problems may arise



B Trade Policy:

- FTA

With preferential treatment from FTA: Reduce Tariff & non-tariff measures on exports.

FTA will make foreign markets more accessible to domestic producers – helps to diversify export markets (Trade Creation)

Improve global competitiveness as price of exports will be more competitive since no tariff is imposed.

Evaluation: May expose local industries to more foreign competition

- Maintaining export competitiveness using exchange rate policy

Most countries would resort to depreciation in exchange rate to make their exports more price competitive (must meet Marshall Lerner condition)

Evaluation: Results are uncertain unless know the elasticities of demand for exports and imports. May also invite retaliation from other countries.

2. Internal Demand

Countries like China and India can turn to their huge internal demand to promote economic growth. Governments will try to reduce savings and increase consumption.

Evaluation: This may be easier if the economy is doing well but it may not be easy to reduce thrifty habits. Some countries resort to handouts to stimulate demand but this will be a constraint on government budgets.

Accept any other possible measures.

	Marks	
L3	At least 2 measures well explained and with examples given	7-9
L2	Good explanation of at least 2 measures	4-6
L1	Limited explanation of some measures	1-3
E2	Convincing evaluation of measures	3-4
E1	Limited evaluation of measures	1-2

4. **USA's trade deficit with China alone was \$201.6 billion, an all-time high for a trade deficit with any country.** Adapted from San Francisco Chronicle, Feb 2006

Explain some possible causes of a balance of trade deficit and consider if USA should be concerned over its trade deficit with China. [12]

Outline to (a)

- Explain 2/3 factors that can cause a BOT deficit. Include both price and non-price factors.
 - Price factors - Higher cost of production, higher rate of inflation, appreciation/overvaluation of currency, etc.
 - Non-price factors – Change in income, change in tastes and preferences, etc.
- Explain 2/3 reasons why USA should be concerned about BOT deficit as it may lead to
 - BOP deficit → drain on currency
 - Unemployment
 - Sluggish or negative growth, etc
- Explain 1 reason why deficit may NOT be a concern:
 - If m/p are on capital gds e.g. machine/ equipment/ essential raw materials which aid future production etc. → ↑ in productive capacity in the future → ↑ in potential growth in the future (elaborate with diagram)

L3	Clear explanation of factors causing BOT deficit and makes a judgement as to whether USA should or should not be concerned with good substantiation	10-12
L2	Some attempt to explain the causes of BOT deficit with reference to context, but tends to be superficial and weak evaluation on whether USA should or should not be concerned	6-9
L1	Smattering of points weak in explanation and no reference to context of US or China + weak evaluation on whether USA should be concerned	1-5

5. Outline the economic policies that might be used to reduce a large and persistent deficit on the current account of the balance of payments. [10]

Suggested Answer Outline

Part (a)

1. Define Current Account
2. Explain how the current account deficit arises
3. Appropriate policies:
 - **Expenditure Reducing** Measures such as deflationary measures through the use of contractionary MP and FP.
 - **Expenditure Switching** Measures such as devaluation, import controls etc.

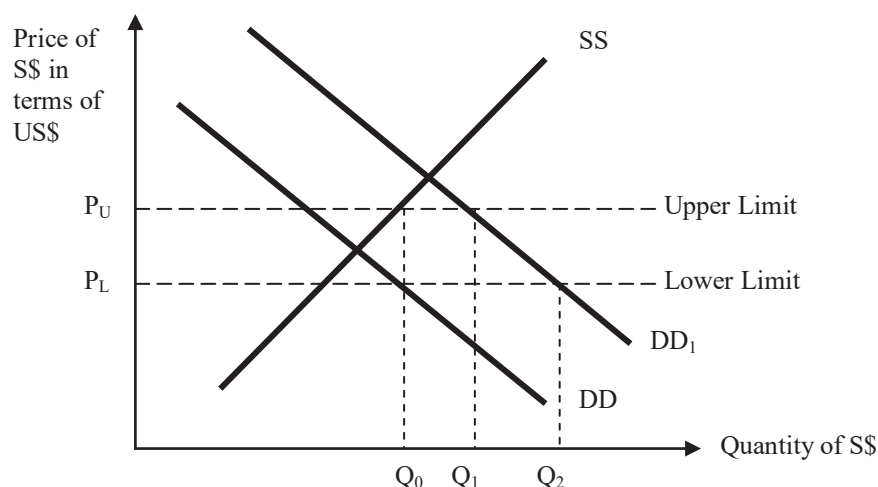
L3	For a thorough explanation of the theory of Current Account concept, causes of the large & persistent current account deficit & good analysis of the use of the appropriate policies to reduce the deficit.	7 - 10
L2	For an undeveloped answer that has limited explanation of current account and its large & persistent deficit; an undeveloped explanation of the appropriate policies to reduce the deficit or only one policy well explained.	5 - 6
L1	For an answer which has some basic correct facts such as a definition of current account deficit and how it arose and a mention of the need to intervene to solve the problem but no detailed explanation given.	1 – 4

6. It is the aim of the Singapore government to maintain a reasonably strong Singapore dollar in order to promote a sustained and non-inflationary growth for the economy.
How would the Singapore government "maintain a reasonably strong Singapore dollar"? [10]

Suggested answer outline

1. Short term

- MAS buys/sells S\$ to "maintain a reasonably strong S\$".
- Explain the managed float exchange rate system:
 - The S\$ is allowed to float freely - the exchange rate being dependent on the dd for and ss of S\$ within an upper and lower limit. The MAS manages the S\$ against a basket of currencies of Singapore's main trading partners and competitors.
 - To maintain a "reasonably strong S\$" the MAS would have to intervene in the foreign exchange market by buying or selling foreign exchange so that the exchange rate of the S\$ is maintained within an undisclosed target band.
 - E.g. if the exchange rate of the S\$ is in danger of failing below the lower limit of the target band, the MAS would buy S\$ (augment dd for S\$) and sell foreign currency to exert upward pressure on the exchange rate.



- Conversely, if the exchange rate of the S\$ is unacceptably high (perhaps due to high dd for S\$, DD_1), the MAS would sell between Q_0Q_1 and Q_0Q_2 of S\$ (augment SS of S\$) to put downward pressure on the S\$.
- The undisclosed target band is periodically adjusted, in line with market conditions.

1. Long term

- A strong S\$ may be achieved by ensuring strong economic fundamentals which maintain a relatively strong foreign dd for the S\$:
 - encouraging long term capital inflows (foreign investment) by providing an attractive investment climate (providing a high quality labour force, tax incentives, sound infrastructure, political stability, etc.)
 - promoting exports (product innovation, seeking new markets, increasing export competitiveness, controlling inflation, etc.)
 - controlling size of BOP deficit etc.

L3	For a thorough explanation of how the Managed Float System is used to maintain a strong Singapore dollar.	7 - 10
L2	For an undeveloped answer that has limited explanation of the mechanism of the Managed Float System.	5 - 6
L1	For an answer which has some basic correct facts about exchange rate determination in general.	1 - 4

SECTION 3B: Suggested Answers

1. It has been asserted that “the signing of more free trade agreements (FTAs) brings about benefits to consumers at the expense of local producers”.

(a) Explain how the signing of more FTAs can help an economy to achieve its macroeconomic objectives. [10]

(b) Discuss whether you agree with the above assertion. [15]

Part (a)

Introduction

- Define FTAs
- Define macroeconomic objectives

Body

- Reduction of trade barriers leads to an increase in (X-M). AD increases and NY increases via k, leading to **actual economic growth**. With more real output, more factors of production are hired, **leading to higher employment levels**.
- Increase in FDI increases AD and NY via k leading to **actual economic growth, higher employment levels**. It also increases the LRAS leading to an increase in **potential growth**.
- With potential growth, **price stability** is achieved as general price levels are brought down when LRAS shifts right. The economy is less at risk of facing demand-pull inflation when LRAS shifts in tandem with increase in AD.
- The increase in FDI may lead to an improvement in the capital and financial account (assuming that the capital inflow exceeds the capital outflow) and the increase in (X-M) may lead to an improvement in the current account, thereby leading to an **improvement in the BOP**.

Conclusion

- Signing of more FTAs helps to achieve the 4 macroeconomic objectives.

Mark Scheme

Level	Descriptors
Level 3	Excellent use of AD-AS analysis with a clearly labelled diagram to show how actual and potential growth, low unemployment and price stability is achieved. Clear explanation of how BOP improves. Use of clear relevant examples. Clear explanation of how FTAs lead to increase in (X-M) and FDI
9 – 10	Good use of AD-AS analysis to show how at least how 3 macroeconomic objective are achieved.
7 – 8	

Level 2 5 – 6	Evidence of ability to clearly explain at least how 2 macroeconomic objective are achieved. Development may be limited. Max of 6m if there is no recognition of increase in FDI.
Level 1 1 – 4	Answer is largely irrelevant and incoherent OR: Lack of analysis and development (mere listing of points) OR: Conceptual errors which show poor understanding of concepts and theory

Part (b)

Introduction

- Signing of more FTAs may help to achieve the 4 macroeconomic objectives but it may benefit consumers at the expense of producers

Body

Thesis: The signing of more FTAs brings about benefits to consumers at the expense of local producers because:

Consumers gain in the form of the following:	at the expense of	Local producers lose In the form of the following:
greater variety of goods and services		loss of market share to rival firms with close substitutes
lower prices (increase in consumer surplus)		loss of market power
improved quality/freebies due to non-price competition		increase in costs of production if they engage in non-price competition

Antithesis: The signing of more FTAs MAY NOT bring about benefits to consumers at the expense of local producers because:

- Consumers may benefit BUT NOT AT THE EXPENSE of local producers (because local producers may also benefit)
 - FTAs also reduce tariffs on exports of local producers and therefore export revenue for them may increase significantly.
 - Output for local producers may thus increase and they may reap EOS
- Both consumers and local producers may suffer
 - Too much competition may result in costs to BOTH local producers and consumers
 - If MNCs compete with local producers for factors of production, bidding up costs and harming producers' profits, there may also be an increase in prices which will harm consumers.

Conclusion

Synthesis: Whether or not the signing of more FTAs brings about benefits to consumers at the expense of local producers depends on:

- Type of industry/Nature of product
- Extent of competition/Ability of local producers to cope with competition

Mark Scheme

Level	Descriptors
Level 3 9 – 11	Clearly addresses how consumers benefit AT THE EXPENSE of local producers. Well balanced discussion demonstrating how consumers may sometimes suffer OR consumers may sometimes benefit but NOT AT THE EXPENSE of local producers. Excellent use of economic analysis with diagrams, when appropriate. (diagrams not compulsory.) Good use of examples to aid explanations. Max 9m if the antithesis only covers EITHER how producers benefit OR how consumers may suffer.
Level 2 6 – 8	Ability to explain how consumers benefit AND how producers suffer from FTAs. Evidence of a two-sided argument - Attempt to explain how consumers may also suffer OR how producers may also gain from FTAs. Evidence of the use of economic analysis Explanations and examples are developed No clear attempt to address how consumers benefit AT THE EXPENSE of local producers.
Level 1 3 – 5 1 – 2	Answer shows some knowledge of how consumers benefit from FTAs OR how producers suffer from FTAs. Presence of errors and inconsistencies OR: Lack of economic analysis and development OR: One sided argument which only considers how consumers benefit and producers suffer (max L2:6m) Answer is mostly irrelevant.
E2 (3-4)	Judgment based on at least 2 clear criteria, on whether the signing of FTAs benefit consumers at the expense of local producers.
E1 (1-2)	Mainly unexplained judgments that signing of FTAs benefit consumers at the expense of local producers.

2. While Singapore has always shared strong trade ties with manufacturing powerhouse China, it recently forged closer economic relationship with mineral-rich Peru. In 2008, Singapore's trade with China amounts to S\$6.92 billion while that with Peru stood at a meager S\$75.2 million.

(a) Explain why Singapore signs FTAs with countries as diverse as China and Peru. [10]

(b) Assess the extent to which globalization has changed Singapore's pattern of trade. [15]

INTRODUCTION:

- Define Trade: Refers to the exchange of goods and services between countries.
- Nature of Singapore's economy – small and open:
 - ✓ Singapore is highly open to with trade volume equivalent to more than 300% of her GDP.
 - ✓ Low factor endowment
- Free Trade Agreements are binding agreements between two or more countries to reduce or remove trade barriers and to facilitate cross border movement of, goods and services between the territories of the parties. They typically include reducing tariffs on imports and relaxing restrictions on capital flows.

Nature of economy: China vs. Peru

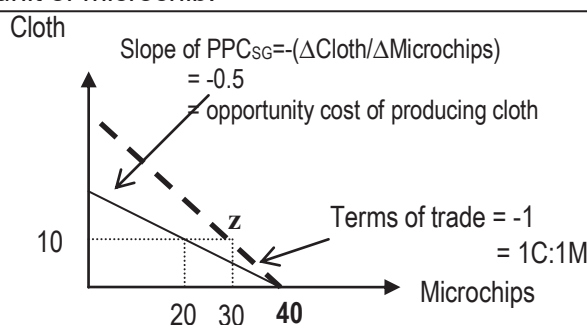
- China: Relatively large country in Asia with large factor endowment (esp. labor) which Singapore traditionally has trade ties with.
- Peru: Relatively small country in South America with factor endowment in terms of minerals which Singapore recently forge stronger trade ties with.

REASON 1: Singapore signs FTA with diverse countries due to the gains from trade arising from theory of Comparative Advantage

- Singapore trades with large countries and small countries like China and Peru respectively due to the theory of comparative advantage. This is because there is mutual benefit for both Singapore and China and Peru to engage in trade due the lower opportunity cost in the production of labour intensive products for China and the production of minerals for Peru. Singapore, on the other hand, is endowed with highly skilled labour and technology. As such, she has comparative advantage in the production of capital intensive, higher tech products.
- From tables below, it can be seen that Singapore has comparative advantage in the production of microchips due to the lower opportunity cost, whereas China has comparative advantage in the production of cloth. Thus, Singapore exports microchips in exchange for cloth from China

	Opportunity cost of producing cloth	Opportunity cost of producing microchips
Singapore	1 cloth: 2 microchips	1 microchip: 0.5 cloth
China	1 cloth: 0.5 microchips	1 microchip: 2 cloth

- An acceptable terms of trade should lie between the domestic opportunity costs of each country:
 $0.5M < 1C < 2M$. For Singapore to gain from trade, she needs to receive more than 0.5 unit of cloth for every unit of microchip exchanged. Similarly, China will not offer more than 2 units of cloth for one unit of microchip.



- With trade, both countries will be better off as their consumption levels will increase as illustrated in the diagram above. Before trade, Singapore has to sacrifice 2 units of microchip in order to produce 1 unit of cloth domestically. With trade, she only has to forgo 1 unit of microchip to obtain 1 unit of cloth. Similarly for China.
- Specialisation and trade has expanded the consumption possibilities of both China and Singapore.
- Singapore is able to consume outside their PPC as shown in the diagram above. The increase in consumption results in an increase in material welfare and therefore higher standard of living for its residents.
- Using the same argument, Singapore's trade with a mineral-rich such as Peru is due to their different factor endowment. Peru has CA in the production of minerals whereas Singapore has the CA in producing microchips. Hence, Singapore should specialize in the production and export microchips to Peru and import minerals from Peru. A free trade agreement would facilitate the enjoyment of higher quantities of cloth and minerals by Singapore as barriers to trade are minimized.

REASON 2: Singapore signs FTA with both regional and distant economies to diversify its economic reliance on any one particular region.

- Being a trade-driven economy, Singapore is highly susceptible to external shocks from her trade partners. For example, if China experiences an economic downturn, demand for Singapore's exports may be reduced. A reduction in Singapore's exports will reduce net exports, which in turn reduces AD. GDP growth will be adversely affected.
- Having a closer economic integration with more distant economies such as Peru will reduce Singapore's economic reliance on regional countries such as China.
- In the case of a regional downturn, Singapore's exports demand may still be supported by a more distant market, such as that of Peru's. This helps to cushion Singapore's economic fluctuations.

REASON 3: Singapore signs FTA with both regional and distant economies to attract greater inflow of FDI via its network of FTAs.

- Signing FTA increases Singapore's international competitiveness in attracting FDI.
- When FTAs are signed with economies with diverse factor endowments, Singapore would be importing both manufactured intermediate goods and intermediate goods such as minerals at a cheaper price (without tariffs). Cost of production in Singapore will thus be lower, improving our international competitiveness. Thus, MNCs are more willing to locate their production in Singapore as it could potentially improve their products' price competitiveness.
- More importantly by signing FTAs with both regional and distant countries, Singapore has created a network of free trade partners globally. Goods produced in Singapore will also be subjected to less tariffs and other protectionist measures globally. This encourages MNCs to set up production here as the potential to export not just to regional Asian countries but also distant countries like Peru.
- Hence, the increase in Singapore's international competitiveness will bring about an increase FDI for Singapore, enhancing growth in AD, output and AS. This contributes to potential and actual growth and therefore sustained growth in both the short run and long run.

CONCLUSION

Hence, the signing of FTA with a host of countries with different factor endowments Singapore enjoys the benefits of free trade whereby material well-being improves for Singaporeans. Furthermore, the signing of FTAs reduces the economic volatility from high dependence on the regional economies. Having a network of FTAs signed by Singapore also increases her international competitiveness, thereby enjoying the macroeconomic benefits brought about by increased FDI.

Level	Description	Marks
L3	Competent explanation of why Singapore signs FTAs with diverse countries, recognizing the impact beyond trade in goods and services.	7-10
L2	Underdeveloped explanation of why Singapore signs FTAs with diverse countries, e.g. answer only focus on CA theory and peripheral points (microeconomic advantage) on why FTA is signed. OR Failure to take into consideration why Singapore forges closer trade ties with <u>both</u> China and Peru (max 5).	4-6
L1	Limited understanding of why Singapore signs FTAs.	1-3

(c) Assess the extent to which globalization has changed Singapore's pattern of trade.

[15]

INTRODUCTION:

- Pattern of trade refer to the *composition, volume and direction of trade* in a country.
- Determinants of pattern of trade mainly lie in the differences in factor endowments, demand and government factors.
- Globalisation is the increase in economic activities such as the *trade of goods and services, capital, exchanges in labour and technology*. Such exchanges would affect the demand and supply factors that affect Singapore's trade patterns.

DEVELOPMENT 1: How globalization has changed Singapore's pattern of trade

- Globalisation impacts Singapore's pattern of trade namely through these factors:
 - ✓ Changes in comparative advantage
 - ✓ Changes in global trade policies
 - ✓ Changes in demand

DEVELOPMENT 1(a): Globalization leading to a change in comparative advantage and therefore impact Singapore's pattern of trade.**(i) Changes in composition of trade due to changes in the quality of capital and labour**

Globalisation era has seen a higher degree of exchange in capital, particularly in FDI in Singapore. Such FDI brought about technological progress, partly through the capital goods used by foreign firms in Singapore and the high skilled labour in Singapore (foreign talents or expatriates). This has led to an increase in the quality and quantity of capital and labour in Singapore.

A congregation of highly productive capital and labour in Singapore sees Singapore gaining comparative advantage in high-tech, high skilled level products such as financial services and bio-medical services.

On the other hand, for example, the opening up of China allows this country with a high availability of labor to specialize in the production of labour intensive low end manufacturing goods.

Such developments as a result of globalization bring about the shift in comparative advantage for Singapore from low tech to high tech products.

(ii) Increase in volume of trade due to improvement in transport system

Also, globalisation has led to a more efficient transport system. This lowers the cost of transport of goods and services between countries. As a result, countries are further encouraged to trade due to the lower transport cost as a result of globalisation. This will increase the volume of trade for Singapore.

According to the law of comparative advantage then, Singapore should specialize in the production of high-tech goods and services, and export them. At the same time, Singapore should import labour intensive goods from China.

As a result, Singapore's trade composition shifts to exporting manufactured goods to higher value added goods and importing lower value added goods. Similarly, Singapore's direction of trade will also be impacted. As it gains comparative advantage in higher value added goods and loses comparative advantage in lower value added goods, it exports higher value added goods and imports lower value added goods.

DEVELOPMENT 1(b): Globalization leading to changes in global trade policies and therefore impact Singapore's pattern of trade (volume of trade)

Globalization sees the establishment of WTO in promoting free trade. Since Singapore is a strong supporter and participant of the WTO and places high priority on the principles of multilateral trading embodied by WTO, we observe Singapore's volume of trade increasing due to lower barriers of trade. In addition, S'pore's trend towards signing of FTA (as discussed in part a) to capitalize on the opportunities presented by globalization would also contribute to the rising volume of traded goods & services.

On the other hand, globalization also results in an onslaught of protectionistic measures being imposed by countries in order to protect their own interests. Such actions (if faced by S'pore) may adversely restrict trade volume between S'pore and her trading partners.

DEVELOPMENT 1(c): Globalization leading to changes in demand and therefore impact Singapore's pattern of trade (rising volume of trade).

(i) Trend towards intra - industry trade

The waves of outsourcing and offshoring that stemmed from freer capital flows under globalization have increased the volumes of trade experienced by Singapore. Many foreign firms have established Singapore as one of the sites for their subsidiaries. Hence a large volume of finished and semi-finished products are imported and exported from Singapore.

(ii) Rise of new economies

Globalisation has seen the opening up of new economies e.g. China & Vietnam and has also presented new opportunities for trade to occur. For example, economic growth in these emerging economies may lead to an increase in the demand for goods and services which Singapore produces e.g. financial services and cross-border logistical services while S'pore may import goods and services from these country more cheaply. These results in higher trade volume.

(iii) Taste and Preference

Moreover, with globalisation facilitating labour movements across countries, Singapore has become a more cosmopolitan society. This fuelled the changing taste and preference for its residents. For example, with the assimilation of Japanese and Korean culture, Singapore may see an increase in its trade volume with Japan and Korea.

DEVELOPMENT 2: Globalization has a limited impact on Singapore's pattern of trade

- Innate factor endowment determines Singapore's pattern of trade rather than globalization.
- Pattern of trade is still largely government determined rather than through globalization

DEVELOPMENT 2(a): Globalization has a limited impact on Singapore's pattern of trade due to her innate factor endowment and continued participation in trade

Composition and direction remains largely unchanged even in the age of globalization.

Even with globalization facilitating movement in capital and labour, it remains unchanged that Singapore lacks natural resources and therefore needs to import raw materials. Also, its small labour force will mean that it is necessary for Singapore to climb up the value added chain in its production of goods and services, with or without globalization. This causes Singapore's composition of trade to shift from exporting labour intensive manufactured goods to that of high tech capital intensive goods and services. Similarly, Singapore will see the need to trade increasingly with developing economies to import labour intensive goods, thereby changing Singapore's trade direction.

Also, Singapore's economy has long been driven by trade. Even without globalization, there is a need for Singapore to maintain her international competitiveness and trade ties with countries around the world to sustain her economy and hence, Singapore's volume of trade is likely to remain unchanged.

Singapore's change in its pattern of trade in recent years cannot be attributed totally to the recent phenomenon of globalization.

DEVELOPMENT 2(b): Globalization has a limited impact as Singapore's pattern of trade is also largely determined by the government.

Policies implemented by the Singapore government determine the type of goods and services that Singapore will produce. For example, the government decision in awarding rights for building Integrated Resorts in Singapore sees an increase in the volume of exports for Singapore. Also, the trade composition shifts towards that of the services sector.

Decision by the Singapore government to spend on a certain industry also beckons investment into a particular sector. For example, the government's aim to promote Singapore as a research hub saw the government spending on infrastructure for this industry (Biopolis). This improves the quality of resources available in the research industry and therefore contributes to Singapore's comparative advantage in the production of services. Consequently, Singapore's trade composition for the services industry is likely to increase. The volume of trade would also increase as a result.

Also, although globalization will allow Singapore to import commodities (e.g. necessities) that we do not have a comparative advantage in, the Singapore government may still seek to produce these to ensure our security. For example, although we have a comparative disadvantage in producing potable water, we continue to produce them to ensure security. For necessities, globalization may not bring about a large change in Singapore's pattern of trade.

CONCLUSION

Consider volume of trade remaining unchanged due to openness of SG economy since independence.

Although globalization has its effects on Singapore's trade pattern, there are also other contributing factors to the changes in Singapore's trade pattern in recent years. As Singapore is an export-oriented economy, Singapore's volume of trade in relation to GDP remains relatively unchanged. However, the impact of globalization on Singapore is profound in terms of the composition of trade. The Singapore government should therefore continue to play a keen role in shaping the trade policies in order to tap on the opportunities and also overcome the challenges of globalization.

3. Singapore economy is very open to capital flows. Small changes in the domestic and foreign interest rates can lead to large and quick movements of capital.

(a) Explain the link between interest rates and exchange rates. [8]

Level	Description	Marks
L3	A well developed and balanced discussion that assesses the extent to which globalization has impacted Singapore's pattern of trade.	9-11
L2	An underdeveloped and/or lopsided discussion based on economic analysis but lacking in application to S'pore's context.	6-8
L1	Conceptual errors or a largely descriptive answer heavily lacking in economic analysis	1-5
E2	Justified evaluation based on economic analysis	3-4
E1	Unsupported evaluation	1-2

(b) Discuss the view that a stronger Singapore dollar has mixed implications for the Singapore economy. [17]

(a) *Focus: Need to identify that lower interest rates might cause a depreciation of the exchange rate. Better candidates should be using appropriate demand and supply analysis to explain the changes in exchange rate.*

Higher i/r , Appreciation of currency

- Higher i/r in Singapore (relative to the rest of the economies), ST capital inflow (of hot money that is held in one currency but is liable to switch to another currency at a moment's notice in search of the highest available returns), demand for S\$ increases, S\$ would appreciate (within the band).

Appreciation , lower i/r

- The *precise impact of exchange rate on domestic interest rate of a change is uncertain*. It depends on people's expectations about inflation, foreign interest rates (especially for a small economy) as well as exchange rate.
- If there is speculation that there will be appreciation or revaluation of currency, there will be capital inflow into the economy as speculators want to make capital gains. The increase in money supply (due to capital inflow) would lower the domestic interest rate.

Knowledge, Understanding, Application and Analysis		
L3	For an answer that has a good and thorough knowledge of how interest rate can affect exchange rate. Clear evidence of the ability to use examples to explain. Identify the type of exchange rate systems that are applicable. Stronger candidates are able to obtain 9 to 10 marks for additional comments on the uncertain impact of a change in exchange rate on interest rate.	6 – 8
L2	For an answer that has good knowledge of how interest rate can affect exchange rate, with the use of appropriate diagram. However, the argument is underdeveloped and lacks logical presentation.	4 – 5
L1	For an answer that shows some knowledge of the link between interest rate and exchange rate. Some basic errors of theory or an inadequate development of analysis may be evident.	1 – 3



(b) Focus: Should explain how the mix implications arise -Positive & Negative effects of strong S\$ -which leads to the dilemma of appreciating S\$.

Suggested Outline:

- Due to Singapore's unique characteristics, there would be mixed implications in terms of negative and positive macroeconomic effects with stronger Sing dollar.
- Stronger Sing dollar would make exports (of goods and services) relatively more expensive in terms of foreign currencies and imports relatively cheaper in terms of domestic currency. Singapore's exports mainly consist of high value products such as electronics. The demand for Singapore's exports price-elastic. Therefore, export earnings fall. Assuming that there is no change in imports expenditure, net exports will decrease, resulting in worsening of balance of trade deficit. This may result in worsening of current account as invisibles are also negatively affected by stronger Sing dollar.
- Investments in Singapore are also relatively more expensive in terms of foreign currencies. This may discourage foreign direct investment. Consequently, this leads to worsening of capital account as there are lesser longer term capital inflow. With the fall in both accounts, balance of payment are likely to worsen, and may lead to a deficit if it is not monitored closely. Persistent deficit (due to stronger S\$ beyond the upper band) may lead to persistent drain on nation's reserve assets, which is undesirable.
- Domestic employment may be negatively affected in consideration of loss in national output due to lower demand for resources to produce goods & services for both domestic demand and exports.
- Strong Sing dollar may also bring about positive effects such as lowered general price level. Furthermore, due to the characteristics of Singapore, the negative effects may not be that significant.
- Export earning and import expenditure may not change in the short run due to contracts which have been established prior the appreciation of the Sing dollar. The negative effect of stronger Sing dollar may be negated by the cheaper imported resources and semi-finished products as a large proportion of domestic consumption and raw materials is imported (e.g. food stuff). This helps to maintain export competitiveness.
- Investment may not be reduced significantly as Singapore has a safe, pro-business environment, which is supported by a well-respected government with transparent and consistent policies, which protect companies' physical and intellectual property investments.
- As such, national income may not fall especially with government's intervention in attracting higher level of investment. At the same time, employment level may rise as these foreign firms employ local workers.

Knowledge, Understanding, Application and Analysis		
L3	Candidates made use of their knowledge of appropriate economic analysis to discuss whether stronger \$S will bring about both positive and negative effects (mixed implications). They showed clear understanding of benefits for a small open economy (Singapore) of a controlled appreciation in terms of cost implications for imported goods and in turn affecting investment.	10 – 13
L2	Developed analysis of the stronger S\$ on the macro-economic objective of Singapore. However, the analysis on the mixed implications are not evident – candidates discuss without highlighting both positive and negative effects.	6 – 9
L1	Candidates made weak unexplained statements about the possible impact of an appreciation of the currency and/or answers that are not applied to Singapore's context.	1 – 5
Allow up to 4 additional marks for Evaluation		
E2	Judgment based on analysis. The evaluative comments are well-explained.	3 – 4
E1	Mainly unexplained judgment.	1 – 2

4. "The anemic rupiah is down 20% against the dollar just this year -level not seen since the dog days of the 1998 financial crisis." Asiaweek 415/2001.

(a) What factors may have caused the value of the rupiah to fall against the dollar? [10]

(b) Explain why the Indonesian government may be concerned about the exchange rate of its country and what policies it might adopt to influence the exchange rate. [15]

(a)

1. Define exchange rate
2. Explain what a fall in the value of the rupiah against the dollar means
3. Determination of exchange rate
4. Factors causing a fall in the value of the rupiah against the dollar:
 - deterioration in the balance of trade position of Indonesia - fall in demand for Indonesian exports and/or increase in demand for US imports
 - prices in Indonesia relatively higher than prices in USA
 - expectation of a depreciation of the currency → speculation against the currency
 - fall in interest rates → short term capital flight
 - loss of confidence - due to political factors and government policy any other factor that may cause a fall in the external value
(Explain any 4 factors)



(b)

The Indonesian government may be concerned about the depreciating exchange rate because of the negative impact it may have on the economy:

- it makes imports relatively more expensive. This not only raises the cost of living but also the cost of producing Indonesia's own domestic goods and its exports. As such, it may adversely affect the current account of the balance of payment and Indonesia's plans for development.
- it makes exports relatively cheaper. But a significant proportion of Indonesia's exports is primary products that have inelastic demand e.g. oil. This will adversely affect the current account on the balance of payments and also have negative effects on production, investment and employment.
- depreciation makes the prices of Indonesia's exports relatively cheaper. But in the short run, it may not be possible to meet the increase in quantity demanded due to factor immobility.
- fear of further depreciation will can cause a short term capital outflow out of Indonesia, causing a strain on the capital account.
- loss of confidence in the economy will result in foreign investors pulling their investments out of Indonesia.

The policies that can be adopted by the Indonesian government to influence exchange rate are :

- Intervention in the foreign exchange market to revalue the currency
 - Raise interest rates to attract short term capital flows
 - Exchange controls Protectionist measures like tariffs, quotas, etc.
- (Explain and evaluate each measure)

Conclusion

5. American's car makers have complained that the weak yen makes imported Japanese cars unfairly cheap. China has been also accused of undervaluing the yuan in order to artificially foster economic competitiveness and distorting global pattern of trade.

The Economist, 10th Feb 2007

(a) Explain the relevance of demand and supply analysis in determining the pattern of trade between countries. [10]

(b) Discuss whether a rise in economic competitiveness via an undervalued currency is the best way to achieve a government's macroeconomic goals. [15]



(a) Explain the relevance of demand and supply analysis in determining the pattern of trade between countries. [10]

Suggested answer to (a)

Introduction

- **Define pattern of trade**
Pattern of trade can be viewed in terms of:
 - **Commodity composition of trade** – i.e. what type of goods and services are exported and imported?
 - **Geographical composition of trade** – i.e. whom do we trade with? – e.g. China's trade with major trading partners like US and Japan.
- The theory of comparative advantage predicts trade to occur between countries with *different factor endowments and hence different opportunity cost levels*. Hence it can be used to explain trade between developed countries and developing countries. i.e. Developing countries selling labour-intensive goods to the developed countries in return for their capital-intensive goods.

Development

Thesis: Explain how demand and supply factors affect trade patterns

1) Explain how supply side factors affect the pattern of trade via theory of CA

- The Theory of Comparative Advantage states that even when one country has absolute advantage over other countries in producing both commodities, both countries can gain from mutual trade if each country specialise in producing (and exporting) those goods that have a relatively lower opportunity costs compared with the other country.

Owing to differences in endowment of factors of productions:

- Land abundant countries such as China and the USA are able to produce land intensive products (i.e. products in which land is the main factor of production) at lower opportunity costs than land scarce countries like Singapore.
- Labour abundant countries such as China are able to produce labour intensive products such as clothing and footwear more cheaply than developed countries like USA and Japan where labour costs are much higher.
- Capital abundant countries such as Japan and the USA which are developed countries will have a comparative advantage in the production of 'high-tech' products such as computers, robotics, electronics and heavy transportation equipment (planes, ships, spacecraft, etc).
- Illustrate with demand and supply diagram

2) Explain how demand side factors also influence trade patterns

- While **differences in opportunity costs of production** provide the **supply side** explanation for trade, trade can also take place simply due to differences in demand.

Explain how changes in demand factors affect intra industry trade:

- **Intra-industry trade** is international trade in goods that belong to the same/ similar industry. E.g. US exports cars to Japan while simultaneously importing cars from Japan. People living within a country and across countries have differences in taste and preference. People in all of these places have different preferences for the cars they drive. Drivers who prefer larger cars may prefer to buy Ford and GM cars while others may prefer smaller but energy efficient Japanese cars → thus affecting the pattern of trade.

Explain limitations to theory of CA (from preamble)**1) Presence of market power and govt intervention**

In the real world, prices are distorted by imperfect competition in factor and product markets, as well as government intervention like taxes and subsidies. All these will distort relative opportunity costs and could result in trade diversion where goods are now produced by countries not having the lowest opportunity cost.

→ **Explain how an undervalued currency could distort the pattern of trade (link to preamble)**

For example, the undervalued yuan results in → P_X of Chinese exports decreases in foreign currency terms, leading to a more than proportionate increase in quantity demanded, assuming dd for X to be elastic. TR_X for China thus increase. At the same time, P_M increases in domestic currency terms, leading to a more than proportionate decrease in quantity demanded by Chinese locals, assuming demand for M to be elastic and Chinese goods are good substitutes to locally produced goods. → thus affecting pattern of trade between countries.

Marking scheme for Part (a)

Level	Descriptor	Mark Range
L3	Well-developed theoretical explanation as to how pattern of trade is influenced by demand and supply factors. Able to assess the “significance” of the demand and supply factor. Good use of examples in real world. <u>Reference to preamble of govt intervention in currency market</u> is made → undervalued yuan affecting pattern of trade (UL2: 9-10 m)	7 - 10
L2	Able to explain how pattern of trade is influenced by demand and supply side factor. However answer is not well-substantiated. Does <u>not</u> consider the “significance” of demand and supply factors.	5 - 6
L1	Mere listing of the factors influencing pattern of trade.	1 - 4

(b) Discuss whether a rise in economic competitiveness via an undervalued currency is the best way to achieve a government's macroeconomic goals? [15]

Suggested answer to (b):**Introduction**

- **Define economic competitiveness**
Economic competitiveness is the ability of a nation to compete successfully internationally and sustain improvements in real output and wealth.
- **State the various ways to affect economic competitiveness to skew market outcomes in a nation's favour such as**
 - intervention in currency market to affect the value of the yen and yuan
 - interventionist supply side policies to restructure the economy/ and increase productivity
- **Government's macroeconomic goals include**
 - High national income per head and growth rate
 - Low unemployment rate
 - Low inflation rate
 - Healthy BOP and stable exchange rate

Development

1. Thesis: YES: an increase in economic competitiveness via undervalued currency is the best way to achieve macro goals

- **Explain how an undervalued currency results in improved economic competitiveness and aid in achieving macroeconomics goals**
High national income per head and growth rate, and BOT surplus
Resolves cyclical UN to a certain extent
Illustrate with AD-AS diagram
- **Evaluation:**
 - Highlight that this is mainly a SR solution and not viable in the LT → retaliation by trading partners and could spark off trade disputes
 - Tradeoffs of higher EG with instability in px level (dd-pull inflation)

Anti-Thesis

1) NO: an increase in economic competitiveness via successful restructuring towards innovation-driven economy (LT) and increases in labour productivity is a better option and more sustainable method

- Investment in R&D and restructuring boost pdtivity and increases pdtive capacity of the economy in the LR → reduces COP and price of final goods & sys.
- Achieves macro goals of high national income per head and growth rate, increases employment industries, lowered inflation rate and improving BOT
- FDI flows could increase, thus improving the capital account
- FDI could lead to increase in transfer of technology and further reduce COP. It also helps to break into new markets and contributes further to the competitiveness of sectors and companies.

Illustrate with AD-AS diagram

Evaluation:

- Possible trade off of appreciation as BOT continues to improve which could erode international competitiveness
- However the transition towards innovation-driven economy could result in structural unemployment. Older workers who get displaced from work opportunities in declining industries (Sunset industries eg. textile export industries) within developed countries are unable to find new work opportunities in expanding industries (sunrise industries eg. pharmaceutical industries) due to lack of relevant educational qualifications and skills (labour immobility)
- Increasing income disparity among lowly skilled and highly skilled workers among developed countries. Government may need to increase social spending to counter the effects of widening income gaps to lowly skilled workers.
- Also requires expansion of AD to reap the full benefits of expanding AS

2) NO: To some extent only as there is other means to achieve macro goals is a better option and more sustainable method

- It depends on the macroeconomic challenges that the government is facing at that particular point in time. Hence different macroeconomic problem will require different policies to be implemented instead.
- In the ST, dd management policies also required to stabilize the macroeconomic economy in the event of external shocks
- Explain the effectiveness of fiscal policies and monetary policies
- Fiscal policies needed to create conducive investment climate for local firms and attract FDI (through lowering of corporate taxation)
- Illustrate with AD-AS diagram

Conclusion

- Economic competitiveness has grown in importance in the recent decade, especially with advent of globalization (increased international flows of trade, financial capital, knowledge and research and labour mobility).
- Economic competitiveness is said to be particularly important for small open economies, which rely on trade, and typically foreign direct investment, to provide the scale necessary for productivity increases to drive increases in living standards. In smaller countries, productivity improvements are based on national competitiveness via a successful exporting sector, as small domestic markets do not allow the economies of scale necessary for ongoing productivity growth.

Part (b)

Knowledge, Application, Understanding and Analysis.		
Level	Descriptor	Mark Range
L3	Balanced argument that compares different methods of attaining economic competitiveness and includes its limitations.	9 – 11
L2	Detailed explanation of the impact of economic competitiveness on macro aims (two-sided argument). However argument lacks substantiation and is not well-developed.	6 - 8
L1	Mere listing of how improved economic competitiveness can achieve macro aims. Limited scope of explanation and some conceptual errors.	1 - 5

Evaluation		
Level	Descriptor	Mark Range
E2	Judgement based on analysis. For an evaluative discussion that is based on economic analysis and with reference to US, Japan and China context.	3-4
E1	Mainly unexplained judgement.	1-2

SECTION 3C: CHALLENGING ESSAYS

1. 'Due to the global financial crisis, countries are quick to impose trade barriers to solve the domestic woes.'

(a) Explain the above statement. [10]

(b) In view of the protectionist tendency, discuss the measures that the Singapore government can take to help alleviate the problems caused by the financial crisis. [15]

Suggested answer:

(a)

- Explain 'domestic woes' – recession, falling employment and BOP deficit
- Explain how the global financial crisis can cause recession and unemployment using AD/AS analysis
 - Fall in foreign demand for exports, causing a fall in export revenue, hence net exports
 - Fall in domestic and foreign investments due to uncertainties about future demand
 - Fall in domestic consumption due to uncertainties about future income and employment
- Explain how the crisis may adversely affect the current (decline in balance of trade) and capital account (decline in long term capital account) of a country's BOP
- Explain how various protectionist measures can solve the macroeconomic problems caused by the financial crisis.
 - Use of tariff/quota to discourage import expenditure, hence increasing net exports
 - Provide subsidies to local firms to improve export competitiveness and encourage domestic consumption

Level 1	Able to identify and define recession, unemployment & BOP deficit	1 – 4m
Level 2	Adequate explanation on how the crisis can lead to recession, unemployment & BOP deficit with the use of appropriate economic framework. Brief description of how protectionist measures are able to mitigate the problems caused by the financial crisis.	5 – 6m
Level 3	Detailed explanation on how the crisis can lead to recession, unemployment & BOP deficit with the use of appropriate economic framework and adequate examples. Good illustration of how protectionist measures are able to mitigate the problems caused by the financial crisis.	7 – 10m



(b)

- Identify and explain how the financial crisis has led to a fall in external demand and FDI in Singapore, hence causing a decline in national income and employment.
- Recognize that the existence of protectionist measures in other countries will deem any policies to lower export prices ineffective.
- Policies should target on stimulating external demand through product variety and quality, and making Singapore attractive to FDI
- The use of long run supply-side measures to improve product variety and quality (subsidies to encourage R&D)

Limitations:

- Increase government expenditure, hence putting strain on government budget
- Opportunity costs of providing subsidies
- The use of short run supply-side (reducing costs of production through lowering of indirect taxes, providing wage guidelines) and fiscal policy (lowering corporate tax, improving infrastructure) to encourage FDI.

Limitations of short-run supply-side measures:

- lowering of indirect taxes will reduce government revenue
- Private companies may not follow the wage guidelines recommended by the National Wage Council (NWC)

Limitations of FP:

- lowering of corporate tax will reduce government revenue
- Infrastructure development takes time and may lead to crowding-out effect
- More intense effort in FTA negotiations to reduce trade barriers and stimulate export demand, encourage FDI and diversify risk.

Limitations:

- Trade negotiation takes time and may have negative impacts on domestic firms as FTA inevitably increases the level of competition in domestic market.
- Use of AD/AS analysis to illustrate how an increase in I and $(X-M)$ will increase national income and employment, and improve BOP position.
- The use of ERP (currency devaluation) may be limited in effect due to protectionism
- Provide judgment on the most effective policy.

In view of the severity of the crisis, improvement in product variety and quality may have limited impact in stimulating export demand due to falling global incomes. As such, government expenditure on infrastructure development may be

a better solution as it is able to raise the level of national income and employment in the short-run, hence mitigating the adverse effects of the financial crisis, while raising the level of efficiency of the economy in the long run.

Level 1	Correctly identify the problems in Singapore due to the financial crisis, and the possible policies to tackle the problems.	1 – 5m
Level 2	Adequate illustration on the working of each measure using economic framework with some limitations of the policies.	6 – 8m
Level 3	Detailed illustration on the working of each measure using economic framework with limitations on each policy. Good application of Singapore context.	9 – 11m
E1	Provide judgment	1 – 2m
E2	Explain the judgment	3 – 4m

2.

a. Explain whether globalisation could solve the economic problem of scarcity. [10]

b. Discuss the extent to which correcting a balance of payments deficit is the major reason for protectionism in the real world. [15]

Part (a)

Introduction

- Define Globalisation
 - Briefly explain the positive and negative impacts of globalization
 - Explain the problem of scarcity, opportunity cost
- The central problem of all economies is scarcity which is the result of limited resources and unlimited wants. Thus, the result of scarcity is that choices have to be made and the next best alternative has to be foregone.
- Although the problem of scarcity can never be solved, **it can be alleviated either through more efficient use of existing resources or economic growth.**

Globalisation cannot solve the economic problem of scarcity. However, globalisation may reduce or worsen the problem of scarcity.

Body

Globalisation reduce the problem of scarcity

- Globalisation brings about an increase in competition. This forces economies to specialize in the production of the good in which they have a comparative advantage. This will allow the world output to increase and a country can consume outside the PPC, which is more than what she is producing.
- Increase in competition also drives economies to increase efficiency through increasing the use of advanced technology, or by enhancing their productivity level, resulting in an increase in LRAS, bringing about economic growth
- Globalisation means freer mobility of capital → ↑FDI in low-savings economies such as South Africa and Vietnam → ↑AD → ↑more utilization of resources → ↑actual growth, minimizing the problem of scarcity → ↑FDI → ↑productivity → ↑productive capacity → ↑LRAS → shift the PPC outwards hence minimize the problem of scarcity

- Globalisation means freer mobility of labour
- Transfer of technology

Globalisation may worsen the problem of scarcity

- Freer mobility of capital → fall in Investment in developed countries → outsource → fall in demand for low skilled workers → ↑ structural unemployment
- Unfair competition → fall (X-M) → AD falls → ↑ demand deficient unemployment
- Increase international transactions and allows many countries to access to the global market, this give firms incentive to engage in research and development to create more new products.
- Depletion of resources to satisfy the increasing wants, the production of manufactured goods also lead to the degradation of the environment, further worsening the problem of scarcity.

Conclusion

Globalisation reduces the problem of scarcity in the world's perspective as globalisation allows the exploitation of the theory of comparative advantage. Free trade will then bring about an increase in world output allows more goods and services available for consumption. However, globalisation may worsen the problem of scarcity due to immobility of factors of production such as labour resources.

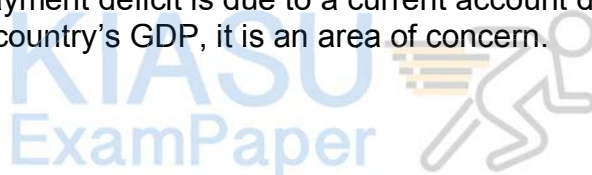
Knowledge, Application, Understanding and Analysis		
L3	For an answer that uses an economic analytical tool such as the production possibility curve to answer how globalization is linked to the problem of scarcity OR to be able to see the linkages in a global perspective	7 – 10
L2	For an answer that explains how globalization may minimize and worsen the problem of scarcity. Max 5 for an answer that only consider minimize or worsening of the problem of scarcity	5 – 6
L1	For an answer that has no clear linkage between globalization and the problem of scarcity	1 – 4

Part (b)

Introduction

Define: Balance of Payment

- Explain what is meant by Balance of Payment deficit.
- Explain why persistent deficit is a concern. It may signal a loss of international competitiveness.
- Whether BOP is a problem depends on its size as a proportion of GDP.
If a balance of payment deficit is due to a current account deficit which exceeds 5% to 6% of the country's GDP, it is an area of concern.



Thesis:

Correcting a balance of payment deficit is the major reason for protectionism in the real world.

Explain how persistent BOP deficit causes other macroeconomic problems and the argument for using protectionism to correct the balance of payment deficit.

- If the persistent BOP deficit is mainly due to a persistent deficit in the balance of trade.
- A persistent BOP deficit signals that the reserves have been falling eventually resulting in staggering external debts.
- Persistent BOP deficit means there are more payments than receipts which will deplete foreign reserves → loses ability to use exchange rate to manage her economy.
- Persistent deficit might result in the weakening of the currency. A fall in the external value of the country's currency is undesirable as it will reduce the country's ability to import capital goods, which might hinder potential growth.
- If is due to a deficit in the balance of trade → $\downarrow(X-M) \rightarrow \downarrow AD \rightarrow \downarrow \text{real national income}$ as well as a \downarrow in employment

Hence, the government may resort to protectionism by introducing import duties, import quota or exchange controls to reduce imports and thus improve the balance of trade and balance of payments. For example: US imposing heavy tariffs on China imports for China's imports has made up a large proportion of US's trade deficit in recent years.

Anti-thesis: other reasons for using protectionism in reality

- **To protect infant industries**

- A country may have a potential comparative advantage in a new (infant) industry
- It cannot compete with the established foreign industries due to a lack of EOS that her rivals enjoy. At the initial stage of operation, the infant industry faces high initial cost of production unless output is expanded sufficiently to reap economies of scale and to establish her global market share.
- Therefore, it is necessary to protect the infant industry until it is able to produce as cheaply as foreign rivals until it is able to compete without protection.
- Examples of infant industries in Asia- the major reason for protectionism in Asia.
- For example, electronics in Taiwan, automobile industry in cars in Japan and South Korea are all examples in which protection of infant industries was the main reason for the existence of protectionism.
- Increase in net export from these industries would increase AD, hence bring about an increase in national income, it will also help to generate jobs which is especially crucial for the initial stage of development in economies.

Hence, the infant industries argument is the major reason for protectionism in the Asia economies in the 20th century.

- **To prevent dumping**

Explain the meaning of dumping and the argument for protectionism to prevent dumping.

Dumping is the practice of getting rid of excess production by selling below marginal cost in the overseas markets. If allowed, the cheaper imports will outsell the domestic

goods. There will be a decrease in demand for domestic goods and domestic firms will have to close down. This leads to unemployment.

To prevent dumping might be a major reason for protectionism for some countries in midst of the worldwide recession. Example: India has already imposed anti dumping imports duties on yarn from China

- **To maintain employment**

- During recession, to maintain employment is a major reason for unemployment.

Analysis

Ability to make comparison on the various reasons for protectionism

Analyse that the **major cause** differs between countries and across time.

Suggested Evaluation

It is difficult to identify the major reason for protectionism. For instance, India is suffering from a trade deficit of US\$119 billion. Is India practicing protectionism to prevent dumping or to correct her trade deficit?

Knowledge, Application, Understanding and Analysis		
L3	For a thorough and well-balanced answer that shows an understanding of the fundamental case for trade protectionism in the real world	9 - 11
L2	For a balanced but limited and undeveloped answer that has some analysis with minimal linkage to the real world.	6 – 8
L1	For an answer that is largely descriptive and lacks a clear structure. Simple listing of reasons for and against protection. Or listing of other policies. No real world examples to substantiate points	1 - 5
Allow up to 4 additional marks for Evaluation		
E2	Judgment is based on economic analysis and adequately substantiated	3 - 4
E1	For an unexplained assessment, or one that is not supported by economic analysis.	1 – 2

3. **“Asia has seen rapid growth, dramatic transformation and deepening interdependence and integration. Rapidly changing patterns of production and trade are causing painful structural adjustments. However, to grow and prosper, we must stay open and integrate ourselves with the global economy.”** *“America and Asia: Our Shared Future”*

Speech by Mr. Lee Hsien Loong, Prime Minister of Singapore May 3 2007

Discuss whether Singapore should “stay open and integrate with the global economy” to achieve its macroeconomic objectives in the light of the problems resulting from the structural adjustments. [25]

Suggested outline:

1. Explain what is meant to ‘stay open and integrate with the global economy’. This can be inferred for Singapore to remain open to trade and capital flows and taking advantage of the opportunities presented by globalisation.
2. State the macroeconomic objectives of Singapore:
 - (i) Full employment,
 - (ii) Sustained economic growth,

- (iii) Price Stability,
- (iv) External stability.

3. Comment that the attainment of the above macroeconomic objectives has to be examined against the structural adjustments that would take place like structural unemployment, income disparities between the skilled and lower skilled workers due the effects of changing comparative advantage of Singapore in the context of a globalised economy.

(i) External stability

- By remaining open to trade and integrating with the global economy, Singapore can aim to boost its export growth by leveraging on the opening up of markets brought about by the increasingly integrated regional and international economies due to globalisation.

With the emergence and rise of the economies of China and India, new patterns of trade have developed. China is a major export destination for many ASEAN countries and more importantly for Singapore. Singapore can take advantage of its comparative advantage in higher-value added manufacturing and financial services and export such goods and services to the Chinese and Indian markets.

At the same time, Singapore can also source for cheaper raw materials and components from economies such as China, India and the regional economies to lower its domestic production cost and raise its export price competitiveness. This is especially important given Singapore's high import content.

This has beneficial effects for Singapore's current account and could contribute to a B.O.P surplus.

Evaluation:

Singapore would be faced with the need to confront its changing comparative advantage as emerging economies such as China and India develop at a rapid rate and develop new areas of comparative advantage. Given the relatively abundant and cheaper labour in the emerging economies, some domestic labour intensive industries and low value-added industries would face stiff competition and would be forced to rationalise their production process or face the problem of being forced out of the market, i.e structural adjustments in industries will take place. This has the unwanted effect of threatening Singapore's export competitiveness and moderating gains in Singapore's balance of trade, current account and balance of payments.

- Singapore can integrate with the global economy by establishing strong economic links with the regional and international trading partners through FTAs.

E.g. The proposed APEC-wide Free Trade Area of the Asia Pacific (FTAAP). Within East Asia, different overlapping regional groupings exist, including AFTA, ASEAN-6 (Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand) which aims to eliminate all tariffs by 2010. Such FTAs allows

Singapore improved access to the markets of the member states, raising Singapore's export growth benefiting its B.O.T, current account and resulting in possible B.O.P surplus.

Evaluation:

However, FTAs also increase the complexity of the trading system and can raise transaction costs for Singapore exporters. For example, complicated rules of origin are required to prevent third country product entering via the other party. With different rules negotiated under different agreements, enforcement of these rules and compliance with them by firms can be a complicated task and burdensome tasks thus raising production costs.

In addition, similar structural changes faced by affected industries can be experienced by Singapore with FTAs just as in the competition posed by emerging economies like China, India and Vietnam etc.

- Impact on S.T capital flows: Integration and openness can also be viewed in terms of the effect on short-term capital flows especially given Singapore's aim to be a regional financial hub.

Evaluation:

Too large an inflow of short-term capital can result in pressure for the S\$ to appreciate and unwanted increase in liquidity and inflationary pressures for the local economy. Likewise, sudden outflow of short-term capital has the opposite effects.

(ii) Full employment

- Openness and integration has the effect of increasing export growth. This has the benefit of raising Singapore's AD promoting higher levels of national income and employment via the multiplier effect which results in a more than proportionate increase in national income. [Support with AD-AS analysis]
- Other than raising export growth, Singapore could also benefit from an increase in FDI in the relevant growth industries like high value-added manufacturing, bio-medical, financial and banking services. Increases in FDI have the similar effect of increasing Singapore's AD and the subsequent effect on national income and employment.

Evaluation:

This analysis assumes the existence of available spare resources in the economy. Given that Singapore is close to its full employment in recent years, significant increases in national income and employment may not be registered but instead greater inflationary pressures may be produced due to demand pull inflation.

Gains in employment may also be uneven between industries. While there may be gains in employment for sectors or industries benefiting from rising export growth and FDI, like bio-medicals, high-value added manufacturing and financial services, at the same time, there will be losses in employment in sectors which have lost or are losing comparative advantage especially those

in the low-value added and labour intensive sectors. This presents the case of structural unemployment and implications for widening of differentials in wage growth between industries, i.e. income inequality.

(iii) Economic growth

- Actual growth: This can come about from the increase in AD from the increase in X and FDI. Gains in AD increase the utilisation of previously unemployed resources thus contributing of actual growth.
- Potential growth: Gains from the expected increase in FDI extends also to the longer-run effect of raising potential growth through investments in infrastructure spending and technology transfer as well as the gains in human capital stock with the transfer of management expertise which raises the productive capacity of Singapore.

Evaluation:

However the gains from FDI and X for it to contribute to Singapore's economic growth depends on the existence of spare capacity and the avoidance of serious bottlenecks in the internal economy which prevents the ease of mobility of factors of production. This can threaten Singapore's attractiveness as a destination for FDI as well as decreasing Singapore's export competitiveness should cost-push inflation becomes develop.

In addition, the extent of transfer of technology, knowledge and management expertise depends on the willingness and openness of the foreign firms to share with their local counterparts.

Singapore could also face competition in terms of retaining and attracting foreign talent and highly skilled workers. This has implications on its ability to attract foreign investment (e.g. in areas of scientific research and life sciences) and sustain its economic growth over the longer term.

(iv) Price stability

- Lower import prices: By staying open and pursuing integration with the regional and international economy, Singapore can source for cheaper inputs and finished products/services. This lowers import prices on goods/services and factors of production. The benefits are two-fold: Lowering domestic prices of consumables and lowering cost of production for firms through cheaper imported inputs, thus lowering cost-push inflationary pressures as the economy grows. Overall, this has the effect of achieving greater price stability by keeping inflation low.

Evaluation:

However, the drawback from the openness and integration for Singapore is that it has to be on guard against imported inflation as well as demand-pull inflation caused by excessive growth in external demand and FDI.

With its high import content for its exports, Singapore's greater reliance on imported inputs puts it in a vulnerable position should supply-side shocks in global commodities occur overseas, sending prices of global commodities up.

- Excessively strong external demand and FDI do also have the effect of increasing AD strongly and contributing of demand-pull inflation.
4. Conclusion: Given the nature of the Singapore economy being small and open as well as the increasing globalisation pressures, Singapore has little option but to stay open and remain integrated with the global economy. Problems resulting from its openness and integration although have obvious conflicts with its macroeconomic objectives can be overcome through the use of relevant demand and supply side policies.

Singapore should leverage and capitalise on the opportunities presented by staying open and by remaining integrated especially with the regional economies through FTA platforms such as ASEAN and AFTA so as to among other things, expand its export market and resource base. This is especially relevant in the light of rising Asian economies like China and India which will create pressure to make structural adjustments in open economies like Singapore.

L1	<p><i>Where the answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context</i></p> <p><i>Where the answer shows some knowledge but does not indicate that the meaning of the question has been properly grasped. (Students are not likely to have addressed the benefits/costs of Singapore's openness and integration with the global economy in terms of the impact on Singapore's macroeconomic objectives. No evidence of addressing the structural adjustments.) Basic errors of theory or an inadequate development of analysis may be evident.</i></p>
L2	<p><i>For an accurate but undeveloped economic explanation of the benefits of Singapore staying open and remaining integrated in terms of achieving Singapore's macroeconomic objectives, little reference to the structural adjustments and no evaluative comments.</i></p> <p><i>Expect an accurate though undeveloped economic explanation of the facts (e.g. macroeconomic aims not covered adequately) relating to the question together with an explanation of the theory, and evidence of some ability to discriminate and form elementary judgments, BUT do not expect a clear logical presentation. There will be some evidence of examining the impact of Singapore's openness and integration on Singapore's macroeconomic objectives in the light of the structural adjustments but the macroeconomic objectives are not fully covered. Some attempt at evaluation.</i></p>
L3	<p><i>Expect a good knowledge of the facts and theory of the question. Clear evidence of the ability to present a logical and reasoned analysis. Good attempt at examining the impact of Singapore's openness and integration on Singapore's macroeconomic objectives in the light of the structural adjustments with the macroeconomic objectives are fully covered. Good attempt at evaluation by providing a clearly reasoned structure to the whole answer.</i></p> <p><i>Expect a thorough knowledge of facts and theory with an excellent ability to describe and explain this in a precise, logical, reasoned manner. Excellent attempt at examining the impact of Singapore's openness and integration on Singapore's macroeconomic objectives with in depth discussion of the structural adjustments and with the macroeconomic objectives fully covered. Excellent attempt at evaluation by providing a clearly reasoned structure to the whole answer. New illustrations and examples apposite to the material discussed</i></p>

	<i>should be introduced as further evidence of the ability to recognise the principles of the question and their application to relevant current situations.</i>
E1	<i>Mainly unexplained judgment</i>
E2	<i>Judgment based on analysis</i>

4. “The Monetary Authority of Singapore (MAS) will maintain the policy of a modest and gradual appreciation of the Singapore dollar in the period ahead. This policy stance, which has been in place since April 2004, has benefitted the Singapore economy in the past few years.”

Adapted from MAS Policy Statement, 10 April 2007

Explain the key macroeconomic aims of the Singapore government and discuss how the policy mentioned above is part of Singapore’s strategy to achieve these aims. [25]

Suggested Outline

♦ The key macroeconomic aims of Singapore

- price stability / low inflation
 - this helps to reduce speculation and unnecessary menu and shoe leather costs → less wastage of resources
 - reduces haphazard distribution of income against the lower income group.
 - reduces uncertainties and make rate of returns more definite → attract investment
 - maintain export competitiveness for the country
- full employment / low unemployment
 - greater productive use of resources (labour) especially in Singapore
 - reduce poverty and social tension
 - reduces need for government to allocate resources to support the unemployed
 - resources can be channeled for other programs
- balance of payments equilibrium and stable exchange rate
 - BOP deficit will lead to drain of foreign reserves → debt servicing which can
 - reduce future SOL for the citizens → loss of confidence in the economy
 - stable exchange rate gives confidence to investors → increase investment as well as enhance trade possibilities
- steady rate of economic growth
 - more goods and services available for consumption → improve SOL
 - enhances government’s ability to redistribute income to the poor without negative impact on the higher income group (via progressive income taxes)
 - allows government to achieve other objectives such as creation of job opportunities with increase in productive capacity, keep inflation in check hence less need to turn to imports as alternatives

♦ How a modest and gradual appreciation of S\$ can help achieve key macro aims

a. Price Stability

- Appreciation of the S\$ can help to dampen the impact of imported inflation
- Important as Singapore lacks resources and is highly dependent on imported raw materials and final goods (about 60% of C is imports).
- helps to keep costs of production and cost of living down.

b. Balance of payments equilibrium

- The strong S\$ however would dampen export demand as exports are now relatively more expensive / less competitive compared to other similar foreign goods.
- may lead to a fall in export revenue
- net effect on the BOT and hence current account will depend on the relative fall in M expenditure compared to the fall in X revenue which in turn will depend on whether Marshall-Lerner's condition is satisfied.
- However, BOT may not deteriorate as exports dependent on imported raw materials will have lower costs of production the lower price from the lower costs may help to offset the apparent loss of price competitiveness due to the strong S\$
- The commitment by MAS to uphold the strong S\$ also gives confidence to investors
- future expected returns on I likely to retain its value; investment planning more definite
- increase in LT capital inflow expected
- improve the capital account

- Overall BOP need not necessarily worsen

c. Economic growth

- The increase in FDI is expected to promote economic growth
- Expansion of target industries as well as inflow of skills, technological knowledge and knowledge of international markets by investors
- help to enhance competitiveness of export industries

d. Employment

- The increase in I and expected favourable impact on BOT will increase AD
- expand output production, increase NY and employment

♦ Limitations

- A strong S\$ alone is not enough to attract FDI. Need to consider the other factors such as relevant skills of labour, conducive business environment and government policies.
- Other business costs that cannot be influenced by a strong S\$ → eg utilities and rental.
- Service industries will not benefit from a strong S\$ → eg tourism → need for the government to come up with other means that will make Singapore attractive as a tourist destinations despite the strong S\$.
- Structural unemployment may arise if workers do not have the relevant skills

required by the expanding industries → solution is for government to identify the target industries to expand and then actively engage in manpower planning → ensure that workers have the relevant skills for these industries.
 - Vulnerable to changes in world demand → need to be flexible with the S\$ when world demand falls. Government may not be able to do much under such a situation.

◆ Other policies are needed to support the strong S\$ in order achieve the macro aims as well

a. Fiscal policy with supply side intent

- Increase G → physical and social infrastructure, provide subsidies that encourages R&D, development of niche areas, enhancing financial services, education and retraining of labour
- Lower T → more competitive business environment, higher expected returns all of which can encourage more I

b. Supply side policies

- Keep business costs low via keeping labour costs under control and flexible → wage adjustments in line with productivity growth, CPF adjustments, maintaining good tripartite relations, lower corporate taxes
- Encourage entrepreneurship

c. Trade policy

- Continue to support free trade
- Establish / signing of FTAs

Marking Scheme

Level	Mark	Descriptor
L3	15 - 21	For an answer that demonstrates a clear explanation of the macroeconomic aims as well as a thorough discussion of the stated policy on these various objectives with relevant application to Singapore.
L2	8 – 14	For an undeveloped answer that explains the macroeconomic aims but the discussion of the stated policy and its effectiveness is limited - one sided analysis OR - brief analysis of both views with little application to Singapore
L1	1 – 7	For an answer that shows an ability to identify some relevant issues / concepts and provide brief explanations but not in context most of the time
Plus evaluation marks		
E2	3– 4	Evaluation that provides a judgment on the given policy with clear consideration of the context
E1	1 – 2	Mainly unexplained evaluative comments with little or no consideration of context

5.The globalization of trade puts pressure on natural resources around the world, helping to drive the rapid depletion of tropical forests and the collapse of many ocean fisheries. On the other hand, some countries has benefited from the flow of labour into their countries.

- (a) Explain how pattern of trade will change as a result of the changes in factor endowments stated above. [10]
(b) Discuss the role of government in the age of globalization. [15]

Suggested answer

- a. Explain how pattern of trade will change as a result of the changes in factor endowments stated above. [10]

Introduction

Pattern of international trade is based on the theory of CA. Based on the theory of CA, countries should specialize in the production of goods that they have comparative advantage in and export it for goods it does not have CA in producing. The amount of factor endowments a country has affects the comparative advantage a country has.

Body

Explain theory of CA and how pattern of trade is determined based on a country's comparative advantage in producing a good.

Use examples such as China, being labour abundant, has comparative advantage in the manufacturing of labour-intensive goods such as toys and textiles. Singapore, after years of strategic human and capital investment, has a comparative advantage in the production of electronic goods and pharmaceutical products.

Application to context:

Let's assume a country A, with tropical forests that a rapidly depleted. It would imply that the country would face a decrease in the exports possible and would have to look for another product, which it has comparative advantage in to export. In other words, country A cannot rely on exporting of wood to generate export income for the country. If country A consumes a lot of wood, she may end up being a net importer of wood.

Let's assume a country B, with abundant fish and timber could have been exporting timber or fish due to her having abundance of it and CA in producing these products.

With the depletion of such resources, another country, C, which breeds fish in fish farms but had a higher opportunity cost previous, could now have a lower opportunity cost compared to country B and should now be exporting the fish instead of Country B, based on the theory.

If there is country D, which previous lack skilled labour and now has open immigration policies that allows and attracts skilled labour from into the country, the country could now have a comparative advantage on the production of high end electronics and hence should specialize and export that.

Conclusion

Pattern of trade will change when the factor endowments change.

Level		Descriptors
L1	1-4	<ul style="list-style-type: none"> Answers are mostly irrelevant Only a few valid points are made incidentally in an irrelevant context
L2	5-6	<ul style="list-style-type: none"> Answer shows an ability to identify facts, some ability at graphs, fair ability to apply known laws to new situation (e.g. able to use theory of CA to explain the changing patterns of trade to the new situation of depletion of natural resources and inflow of labour without much details) Accurate though undeveloped explanation of the facts relating to the question together with an explanation. (e.g. Theory of CA not explained in sufficient detail with some links to the context)
L3	Lower 7-8	<ul style="list-style-type: none"> Answer shows a good knowledge of CA theory, clear evidence of the ability to use theory with accurate reference to the question Clear reasoned structure to the whole answer <p>(e.g. able to use theory of CA to explain the changing patterns of trade to the new situation of depletion of natural resources and inflow of labour but did not explain to all cases or application is not thorough enough)</p>
	Upper 9-10	<ul style="list-style-type: none"> Thorough knowledge of facts and theory with an excellent ability to describe & explain this in a precise, logical, reasoned manner New illustrations & examples appropriate to the material discussed should be introduced as further evidence of the ability to recognize the principles of the question & their application to relevant current situation. (E.g. Able to apply theory to the context given and explain the implications using the theory of CA with good examples)

(b) Discuss the role of government in the age of globalization. [15]

Introduction

- Define globalization: Globalization is often used to refer to **economic globalization**, that is, “integration of national economies into the international economy through trade, foreign direct investment, capital flows, migration, and the spread of technology.”
- The age of globalisation brings about many challenges as well as opportunities for countries. As a result, there is a need for the government to step in to reap the benefits and minimize the costs.

Body

(There are many possible points. As long as the students bring out the problem/benefit brought about by globalization and evaluate the role the government has to play, marks should be awarded.)

What comes with globalization?

- Increase in international trade at a much faster rate
- Increase in international flow of capital including foreign direct investment
- An increase in movement of labour across boundaries
- An increase in international outsourcing and offshoring by multinational corporations (MNCs)

Riding above the wave of globalization to reap its benefits:

Sustained economic growth via maintaining export competitiveness

- The government can remove trade barriers to allow for greater specialization based on CA and reap the benefits of increased consumption.
- Trade policies – signing of FTAs, lower tariffs → higher export sales → growth of X-oriented industries → meet the higher increase in AD by increasing production and create employment.
- Supply side policies – subsidise R&D to improve the non-price competitiveness of our exports

Attract more FDI

- Government can have policies that will attract FDI such as low corporate taxes or good infrastructure. → increase I → higher AD in SR and increase AS in LR.
- Flexible wage system to keep labour costs low

Attract more foreign talent

- Lower income tax
- Immigration law less stringent – grant PR-ship to diploma holders and not just graduates.

Illustrate with AD-AS – AD and LRAS increase – lead to higher actual and potential growth and also price stability.

Limitations of all policies or any negative implications:

To compensate for the loss in government revenue due to lower direct taxes, the government has to increase indirect taxes such as GST or VAT. This may lead to tax-push inflation. Government will then need to offer GST-offset packages to help the poor to tide over the rise in cost of living.

Policies to curb the ill-effects of globalization:

Contagion Effect – susceptible to cyclical unemployment

- Countries that are open to free trade will be more prone to contagion effects of other countries' economic crisis. These shocks can be transmitted from one country to another through various channels - trade, financial and mechanical spillovers.
- Governments will have to have sufficient policy tools and leeway to adjust to the rise and fall due to the contagion effects.
- **Expansionary demand management policies** to increase AD in the SR: **the effectiveness of such policy is limited since recession is externally induced and especially when the affected country is highly dependent on trade.**
- **Diversification of export products and more countries to spread the risks. At the same time, make demand for exports more price-inelastic via R&D. Once again the effectiveness is questionable as the world is interconnected and trading partners of one are usually of others. Through FTAs with many countries, it at best slows down the contagion effect but it can't prevent it from happening. Also, when income falls, even if exports are price inelastic won't help. As long as it's normal goods, demand will fall with income. A country also can't just diversify into any kind of exports as it should be**

producing goods it has CA in.

Structural Unemployment and growing income gap

- If the globalization leads to rapid economic changes, this can result in various negative outcomes/ cost such as **high unemployment** in the sunset industries that have lost CA.
- This leads to **growing income gap**: Wages of lowly skilled labor will generally grow slower than that of highly skilled labor.
- Thus rapid growth might not necessarily improve the standard of living for the majority. In fact, people in countries in US might even face problems of unemployment due to outsourcing e.g. of call centres to India and the textile manufacturing to China.
- Government may want to protect the industry in the short run but concurrently retrain the workers in these industries to equip them with skills to work in industries that the country has CA in. **This is because protection is a SR policy and cannot solve the root of the problem. The country needs to go through structural change and equip the people with the correct skills in the 'new industries'. So there is a need to use supply-side policy – retraining of workers → allow for better match of skills and jobs available while speeding up its restructuring of the economy**
- Infant industries will also not be able to realize their potential. Government should protect these industries till they are competitive. **But it may be difficult for the government to remove the BOE later.**

Susceptible to import-price push inflation

- For Singapore, it can maintain a strong S\$ to reduce the imported inflation – a gradual appreciation to prevent cost escalation of imported raw materials as well as final goods and services.
- Prices and income policies - cushion the impact of rising import prices but they are only temporary.
- Supply-side policy to improve productivity → to reduce unit costs in the SR to offset the higher import prices and increase productivity in the LR

Conclusion

Globalisation results in cost and benefits. Governments have a key role to play to maximize the benefits and minimize the cost of globalisation.

OR

Conclusion/Evaluation

- There is a need to constantly review current policies to ride on waves of globalisation
- Coping with globalisation is about coping with change. To sum up, markets open to trade and investment and which instill competitive pressures among businesses ultimately increase our material well-being. At the same time, highly dynamic markets represent a source of insecurity for workers and the costs of adjustment can fall on a number of people.
- The appropriate response is not protectionism. Rather, it calls for more open, well-governed markets coupled with policies that facilitate adjustment, while addressing the needs of vulnerable workers and spreading the benefits of globalisation. This way, countries like Singapore will benefit fully from the spoils that stem from market openness while the adjustment costs are minimised.

General Comment

Differences in grades should be determined by the ability of the candidate to demonstrate the various objectives of the examination listed in the syllabus &

not purely by the ability to itemize further facts from the content of the analysis.

An overall guide to the marks for individual questions is given below; these form a total of 21 marks as the other 4 marks are reserved for evaluation.

Levels explained:

L1 Knowledge/ Recognise (Description)

Identify the key theory without explanation
Outline gives a list of relevant factors

L2 Consolidate (Add some detail – application)

Explain what happens – descriptive
Clarify give examples without explanation

L3 Elaborate (Extend to include analysis)

Analyse use relevant theory to aid explanation
Apply place explanation in context

Evaluation marks:

E2 Judgement based on analysis
E1 Mainly unexplained judgement

Level		Descriptors
L1 (U grade)	1-5	<ul style="list-style-type: none"> Answers are mostly irrelevant Only a few valid points are made incidentally in an irrelevant context <ul style="list-style-type: none"> Answers shows some knowledge but does not indicate that the meaning of questions has been properly grasped Basic errors of theory or an inadequate development of analysis may be evident <p>(e.g. able to explain globalization but the points on role of government are randomly scattered and not answering the question at all)</p>
L2	6-8	<ul style="list-style-type: none"> Accurate though undeveloped explanation of the facts relating to the question together with an explanation. <p>e.g. Explanation of challenges of globalization and government intervention but not thoroughly explained)</p> <p>(An answer in the mark range has captured most of the arguments put forth in the answer plan above but does not have critical comment or has a little less scope of discussion compared to the essay plan. Answers which examine only costs or benefits of globalization should be kept within this mark range. Globalisation brings about both opportunities and challenges and hence, a well-discussed essay on role of government should include both sides)</p>
L3	Lower 9	<ul style="list-style-type: none"> Answer shows a good knowledge of the facts and the theory of the question, clear evidence of the ability to use facts and theory with accurate reference to the question Evidence of the ability to examine the implications of the questions & an attempt to distinguish between facts and value judgments. (e.g. globalization could bring about unemployment (fact) but this doesn't justify protectionism by the government. (value judgement). Instead, government should skill the workers in the areas of comparative advantage)

		<ul style="list-style-type: none"> • Clear statements, supported by reasoned arguments should be given & there should be some attempt at a conclusion to the question • Clear reasoned structure to the whole answer • Lack of critical comment (e.g. removal of tariffs for infant industries might be difficult.)
	Upper 10-11	<ul style="list-style-type: none"> • Thorough knowledge of facts and theory with an excellent ability to describe & explain this in a precise, logical, reasoned manner • Ability to query some of the assumptions • New illustrations & examples appropriate to the material discussed should be introduced as further evidence of the ability to recognize the principles of the question & their application to relevant current situation. <p>(Thorough in both depth and scope of discussion with coherent writing)</p>
Level	Descriptors	
E2 3-4	Judgment based on analysis	
E1 1-2	Mainly unexplained judgment	

6. Globalisation presents both opportunities and challenges. Discuss why some countries gain more than others.
[25][JJC2010]

Marking Scheme

Knowledge, Application, Understanding and Analysis		
L3	Answers show well-developed analysis of both challenges and opportunities of globalisation. Answers attempt to make a comparison between countries.	15 - 21
L2	Answers show understanding and explanation of both challenges and opportunities of globalisation. Max 11 marks if answers show understanding and explanation of either challenges or opportunities of globalisation.	9 - 14
L1	Answers show descriptive knowledge on challenges and/or opportunities of globalisation.	1 - 8
Evaluation		
E2	Judgment based on sound economic analysis on net benefits of globalisation as some countries are able to maximise the opportunities presented by globalisation and manage the challenges posed by globalisation.	3 - 4
E1	Mainly unexplained judgment on why some countries gain more benefits from globalisation than others.	1 - 2

- Define Globalisation
- With globalisation, some countries may be able to reap more benefits than the others. This would greatly depend on whether these countries are able to maximise the opportunities presented by globalisation and manage the challenges posed by globalisation.

- Singapore is a small and open economy that is import-dependent and export-oriented, one of the main benefits that Singapore gets from globalisation is the increased availability of export markets. With an increased in market size, Singapore firms can reap greater economies of scale which will help lower their costs of production. This would improve her export competitiveness in the international market. The more than proportionate increase in quantity demanded for exports due to its elastic demand will improve export earnings, increase the aggregate demand, bringing about a multiple increase in real national income via the multiplier process and higher employment.
- This is a very important benefit for Singapore as Singapore is much dependent on trade for its economic growth. However, this also brought about increased vulnerability for Singapore due to greater global inter-dependence of economies. Singapore has becomes more exposed to external shocks.
- As the global economy becomes more integrated, there will be increased competition since local firms now have to compete with foreign firms in order to capture market share. This could possibly result in price competition, benefiting the consumers with cheaper goods and services. Moreover, with increased competition, firms may also work on improving the quality of their products via research and development or other means to prevent the loss in market share. Consumers can now also enjoy a greater variety of goods and services with the world markets becoming more open with globalization.
- However, some local firms which are unable to restructure fast enough would lose out in face of greater competition, especially to countries like China which poses strong competition as a low cost producer. Singapore was not spared from the competition posed by China as a number of FDI moved out of Singapore in the nineties. This resulted in lost of jobs especially those belonging to the low skilled workers and caused growing income inequality.
- At the same time, globalisation and competition from other countries propelled Singapore to venture into developing new niche areas that she has a comparative advantage in. This strategy brought about the development of new tertiary sectors and attracted new FDI in the like of biotechnology and tourism services to Singapore. Singaporean workers who lose their jobs due to relocation of low-end manufacturing firms may not be unable to acquire new skills quick enough to find employment in these sunrise industries, hence contributing to the structural unemployment.
- Fortunately, the Singapore government has put in place policies that are designed to convert the challenges of globalisation into opportunities. The Singapore government devoted much of her government's budget to investing in research and development and skills upgrading. A substantial amount of funding was set aside to retrain and equip the workforce with the necessary skills required by these sunrise industries. The workforce will thus benefit as they move from unskilled to skilled sectors and they will get to earn higher income. Appropriate polices are also in place to redistribute wealth to improve the problem of widening income gap.
- On the other hand, countries like China which is resource rich in labour has a comparative advantage in low-end and labour intensive manufacturing industries.

With globalisation and since joining the World Trade Organisation in 2001, China becomes the world most sought after manufacturing base. Her huge manufacturing capacity brought about high export earnings and growth of FDI at a prodigious rate, one that is much greater than the growth in world trade. China's ballooning foreign trade sector contributed to the growth of the economy, increasing national income via the multiple and reduced unemployment. The rapid growth of China's economy improves the standard of living for some Chinese.

- The influx of FDI, especially those from the more advanced countries brought in their expertise in the various fields and assisted in the transfer of technology, management and marketing skills into China. This helped her to improve on efficiency and the quality of products as well as the quality of her labour force, all of which are important factors towards expanding her productive capacity. These FDI also created the much needed jobs vacancies for China which was then facing massive unemployment problems due to large number of migrant workers moving into the urban provinces seeking employment opportunities. However, the income inequality problem in China is worsening especially between the urban and rural areas. The success of China also brought about rising threat of protectionist actions by developed countries.
- Developing countries like China tend to benefit more as there would be greater utilisation of underemployed resources. Further, being large and less open enable China to better negate external shocks as compared to Singapore as China can rely on her huge domestic market for growth. However, the Chinese government may have less ability to deal with the costs of globalisation. Macroeconomic aims of achieving economic growth and higher employment conflict with environment degradation, large urban rural divide, social issues between the urban workers and unskilled migrant workers. These are massive problems yet to be resolved in China.
- With globalisation, different countries get to benefit but at different rates. Countries such as Singapore has been able to maximise the opportunities presented by globalisation, This is done through restructuring the economy and developing new niche areas that she has a comparative advantage in.

Developing countries on the other hand may have limited tools to deal with the cost of globalisation. Government intervention policies are necessary and crucial to determine whether a country can reap the net benefits of globalisation and whether a country can gain more than the others.



20. 2011 Other JCs' Prelims – INTERNATIONAL TRADE (H2)		
1	ACJC 2011	To what extent can globalization contribute towards maintaining price stability in Singapore? [25]
2	AJC 2011	<p>In economics, globalisation broadens the free market to include many nations to which it had not previously reached. However, protectionism has recently been rearing its head in the form of tariff hikes by some countries in response to the global economic crisis.</p> <p>(a) Using demand and supply analysis, explain the pattern of trade between countries. [10]</p> <p>(b) Discuss whether you agree that protectionism is the best approach to deal with the challenges posed by globalisation. [15]</p>
3	CJC 2011	<p>Higher labor costs in China have prompted companies to move production to lower-wage countries like Bangladesh, Vietnam and Indonesia. Financial Times, "China's Era of Cheap Goods Over", 24 March 2011</p> <p>(a) Show how changing factor endowments can affect a country's trading pattern. [10]</p> <p>(b) Assess whether free trade brings about greater benefits to large economies like China and Vietnam than small economies like Singapore. [15]</p>
4	DHI 2011	<p>Whenever the government announces a rising deficit, the media routinely declare the "bad news" that the trade gap has "worsened" – no matter how good the accompanying economic news may be on inflation, employment, and growth.</p> <p>(a) Explain how a rising trade deficit could impact the circular flow of income. [10]</p> <p>(b) Discuss whether a government should actively pursue policies to correct a trade deficit. [15]</p>



5	DHI 2011	<p>Singapore's trade with major trading partners such as Malaysia, [the European Union], China, US, Indonesia, Japan and Hong Kong increased in 2010 due to improved global economic conditions.</p> <p style="text-align: right;">- Singstat, 14 March 2011</p> <p>(a) Explain whether Singapore's trade patterns agree with the predictions of economic theory. [12]</p> <p>(b) Discuss the extent to which globalisation has benefitted small and open economies more than large and less open ones. [13]</p>
6	HCI 2011	<p>(a) Explain how globalisation has affected Singapore's pattern of trade with the rest of the world. [12]</p> <p>Singapore should not continue to rely on an export-led growth strategy as it causes much volatility to economic growth.</p> <p>(b) To what extent do you agree with the above statement? [13]</p>
7	IJC 2011	<p>(a) Analyze the impact of globalization on Singapore's balance of payments. [10]</p> <p>(b) Assess whether exchange rate policy is the most effective policy in managing the balance of payments in the light of a rise in globalization. [15]</p>
8	JJC 2011	<p>(a) Explain the economic basis for embracing free trade in Singapore. [10]</p> <p>(b) In the light of the economic downturn, discuss the importance of Free Trade Agreements (FTAs) in influencing the trade patterns between Singapore and the rest of the world, [15]</p>
9	MI 2011	<p>(a) Explain the basis for protectionistic measures. [10]</p> <p>(b) Recommend policies for the Singapore economy to cope with the challenges of globalisation. [15]</p>
10	MJC 2011	<p>Some economies have balance of payments deficits while others have balance of payments surpluses.</p> <p>(a) Explain the importance of a sound balance of payments to Singapore. [10]</p> <p>In 2009, the Singapore government implemented a budget deficit while the Monetary Authorities of Singapore pursued zero appreciation of the exchange rate to stimulate her stagnating economy.</p> <p>(b) Discuss the factors that would affect the success of these two policy measures to boost economic growth in Singapore. [15]</p>
11	MJC 2011	<p>(a) Account for changes in Singapore's pattern of trade with the rest of the world. [10]</p> <p>(b) Assess the relevance of protectionism in today's globalized world. [15]</p>

12	NJC 2011	Discuss how globalisation affects households and firms in both developed and developing countries. [25]
13	NYJC 2011	<p><i>‘Globalization is much like fire. Fire itself is neither good nor bad. Used properly, it can cook food, sterilize equipment, form iron, and heat our homes. Used carelessly, fire can destroy lives, towns and forests in an instant.’</i> Adapted from www.globalenvision.org</p> <p>In the light of the above statement, assess measures that the Singapore government may adopt to manage globalisation. [25]</p>
14	PJC 2011	“Rapid globalization has brought about greater market access and partners for development, but has also placed some economies in a more vulnerable position.” Discuss. [25]
15	RI 2011	<p>(a) Analyze the impact of globalization on Singapore’s balance of payments. [10]</p> <p>(b) Assess whether exchange rate policy is the most effective policy in managing the balance of payments in the light of a rise in globalization. [15]</p>
16	RVHS 2011	<p>(a) Explain how determinants of globalization have changed the pattern of trade among countries. [10]</p> <p>(b) Discuss the policies currently adopted by the Singapore government to deal with structural unemployment and widening income inequality as a result of globalization. [15]</p>
17	SAJC 2011	<p>Globalisation is a double-edged sword, as the increased interconnectedness not only creates opportunities but also presents risks. Speech by Mrs. Lim Hwee Hua, Minister Of State For Finance And Transport At The CPA Forum, Aug 2007</p> <p>(a) Explain how globalisation could bring opportunities and risks to an economy. [12]</p> <p>(b) Discuss whether the Singapore government currently adopts appropriate policies to reduce the risks of globalisation. [13]</p>
18	SRJC 2011	Discuss the impact of globalisation and capital flows on the Singapore economy. [25]
19	SRJC 2011	<p>(a) Explain the main causes of a balance of payments deficit of a country. [10]</p> <p>(b) Discuss whether Singapore has the most to gain as a result of a depreciation of the Singapore dollar. [15]</p>

20	TJC 2011	<p>According to the WTO, restriction of trade is not the cure for economic problems such as trade imbalances and high levels of unemployment, but it could easily provoke retaliation, which would seriously threaten jobs and growth worldwide.</p> <p>(a) Explain how and why countries engage in protectionism. [10] (b) Protectionism is the only viable policy available for a country to reduce both a large trade imbalance and high unemployment. Discuss. [15]</p>
21	TJC 2011	<p>Globalisation has allowed U.S. firms to capitalize on the rapid growth in emerging markets like China, India, and Latin America, and earn much stronger profits than if they had been totally dependent on the struggling U.S. economy.</p> <p>Discuss the extent to which the US and the emerging economies benefit from such globalization. [25]</p>
22	TPJC 2011	<p>(a) Explain the factors that contribute to the world's rapid movement towards globalization. [10] (b) Analyze the possible effects of increasing globalization on the balance of payments of a country. [15]</p>
23	VJC 2011	<p>In 2010, the total trade deficit in the US was US\$497.9 billion, an increase from the US\$375 billion trade deficit of 2009.</p> <p style="text-align: right;">Source: <i>U.S. Census</i></p> <p>(a) Explain the possible causes of the trade deficit in the US. [10] (b) To what extent does the nature of the US economy influence policy recommendations to tackle the worsening trade deficit? [15]</p>
24	VJC 2011	<p>Globalisation of trade and investment can raise global output. Unfortunately, the impact on prosperity both between and within different countries is very variable, with some groups suffering an absolute decline in incomes.</p> <p>Examine the claim that globalisation whilst beneficial overall has adverse economic consequences for certain firms and households. [25]</p>
25	YJC 2011	<p>'US demand will not be the engine of global growth that it was prior to the crisis. To ensure robust and sustainable global growth, trade imbalances need to be corrected.'</p> <p style="text-align: right;">Adapted from The Straits Times, 23 May 2011</p> <p>(a) Explain the determinants of sustained economic growth. [10] (b) To what extent can the trade imbalances be solved by the trade surplus nations allowing their currencies to appreciate. [15]</p>

2011 Other JCs' Prelims - INTERNATIONAL TRADE (H1)		
1	IJC 2011	(a) Explain the causes of a deficit in the balance of payment. [10] (b) Assess the view that supply side policy is the best policy to manage balance of payment in Singapore. [15]
2	JJC 2011	Firms are more cautious and have held back on their hiring as the global economic recovery remains weak and uncertain. With an increasingly large U.S. federal debt, the government has its hands tied for any further spending to stimulate the economy. (a) Explain why the U.S. government prioritizes to solve a balance of payment deficit over high unemployment from the global recession. [10] (b) Discuss the view that fiscal policy is the best way for the U.S. government to achieve a healthy balance of payment and low unemployment. [15]
3	MI 2011	"Policymakers have said recently that they will use a stronger Singaporean dollar to combat inflation, but they don't want to strengthen the currency too much because that could undermine the city-state's export competitiveness." Source: Taipei Time, 15 Apr 2011 (a) Explain how the exchange rate of a country is determined. [10] (b) Discuss whether this policy of strengthening the exchange rate alone is adequate to control inflation in Singapore. [15]
4	MJC 2011	In light of the trend towards globalization, achieving a healthy balance of payments is the top macroeconomic objective for governments. (a) Explain the domestic and external effects of a change in exchange rates on the macroeconomy. [10] (b) Assess the view that the Singapore government should focus on achieving a healthy balance of payments as its main macroeconomic goal. [15]
5	NJC 2011	(a) Explain why a country may experience a balance of payment deficit. [10] (b) Assess policies a country can adopt to deal with a balance of payment deficit. [15]
6	NYJC 2011	(a) Explain the possible causes of a country's worsening balance of payments. [10] (b) Comment on the measures available to a government faced with a worsening balance of payments. [15]

7	SAJC 2011	<p>The balance of payments remains one of the key economic indicators for an economy, especially so in the face of globalisation. A finer look at this statistic can often reveal new insights to an economist.</p> <p>(a) Explain why the capital and financial account might grow in its relevance as an economic indicator in the face of a more globalised world economy today. [10]</p> <p>(b) Comment on whether an imbalance of the balance of payments would require the government to make it the top priority in formulating its policies to achieve macroeconomic goals. [15]</p>
8	YJC 2011	<p>Most countries have opted to contain currency appreciation to avoid losing competitiveness.</p> <p style="text-align: right;">Source: Forbes Asia Magazine, 16 November 2009</p> <p>Discuss the economic impact of a strengthening exchange rate on an economy. [25]</p>

PAST YEARS A LEVEL QUESTIONS (H2)

No.	Year	Question
1	2007 H2	<p>(a) Explain the potential causes of a balance of payments deficit on current account. [10]</p> <p>(b) Discuss which measures, if any, a government should adopt when confronted with a current account deficit. [15]</p>
2	2007 H2	Discuss whether Singapore is among the economies that have most to gain from globalization. [25]
3	2008 H2	<p>(a) Explain the determinants of the pattern of trade between Singapore and the rest of the world. [10]</p> <p>(b) Discuss whether the Singapore government should change its policies for managing the balance of payments. [15]</p>
4	2009 H2	<p>An economist stated 'The trend towards globalization leaves no room for protectionism.'</p> <p>(a) Account for the trend towards globalisation. [10]</p> <p>(b) Discuss whether you agree with the economist's view. [15]</p>

5	2010 H2	<p>There is a general consensus among economists that protectionism is a bad thing.</p> <p>(a) Explain why protectionism exists. [8]</p> <p>(b) Assess the extent to which the Singapore government's approach to international trade may need to be adjusted in response to a growth in worldwide protectionism. [17]</p>
6	2011 H2	<p>'The Singapore economy is open to the world, in trade and investment. This is both a matter of policy and necessity because of our size and limited resources. In 2008, our trade to GDP ratio was 360%, the highest in the world.' (MTI, Singapore, 2009)</p> <p>Discuss whether the openness of the economy is beneficial or harmful to the standard of living in Singapore. [25]</p>

PAST YEARS A LEVEL QUESTIONS (H1)

No.	Year	Question
1	2009 H1	<p>When societies are attempting to solve the central economic problem by improving the standard of living of their citizens at a rapid rate, they are always inclined to try to do it behind protectionist trade barriers.</p> <p>(a) Using the concept of opportunity cost, explain the central economic problem that all societies have to solve. [10]</p> <p>(b) Discuss the view that the reasons for protectionism can never outweigh the benefits of protectionism. [15]</p>
2	2011 H1	<p>(a) Explain how the concept of opportunity cost can be used to analyse the basis for trade between countries. [10]</p> <p>(b) Suppose a country such as Singapore were to experience a significant fall in demand for its exports. This results in a balance of trade deficit and a rise in unemployment. Discuss the advantages and disadvantages of a government decision to respond by reducing the external value of its currency. [15]</p>





NYJC

2013 JC1 H2 ECONOMICS

21. Firms & How They Operate: Theory of Production and Costs; The Perfectly Competitive Market; The Monopolist

Review on: Theory of Production and Market Structure

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Theory of Production and Cost	Tick
1. Differentiate between the short run and long run	
2. How to production cost differ between short run and long run?	
3. Explain what is meant by Internal economies of scale?	
4. What are the sources of internal economies of scale?	
5. Explain what is meant by Internal diseconomies of scale?	
6. What are the sources of internal diseconomies of scale?	
7. Explain what is meant by external economies of scale?	
8. What are the sources of external economies of scale?	
9. Explain what is meant by external diseconomies of scale?	
10. What are the sources of external diseconomies of scale?	
11. How does external economies and diseconomies differ from internal economies and diseconomies respectively?	
12. Why do small firms exist?	
Market Structure	
The Perfectly Competitive (PC) Market	Tick
13. What are the Characteristics of a PC market?	
14. How does the market decide on the equilibrium price and quantity?	
15. What is the assumption of the objective of a PC firm?	
16. Using marginalist principle, show how the firm decides on its price and output?	
17. Explain how firms compete in the such a market structure	
18. In the short-run what are the types of profit may a PC firm achieve? Explain.	
19. In the long run what are the types of profit may a PC firm achieve? Explain.	
20. What is the shutdown condition of a PC firm in the short run?	
21. What is the shutdown condition of a PC firm in the long run?	
22. What curve represents the supply curve of a PC firm?	
23. List the key advantages of a PC market structure?	
24. List the key disadvantages of a PC market structure?	

The Monopolist	Tick
25. What are the Characteristics of a monopoly market?	
26. What are barriers to entry?	
27. What roles do barriers play in deciding the LR equilibrium profits?	
28. What are the possible objectives of a monopolist?	
29. Using marginalist principle, show how the firm decides on its price and output?	
30. Explain how firms compete in the such a market structure	
31. In the short-run what are the types of profit that a monopolist may achieve? Explain.	
32. In the long run what are the types of profit that a monopolist firm may achieve? Explain.	
33. What is the shutdown condition of a monopolist in the short run?	
34. What is the shutdown condition of a monopolist in the long run?	
35. Does a monopoly have a supply curve?	
36. List the key advantages and disadvantages of a monopolistic market structure?	



SECTION 1: Concept Reinforcement

Theory of Production and Costs

1. Define production.

Production refers to the creation of goods and services to satisfy human wants.

2. Distinguish between the short and long run.

The short run refers to the time period during which at least one factor is fixed whereas the long run refers to the time period which is long enough to allow the firm to change quantities of all factors of production.

3. (J93) Which statement about the long-run average cost curve of a firm is correct?

- a. It falls continuously because of economies of scale
- b. It traces out the costs appropriate to operating a given plant
- c. It assumes that factor input proportions are held constant as output increases
- d. It is tangential at all points to the minimum points of U-shaped short-run average cost curves
- e. It indicates the minimum average cost at which each level of output could be produced

Answer: e

4. Explain two examples of internal economies of scale and two examples of internal diseconomies of scale.

Examples of internal economies of scale that students explain can be of technical economies (indivisibilities, division of labor, specialized machinery), managerial/administrative economies, commercial/marketing economies (buying in bulk, selling in bulk), financial economies (better credit risk, easier to raise capital as joint-stock companies), risk-bearing economies (insurable risks, uninsurable risks), among others.

Examples of internal diseconomies of scale include difficulties in efficient management, difficulties in control and coordination, difficulties in adjusting to changing market conditions, running at full capacity or over-utilization leading to breakdown, paying higher prices for inputs as the firm expands.

Students to explain chosen examples in detail.

5. Distinguish between internal and external economies of scale.

Internal economies of scale are reductions in long run average costs enjoyed by a firm as a result of expanding its output, whereas external economies of scale are cost savings that accrue to individual firms in an industry as a result of the expansion of the industry as a whole and the geographical concentration of firms in an industry.



The Perfectly Competitive Market:

1. (J80) Which one of the following is **not** consistent with perfect competition?
 - a. A large number of producers and consumers
 - b. Advertising by individual firms
 - c. One market price
 - d. A homogeneous product
 - e. A perfectly elastic demand curve for each firm

Answer: b

2. What is the assumption of the objective of a perfectly competitive firm?
Profit maximization.
3. Explain the shut-down condition for a perfectly competitive firm in the short run.
Total revenue is less than the total variable cost of production.
4. (D83) Which one of the following is **not** a necessary condition for a firm, and the industry of which it is a part, to be in long-run equilibrium under perfect competition?
 - a. For each firm, marginal cost is equal to marginal revenue
 - b. For each firm, average cost is equal to marginal cost
 - c. For each firm, marginal cost is rising
 - d. For each firm, average cost is at its minimum
 - e. For each firm, marginal cost is less than average cost

Answer: e

5. Explain the types of profit a perfectly competitive firm may earn in the short run and the long run.
In the short run, a PC firm may earn normal, supernormal or subnormal profits, while in the long run, a PC firm may earn normal profits only.
Normal: the minimum amount of returns to induce the firm to remain in the industry and keep its resources in their present use
Supernormal: the profit level when a firm is earning higher than normal profit
Subnormal: loss-making level of returns
6. Derive the short run supply curve of a perfectly competitive industry.
Horizontal sum of all firms' marginal cost curves, where these lie above average variable cost.



The Monopolist:

1. What are the characteristics of a monopolistic market structure?
One firm supplying to the whole market, highly differentiated (unique) product, high barriers to entry, monopoly power
2. Explain what barriers to entry are and the role they play in determining long-run equilibrium profits.
Barriers to entry are impediments that prevent new firms from competing on an equal basis with established firms in an industry. High barriers to entry allow a monopolist to earn supernormal profits in the long run.
3. (D84) The supernormal profit of a firm is defined as the additional profit earned by a firm
 - a. By virtue of its superior efficiency
 - b. Above the amount needed to cover depreciation
 - c. In excess of the amount needed to keep the firm in production in the short run
 - d. Above the average rate of return earned by competing firms
 - e. In excess of the amount needed to keep its resources in their present use

Answer: e

4. (D81) A firm produces a single good. Under which of the following conditions is it most likely to be able to pursue a policy of price discrimination?
 - a. There are separate and distinct markets for its product
 - b. There are constant returns to scale
 - c. Its product has a high elasticity of demand
 - d. Its product has a low elasticity of demand
 - e. Marginal revenue is constant

Answer: a

5. Explain what will happen to price and output if a single monopolist enjoying internal economies of scale is replaced by a large number of producers operating under perfect competition.
Price will increase; effect on output will be indeterminate.

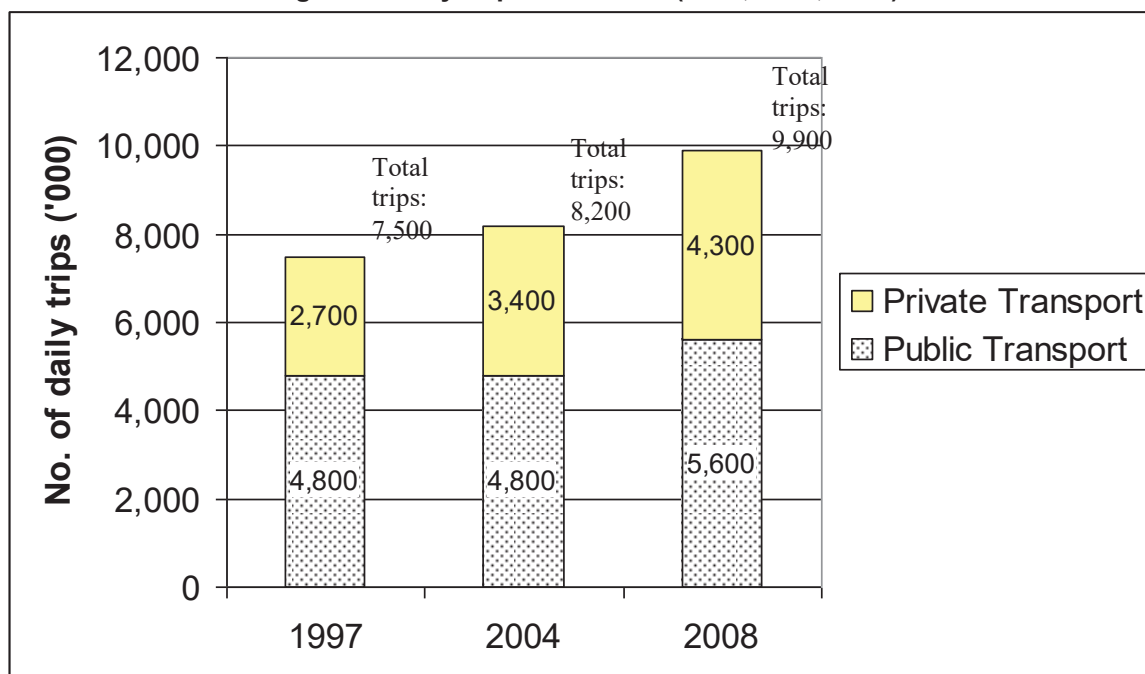


SECTION 2 - Case Study

Case Study Question 1: Land transport in Singapore

Adapted from AJC 2010 Prelim Exam H2 P1 Q1

Figure 1: Daily Trips Generated (1997, 2004, 2008)



Note: Numbers are rounded off

Table 1: Singapore Population, GDP per Capita, Economic Activities and Daily Trips Made

Year	Population (mil)	GDP per Capita (\$'000 at 2000 prices) ¹	Resident Unemployment Rate ²	Daily Trips per Capita
1997	3.8	36.2	3.5% ³	1.98
2004	4.2	44.2	4.4%	1.97
2008	4.8	48.3	3.2%	2.18

Note: Numbers are rounded off

¹ From Singapore Department of Statistics website

² From Ministry of Manpower's website

³ This is 1998's unemployment rate as the 1997 figure is not available.

Source: Land Transport Authority, *Journeys*, May 2010

Extract 1: Public transport in Singapore

In Singapore, the provision of public transport was premised on the concept of a triumvirate partnership. The government provided the transport infrastructure, commuters paid for the service, while the operators extracted efficiency dividend within the regulated service standards and fares. As a result, public transport was operated on a commercial basis without direct operating subsidy from the government. Fares for trains (or rapid transit systems) and buses were regulated by the Public Transport Council (PTC). Service provision was regulated by the PTC and the Land Transport Authority (LTA).

Source: Striking A Fare Deal, *World Conference on Transport Research*, June 2007



Figure 2: Bus Operators' Market Share (Financial Year 08/09), number of bus services



Note:

1. Trunk services are long-distance services that connect new towns with industrial estates and the city
2. Feeder services are short-distance services that serve the residential neighbourhoods within major new towns by bringing commuters to the town center and nearby bus interchanges/train stations.

Source: Public Transport Council Annual Report, 2008-2009

Extract 2: Public transport services

Public transport services are provided by two private operators, SBS Transit and SMRT Corporation. Both operators provide rail as well as bus services. However, they are assigned specific areas or territories of responsibility, such as running different MRT lines and a network of bus routes in different regions within which, each company is responsible to plan and deliver a comprehensive network of transport services to meet the service standards set by the regulator. For example, SMRT Corporation runs the North-South, East-West and Circle train lines and bus routes serving selected housing estates in the northern and north-western parts of Singapore. SBS Transit runs the North-East line and bus routes serving almost the entire island. Thus, there is only a limited amount of cross-territorial competition. However, the two operators would be benchmarked against each other as a kind of proxy competition, whereby the regulator would assess and compare how efficient their operations were. Such benchmark competition could help to reduce the information asymmetry between the operators and regulator.

A service company, Transit Link Pte Ltd, was jointly set up in an effort to integrate trains and buses to function together as one single, comprehensive public transport network. Transit Link facilitates fare integration, information integration and network integration.

Currently, the two companies run these routes at affordable fares because they have the ability to balance the profitable routes with the unprofitable ones, within the regulated framework of limited competition.

Nevertheless, in response to clamour for more competition, the PTC called a competitive tender in year 2000 for provision of bus services to a small industrial island (Jurong Island) connected to the mainland. It also opened up short feeder services in new towns in 2002 for free competition. Would-be-operators were given the leeway to decide on the type of buses that they deploy subject to meeting minimum vehicle standards.

In January 2008, the Government moved towards introducing competition “for the market”, instead of relying primarily on benchmark competition. Unlike competition “in the market” where different operators compete on the same routes simultaneously, competition “for the market” would allow operators to bid to operate an MRT line or packages of bus routes for a fixed period of time. Operators could be selected based on the cost and/or quality of the services they offer. The chosen operator would be the sole provider for the package of routes. Operators who do not perform up to the mark risk losing their licenses at the end of the fixed term. This threat of losing their licenses to other operators provides a stronger incentive to be efficient and cost-effective in operations. More recently, the tenure of operating licenses was halved from 30 years to about 15 years to compel operators ‘to improve efficiency, cost competitiveness and service levels’. This provided an effective threat of contestability to the incumbent operator.

Adapted from *Lessons from Bus Operators*, Land Transport Authority, March 2006 and *Economics in Public Policies: A Singapore Story*, July 2009

Questions

- (a) (i) With reference to Figure 1, describe the main features in the generation of trips between 1997 and 2008. [2]
- (ii) Using Table 1, suggest possible reasons for the features observed. [4]
- (b) How far does the data show that SBS Transit and SMRT Corporation are operating as monopolies? [6]
- (c) Discuss whether competition in public transport always benefits the consumers. [8]

Suggested Answers

Question 1: Land Transport in Singapore

a	(i)	With reference to Figure 1, describe the main features in the generation of trips between 1997 and 2008.	[2]
		<i>The number of trips grew rapidly with private transport trips growing faster than public transport trips.</i>	
	(ii)	Using Table 1, suggest possible reasons for the features observed.	[4]
		<ul style="list-style-type: none"> • Increase in population. According to Table 1, Singapore's population had grown from 3.8 million to 4.8 million between 1997 and 2008, a 26 percent increase. This has led to increase in total ridership. • Economic growth. Real GDP per capita grew by 33 percent between 1997 and 2008. Private transport is perceived to be more of a luxury good than public transport. With higher income, the increase in demand for private transport is greater than the increase in demand for public transport, as the demand for private transport is more income elastic relative to demand for public transport. Hence, this explains why private transport trips grow faster than public transport. <p><i>Note: 1 reason for the general rising trend, 1 reason for the more rapid increase in private transport trips.</i></p>	
(b)		How far does the data show that SBS Transit and SMRT Corporation are operating as monopolies?	[6]
		<p><u>Thesis: SBS Transit and SMRT Corporation are likely to operate as monopolies especially for rail transport</u></p> <p><i>For train services, these 2 companies are assigned specific MRT lines. A more appropriate market structure would be monopoly. The 2 companies are actually two mutually-exclusive monopolies running different MRT lines. In Extract 2, SMRT Corporation has the monopoly of North-South, East-West and Circle train lines while SBS transit has the monopoly of North-East line. Similarly, in terms of bus services, each company runs bus routes in different regions with minimal duplication of services.</i></p> <p><u>Anti-thesis: SBS Transit and SMRT Corporation are likely to operate in a oligopoly (duopoly)</u></p> <p><i>The market structure is likely to be a duopoly. From extract 2 para 1, public transport services are provided by 2 dominant players. Figure 2 further supports this for bus services.</i></p> <p><u>Evaluation</u></p> <p><i>Hence, whether SBS Transit and SMRT Corporation operate in a duopoly or monopoly depends on the scope of operation. If the scope is confined only to rail services, then the likely market structure is monopoly. If the scope is broadened to public transport service in general, then the likely market structure is duopoly.</i></p>	

(c)	Discuss whether competition in public transport always benefits the consumers.	[8]
	<p><u>Thesis: Competition benefits consumers</u></p> <p>Through regulation by the Public Transport Council (PTC), the public transport market is highly contestable as SBS Transit and SMRT Corporation could lose their licences to other operators if they do not perform (Extract 2 para 5). PTC had also opened up provision of bus services to Jurong Island and short feeder services in new towns to other operators (Extract 2 para 4). More recently, the tenure of operating licences was halved from 30 years to about 15 years to inject the threat of contestability to the incumbent operators (Extract 2 para 5). Hence, the threat of losing licences to other operators as well as the possible entry of newcomers provides a strong incentive for SBS Transit and SMRT Corporation to provide excellent services to consumers.</p> <p>Moreover, these 2 companies are benchmarked against each other whereby PTC would assess and compare how efficient their operations were (Extract 2 para 1). Faced with close monitoring and high service standards set by the PTC, SBS Transit and SMRT Corporation would have to ensure that quality of service is superior and fares are kept affordable, hence benefitting the consumers ultimately.</p> <p>As a result, competition ensures that there is less allocative and productive inefficiency. With competition, SBS Transit and SMRT Corporation would strive to be more efficient and cost-effective in their operations, in particular for bus routes and/or train lines servicing the same area. If these cost savings are passed on to consumers, they would hence benefit from lower fares, higher consumer surplus and more frequent services.</p> <p><u>Anti-thesis: Competition may also hurt consumers if SBS Transit and SMRT Corporation lose their monopoly power</u></p> <p>However, being large firms, SBS Transit and SMRT Corporation are able to reap substantial economies of scale. If competition is introduced to break up the market power of SBS Transit and SMRT Corporation, the consumer may end up being worse off.</p> <p>Public transport services tend to have some elements of a natural monopoly. The provision of MRT services involves a high initial capital outlay to cover the cost of infrastructure such as tracks, trains and station boxes. Economies of scale are likely to be so significant that unit costs are only minimised if an entire line is operated by a single producer. Beyond that, there is a need to ensure seamless transfers within the whole MRT and public transport network. This could imply a single operator for the entire system or multiple operators with a central office co-ordinating transfer terms and conditions. For example, SBS Transit and SMRT Corporation are able to lower administration and distribution costs when they jointly set up a service company, Transit Link Pte Ltd, to facilitate fare integration, information integration and network integration. Hence, if SMRT Corporation or SBS Transit is no longer the monopoly of the respective MRT lines, it would be much harder for them to integrate their trains and buses to function together as one single, comprehensive public transport network and consumers would have to put up with disorganized, unreliable transport systems.</p> <p>Moreover, the supernormal profits that SBS Transit and SMRT Corporation earn give them the ability to balance profitable routes with the unprofitable ones (Extract 2 para 3) increasing accessibility for consumers.</p> <p><u>Evaluation</u></p> <p>Although the presence of 2 transport operators suggest that there may be abuse of monopoly power, however, with close regulation by PTC on service standards and fares and introduction of competition "for the market" by the government, it is very likely that these 2 companies are like to conduct themselves in a competitive and constructive way. Thus the</p>	

		<p><i>view that competition will benefit consumers holds true.</i></p> <p>Marks Scheme for part (c)</p> <table> <tr> <th colspan="3">Knowledge, Application, Understanding and Analysis</th></tr> <tr> <td>L3</td><td>Thorough, balanced approach to analyzing whether competition benefits consumers, citing evidence from case materials to support the arguments, with good evaluative comments made.</td><td>7-8 m</td></tr> <tr> <td>L2</td><td>Correct, balanced approach but limited or underdeveloped explanation. Some attempt in making reference to the case materials. No / little evaluative comments made.</td><td>4-6 m</td></tr> <tr> <td>L1</td><td>Very superficial analysis. Mere listing of points. Inaccurate knowledge of concepts. One-sided answer, max 3 marks</td><td>1-3 m</td></tr> </table>	Knowledge, Application, Understanding and Analysis			L3	Thorough, balanced approach to analyzing whether competition benefits consumers, citing evidence from case materials to support the arguments, with good evaluative comments made.	7-8 m	L2	Correct, balanced approach but limited or underdeveloped explanation. Some attempt in making reference to the case materials. No / little evaluative comments made.	4-6 m	L1	Very superficial analysis. Mere listing of points. Inaccurate knowledge of concepts. One-sided answer, max 3 marks	1-3 m
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SECTION 3 – Essays

SECTION 3A

1. JJC 2009 Prelim Exam H2 P2 Q2

(a) Contrast the features of perfect competition with those of monopoly. [10]

- Perfect competition is a market structure where there are many buyers and sellers. Each firm produces an identical product. Each firm has no control over the total market supply and is a price taker. As the product is identical, there is no incentive for the perfectly competitive firm to set a price higher or lower than the market price. Perfect competition does not exist in the real world and it is difficult to provide examples for such market structure. However, certain agricultural markets such as markets for potatoes and carrots come close to perfect competition.
- Whereas monopoly is a market structure where there is only one firm in the industry. A monopolist dominates over the market supply. There are no close substitutes for the monopolist's product. A monopolist could set either price or output level, but not both. Examples of monopoly found in Singapore are the Singapore Mint and Public Utilities Board.
- In perfect competition, all buyers and sellers have perfect knowledge such as the prevailing market price. As a result, no seller can charge a price different from what is currently the market price. On the other hand, there is imperfect knowledge in monopoly.
- Based on the characteristics mentioned above, each perfectly competitive firm will face a perfectly price elastic demand curve. There is a single price prevailing in the market and there is no price competition or non-price competition in the form of advertising. In contrast, for monopoly, the demand curve faced by a monopolist is the market demand curve, which is downward-sloping and relatively price inelastic.
- Under perfect competition, there is freedom of entry and exit of firms in the long run. Producers in a perfectly competitive market can only make normal profits in the long run. Under monopoly however, there are high barriers to entry. A monopolist can make supernormal profits even in the long run.

L3	For an answer that uses relevant analysis to explain the differences based on number of firms, nature of products, freedom of entry and exit, etc.	7 – 10
L2	For an answer that gives a descriptive understanding of the differences.	4 – 6
L1	For an answer that shows a descriptive knowledge of the two market structures.	1 – 3

2. SRJC 2009 Prelim Exam H2 P2 Q2

(a) Account for the different types of profits between a perfectly competitive firm and a monopoly in the long run. [10]

Introduction:

1. Define profits: the difference between total revenue and total costs of a firm.
2. In the long run, firms must earn at least normal profits in order to stay in production. However, some firms may earn supernormal profits. The types of profits earned are dependent on the ease of entry and exit of firms in the respective market structures, in this case, PC and monopoly.

Body:

3. Perfectly competitive firms make normal profits in the long run
 - a. Define PC

- b. In the PC industry, there is free entry and exit out of the industry. Firms can enter or leave the industry easily as there are no obstacles to entry. Resources are perfectly mobile and an entrepreneur can move resources in and out of the industry in response to pecuniary signals without any difficulty.
 - c. When firms are making supernormal profit in the short run, they will have an incentive to increase their output. At the same time, new firms would also be attracted to enter the industry. As a result, the market supply increases, leading to a fall in the market price of the good. Hence, the supernormal profit earned by the firms will fall until all the firms are producing at the minimum long run average cost curve and earning normal profit in the long run.
 - d. When all firms make normal profit there is no more incentive for new firms to enter the industry. The number of firms stabilizes. Output of firms also stabilizes as firms are producing at the profit-maximizing level of output. Thus the firms as well as the industry are in equilibrium and long run equilibrium is thus attained.
 - e. When firms are making subnormal profit in the short run, they will reduce their output. At the same time, some firms will leave the industry. As a result, market supply decreases, leading to a rise in market price. Firms will continue to leave as long as they make losses and price will continue to rise as a result. The process will continue until all the remaining firms are making normal profit and producing at the minimum long run average cost.
4. Monopoly can make supernormal profits in the long run
- a. Define monopoly
 - b. The monopolist is protected from competition by high barriers preventing the entry of new rival firms. Due to these strong barriers to entry, the monopolist can enjoy supernormal profits in the long run. The barriers form the basis of monopoly power. It can be classified as economic and institutional barriers.
 - i. Economic barriers to entry may include the following:
 - 1. Existence of huge economies of scale
 - 2. Exclusive ownership or control of source of essential raw materials
 - 3. Institutional barriers

Conclusion:

Hence the existence of barriers to entry determines the different types of profits made by the perfectly competitive firm and the monopoly in the long run. For a perfectly competitive firm, due to its free entry and exit of firms in the long run, it is able to make only normal profits. As for the monopoly, it is able to make supernormal profits due to strong barriers to entry.

L3	Thorough analysis and good examples of how barriers to entry can lead to the different types of profits. Adjustment process from SR to LR profits for PC firm clearly explained.	7 – 10
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L2	Able to provide some analysis of how presence of barriers to entry of firms can determine the types of profits earned by the respective market structures. However, lacks elaboration of types of barriers or the adjustment process.	4 – 6
L1	Smattering of points, some conceptual errors evident. Able to recognize the different types of profits made by the two different market structures	1 – 3

3. TPJC 2009 Prelim Exam H2 P2 Q2

(a) Why would a firm expand in size?

[10]

Introduction:

1. Define firm
 - a. A firm, which is usually profit-motivated, is a business organization involved in the production of goods and services.
2. State the indicators of the size of a firm
 - a. Initial capital setup
 - b. Level of output
 - c. Level of employment

If the above are large, it would indicate that the firm is large.

 - d. Size of the firm will be influenced by minimum efficient scale (MES), ie the lowest rate of output per unit time period at which AC reaches a minimum. High MES means that the firm needs to be large to minimize AC.

Development:

3. Explain the reasons why a firm would want to expand in size

Reasons: a firm would want to expand in size to gain EOS and revenue advantage/market power to maximize its profits

- a. **Cost advantage:** a firm would want to expand in size because there is substantial internal EOS to be exploited. Internal economies of scale are lower unit cost (AC) achieved by a firm when it expands its output or enlarges its scale of production the internal EOS arise within the firm as a result of its own expansion and are independent of the size and expansion of the industry. The firm takes advantage of EOS to charge lower price to drive out smaller competitors. The firm may choose to retain cost savings and enjoy huge supernormal profits instead of passing on to consumers in terms of lower prices.
 - i. Elaborate on any 2 internal EOS
 1. Technical Economies
 - a. Increased Specialization
 - i. As the firm increases in size, it becomes possible to employ the principle of division of labour to an increasing extent. Thus, the larger the scale of production is, the greater the scope of specialization of both labour and machinery.
 - ii. By performing the same actions repeatedly, a worker becomes very skilled and can perform with speed and dexterity. If production is broken down into many different stages, machine can be designed specifically for each stage.
 - iii. Example: this process is clearly seen in a modern car assembly plant, where many of the different stages in assembly are completed by computer-controlled machines. Hence, such mass production techniques have helped to cut down unit costs of production.
 - b. Multi-stage Production
 - i. Large firm may be able to bring together different stages of production in one factor, thus reducing time, transport and fuel in moving semi-finished goods from one factory to another.

- ii. Eg large firm manufacturing tables may be able to convert trees into planks and planks into tables under the same roof.
- c. Indivisibility of Machinery
 - i. Modern machinery is efficient and usually has high productive capabilities. They are suitable for large firms whose output levels are high. A large firm that requires the use of indivisible inputs in its production process will have its AC of production decrease as output increases. This is because the cost of the indivisible input is spread over a higher quantity of output.
 - ii. It is, however, uneconomical for a small firm, whose output level is low, to employ such modern machines. It would be a waste if the small firm cannot use the machines to full capacity.
- 2. Administrative/Managerial Economies
 - a. As the scale of a firm increases, specialists can be employed to manage the firm. Division of labour can be introduced into tasks of management. Different experts can be employed to take charge of planning, production, accounting, sales promotion and personnel management. Efficiency in management thus can reduce unit costs in large firms.
- 3. Financial Economies
 - a. A large firm is often able to obtain finance more easily or on better terms than a smaller firm. Its larger assets and greater selling potential provides banks with greater security and makes it possible for them to provide loans at lower rates of interest. The larger firm can also raise substantial capital through public issue of shares.
- 4. Marketing/Commercial Economies
 - a. A large firm buys its raw materials in bulk and large discounts are often offered by the suppliers. Besides, instead of buying from the wholesaler, the large firm can buy directly from the producer. For example, a garment factory can obtain its textile from a mill at a discount while an independent tailor running a tailoring shop will have to obtain his supplies from the wholesaler.
 - b. In selling a large volume of output, the firm may be able to use more expensive but more cost-effective advertising. Advertising cost can be spread over a large volume of sales. A firm with a nationwide market can afford to advertise in the papers and TV to bring its product to the notice of potential buyers whereas a small firm may not have the capacity to advertise. Though such firms may spend large sums on advertising, their advertising costs per unit sold may be well below those of a small firm.
- 5. Risk-bearing Economies
 - a. Large firms are in a better position to spread risks. Large firms have greater opportunities for reducing risk through the diversification of markets or products.
 - b. If sales drop in one market, a large firm can still rely on sales in other markets to compensate for the loss or if one product becomes unpopular, the firm can make up for the loss from its sale of other products.
- b. Market Share/Market Power**
 - i. Ability to control the market price and output
 - 1. Another reason why a firm would want to grow larger is because it wants to gain greater market share to maximize its revenues and eventually gain market power.
 - 2. The larger firm with market power can control the market price and output. It can raise prices when demand for its products is inelastic to

increase its revenue and hence supernormal profits, assuming that the increase in revenue is greater than the increase in cost. An example would be the retail industry.

ii. Ability to compete locally and globally

1. If a firm expands through merger, it could reduce the number of rival firms and thus reduce competition. This allows the firms to gain greater market share, enabling them to gain greater market power to increase their profit margins. Examples would be the banking industry and department stores.

The large firms would have the ability to compete locally and globally. They would have the financial strength to engage best talents or expertise and abroad. Larger marketing and advertising budgets could be set aside to differentiate its products and stay ahead of its rivals.

[Accept other relevant reasons for expansion]

Conclusion

Not all firms would like to expand as there are inherent problems, such as managerial problems which may arise as a firm grows larger. Some industries require the firms to remain small. Examples are personalized services, such as hair salons, tailoring and dental clinics.

L3	For an answer that clearly explains the reasons why a firm would want to expand in size – both cost advantage and market share/market power. Discuss with relevant examples for analysis. There is evidence of good organization of points.	8 – 10
L2	For an accurate though undeveloped explanation of the reasons why a firm would want to expand in size. An inadequate development of internal EOS. There is some evidence of an ability to give relevant examples. Low L2: explain <u>either</u> cost advantage <u>or</u> market share/market power.	4 – 7
L1	For an answer that shows some basic knowledge of cost and revenue of large firms. Mainly definitions of the various types of internal EOS. Some conceptual errors.	1 – 3

SECTION 3B

1. RJC 2009 Prelim Exam H2 P2 Q3

(a) With the use of an example, explain the concept of price discrimination and the conditions under which it may occur.

[10]

(b) Discuss the view that a price discriminating monopolist will always be preferred to a perfectly competitive market.

[15]

Part (a)

Introduction

Price discrimination occurs

- When a producer sells a specific product to different buyers at different prices...
- When the same consumer is charged different prices for the same product at different time periods...
- ...for reasons not associated with cost differences

Examples of price discrimination

Eg airlines and bus companies charge different fares for adults and children/students.

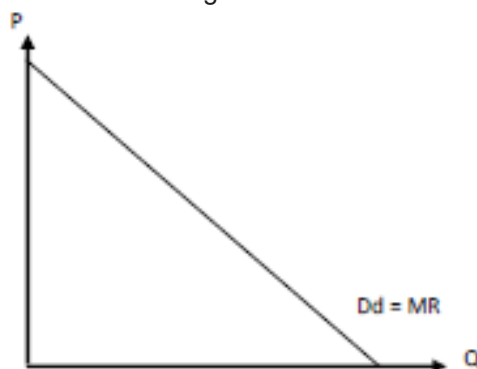
After listing out the example, students should identify the type of price discrimination (most commonly third degree price discrimination).

TYPES OF PRICE DISCRIMINATION

(students need to elaborate 1 type of PD)

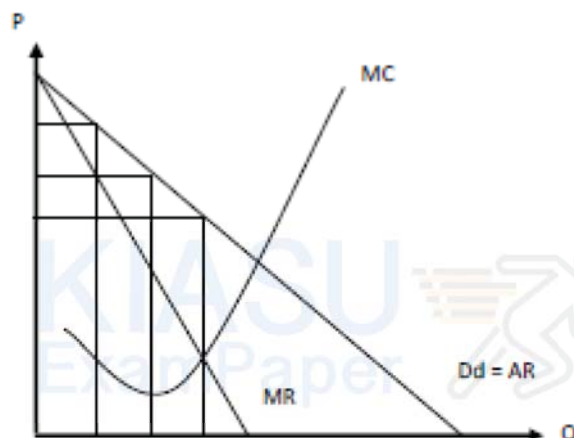
- First degree/perfect price discrimination

- An example of first degree price discrimination is the case of auction sites whereby one's bid determines the maximum price that one is willing to pay for the good
- Under the assumption of perfect information, the practice of charging each customer the maximum price that he is willing to pay for each unit bought is called first degree price discrimination or perfect price discrimination. Under such circumstances, the firm is able to capture all of consumer surplus, leaving consumers with zero consumer surplus.
- Since each consumer is charged exactly what he is willing to pay, the incremental revenue earned from each additional unit (MR) sold is simply the price paid for that unit.
- In practice, first degree price discrimination is almost never possible. Firstly, it is usually impractical to charge each and every customer a different price. Secondly, a customer will not, under normal circumstances, reveal the maximum price that he is willing to pay for each unit of the good.

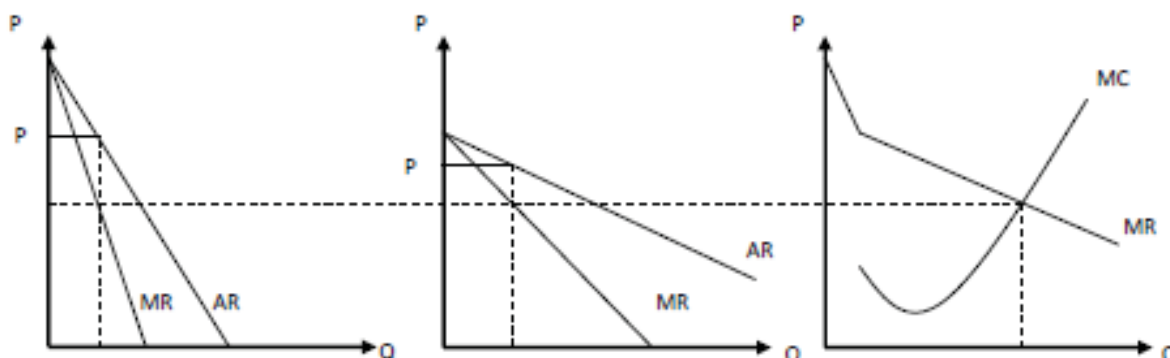


- Second degree price discrimination (block pricing)

- The monopolist charges different prices for different blocks of the same good according to how much the customer purchases, ie it sets a uniform price for an initial specific quantity followed by a concession of a lower price for an additional batch of goods.
- For example in some countries, electricity companies charge a high price for the first few kilowatts. This is the amount of electricity that would typically be used for lighting and running appliances. In other words, a high price is charged for uses for which there is no substitute fuel. Additional kilowatts of electricity are charged at a much lower rate as this is typically used for cooking for which there are alternative fuels.
- Such tiered pricing is implemented based on the concept of satisfaction derived from additional consumption. Usually, the initial units of a good consumed are more likely to bring greater satisfaction to a consumer compared to subsequent units of the good. As such, consumers are less likely to demand a good at a high price for subsequent units as compared to the initial units and a lower price is set in order to incentivize consumers to buy subsequent units.



- Third degree (discriminating among buyers)
 - The firm sells the same product at different prices to different customers.
 - Conditions for third degree price discrimination:
 - There must be two or more sub-markets which can be separated or kept separate.
 - For third degree price discrimination to be profitable, the price elasticity of demand in these two or more markets must be different.
 - When the two conditions hold, the firm will distribute its output in such a way that the last unit sold in each market gives the same marginal revenue and the firm will charge a price that is indicated by the demand curves in the respective sub-markets.



Let's assume that a firm practises price discrimination in 2 separate markets: sub-market A and B with the demand and MR curves shown above (Fig 20).

Panel (c) shows the MC and MR curves for the firm as a whole. This MR curve is found by adding the amounts sold in the two sub-markets at each level of MR.

Total profit is maximized where $MC = MR$;

This output must then be divided between the two sub-markets so that MC is equal to MR in each market: ie $MC = MR$ 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.

Necessary Conditions for Price Discrimination

1. The seller must have control over the market supply. This can result from market imperfections like high transport costs, consumer ignorance and barriers to entry of firms. There is no need for the seller to be a monopoly. This is proven by the existence of third degree price discrimination at salons: students and adult pricing.
2. There must be no possibility of resale between the different markets. Otherwise arbitrage (buying in the cheaper market and reselling in the dearer segment) will restore price equality eg adults cannot buy bus tickets from children. Nor is it possible to store off-peak telephone calls and resell them to peak-time users.
3. The firm must be able to segment the market into separate and identifiable groups. Each sub-market must have different price elasticity of demand. A higher price is charged in the sub-market with a more inelastic demand eg business class air tickets (note that there are some cost differences in this case, but nowhere near enough to explain the price differential). The business user will travel as and when necessary regardless of the price. The leisure traveler, on the other hand, is far more likely to be price sensitive.

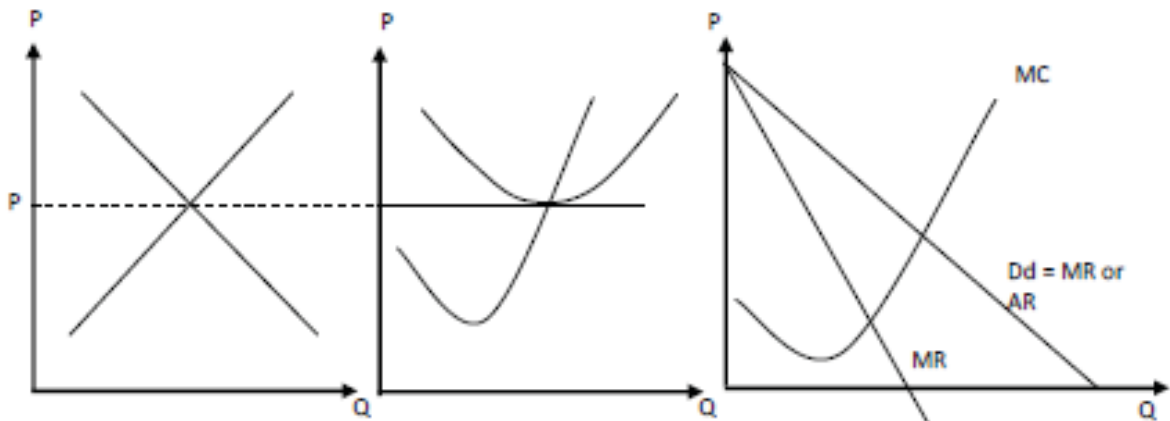
L3	<p>Excellent grasp of economic concepts, examples, linking sentences and explanation.</p> <p>Content:</p> <ul style="list-style-type: none"> - Student is clear about the important economic issues and diagram(s) involved given the context - Well-labeled, well-explained and effective use of diagram(s) - Every individual point is well-explained; scope of ideas and depth of explanation present (with accuracy) <p>Application:</p> <ul style="list-style-type: none"> - Structure and linking sentences are present and clear: related back to the question 	7 – 10
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	Analysis: <ul style="list-style-type: none"> - Content is placed in the given context - Effective use of diagrams - Categorizes different types of price discrimination with clarity - Explains with reference to examples the importance of the conditions such that price discrimination can exist 	
L2	May have occasional lapses Content: <ul style="list-style-type: none"> - Student is clear about some of the important economic issues and diagram(s) involved - Well-labeled, well-explained diagrams - At least two conditions explained Application: <ul style="list-style-type: none"> - Structure and linking sentences are present: relate back to the question - Use example as supporting examples to price discrimination - Lack of rigor in using examples to explain conditions - Max 5: did not use examples to explain conditions but explanation of types of PD is well done with examples 	5 – 6
L1	Content: <ul style="list-style-type: none"> - Weak and incomplete understanding of the question and context - Give 2 marks and below only if answer is nearly totally irrelevant; clumsy explanation of the question with lots of glaring conceptual errors - Structure and linking sentences: none/weak - Or all the concepts raised have glaring conceptual errors 	1 – 4

Part (b)

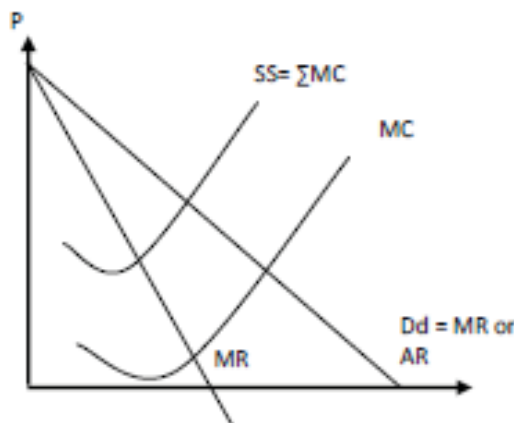
Assumptions: For ease of answer, candidate should opt to explain first degree price discrimination. This allows the candidate to use an economic framework to analyse the effects on consumers, firm and society. The main comparison should be focused on the basis of productive and allocative efficiency, equity, innovation and consumer choice.

Both firm/industry achieves allocative efficiency. PC industry produces at the point where $DD = SS$ and all firms are producing where $P = MC$ in LR. General desirability of PC industry: PE and AE.

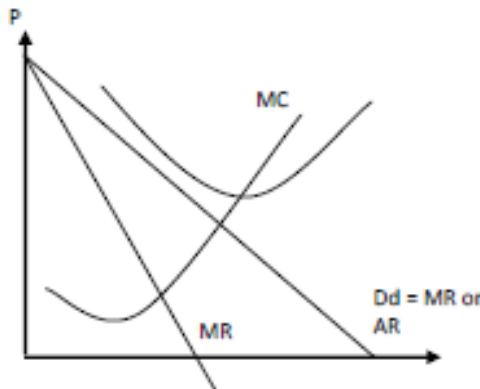


However,

- Price discriminating monopolist will be preferred over perfectly competitive market
 - o Although both markets are able to achieve AE, production should be higher when the price discriminating monopolist produces.
 - This is due to the presence of EOS, leading to a lower MC (in the SR)
 - Hence, there should be greater consumption albeit zero consumer surplus



- Provision of goods that may not have necessarily been produced
 - Price discrimination also allows goods which would otherwise not have been produced due to high costs to be manufactured. The gain in total revenue from price discrimination is particularly important in an industry where the average cost of production is higher than the price that consumers are willing and able to pay at all levels of output.
 - In fact, the presence of a monopoly also helps to reduce unnecessary duplication of resources, eg numerous rail tracks running along the same line or numerous electrical cables



- Greater level of equity
 - As a result of different prices, some people are better off but some people are worse off. Those who are willing and able to pay, pay higher prices and those who are less willing, pay lower prices. This point should be built upon the previous argument as well, as there is greater provision, hence there are consumers who can pay lower prices.
 - If students argue this point citing 3rd degree price discrimination, answer can also be accepted.
- Higher profits for the firm
 - The discriminating producer enjoys higher revenue and thus profits. Higher profits may benefit society if these profits are reinvested into research and development which leads to product improvement and cost reductions. This is compared to the PC market, where there is no innovation due to the homogeneity of product as well.
- PC market will be preferred over price discriminating monopolist (from monopoly is bad POV)
 - Loss of consumer surplus
 - The main cost to society arising from price discrimination is the loss of consumer surplus to the consumers. However, from society's point of view, this merely involves a transfer of surplus from the consumers to the producer
 - Greater inequity in pd monopoly due to transfer of income from consumers to monopolist
 - Productive inefficiency; X-inefficiency (note that they are two separate concepts): higher costs => higher prices

- X-inefficiency: compared to PC market where inefficiency is immediately punished since the firm will have to shut down in the long run. Incentive to produce at lowest costs along the LRA.
 - The PC market does not suffer from productive inefficiency. PC market produces at MES.
- No incentive to innovate (note: in PC market, no innovation either. May be slightly better in pd monopoly)
 - Due to lack of competition and homogenous products and perfect information
- Possible evaluation in the body or in the conclusion: note that evaluative points must be explained, eg
 - How important are the individual costs and benefits to the consumer?
 - Do the good aspects of price discriminating monopolist outweigh the bad aspects? Do all consumers gain or only some groups of consumers?
 - Appeal to reality; Effects arising from globalization; Government intervention
 - Alternative theories like theory of contestability

L3	<p>Excellent grasp of economic concepts, examples, linking sentences and explanation.</p> <p>Content:</p> <ul style="list-style-type: none"> - Student is clear about the important economic issues and diagram(s) involved given the context: eg price and output level and consumer surplus of pd monopoly vs PC industry (same vs different cost conditions) - A well-balanced answer: good and bad aspects about pd monopoly from the viewpoint of the consumer with clarity - Well-labeled, well-explained and effective use of diagram(s) - Every individual point is well-explained; scope of ideas and depth of explanation present (with accuracy) <p>Application:</p> <ul style="list-style-type: none"> - Structure and linking sentences are present and clear: relate back to the question - Use example(s) given in the preamble and other real life examples as supporting examples to the economic ideas raised <p>Analysis:</p> <ul style="list-style-type: none"> - Content is placed in the given context - Effective use of diagrams - Eg pd monopoly vs PC under same cost vs different cost conditions; which group of consumers gain, which group loses? 	9 – 11
L2	<p>May have occasional lapses.</p> <p>Content:</p> <ul style="list-style-type: none"> - Student is clear about some of the important economic issues and diagram(s) involved - A well-balanced answer: good and bad aspects of pd monopoly from consumers' point of view - Well-labeled, well explained diagrams - Individual points explained; at least 2 well-developed and distinct points on each side <p>Application:</p> <ul style="list-style-type: none"> - Structure and linking sentences are present: relate back to the question - Use example(s) given in the preamble and other real life examples as supporting examples to the economic ideas raised 	6 – 8
L1	<ul style="list-style-type: none"> - Weak and incomplete understanding of the question and context - Clumsy explanation of the question with lots of glaring conceptual errors - Structure and linking sentences: none/weak - A one-sided answer that touches only on the good aspects of pd monopoly or bad aspects of pd monopoly gets maximum 5 marks - Give 2 marks and below only if answer is nearly totally irrelevant; or all the concepts raised have glaring conceptual errors 	1 – 5

E2	For a rational conclusion and an evaluative assessment that is based on economic analysis (that is, a well-explained evaluation)	3 – 4
E1	For a sensible conclusion, presumably one saying that we cannot be sure Or one that is not supported by analysis No conclusion but there is evaluation in the body – max 2 marks	1 – 2

2. TJC 2008 Prelim Exam H2 P2 Q2

“After five years in the World Trade Organization, China is drafting an anti-monopoly law that might force companies such as Microsoft to give up leading market shares in the world's fastest-growing economy.” *Bloomberg News, 24 August 2006*

(a) Contrast the features of perfect competition with those of monopoly. [10]

(b) Discuss whether China’s intention to implement anti-monopoly laws is beneficial to the society.

[15]

Part (a)

Interpretation of question:

- What are you expected to do?
 - o Identify the contrasting features, emphasizing the main differences
 - o Contrast the implications of these market structures
 - o Illustrate with appropriate examples

Isolation and application of relevant economic concepts

- Features include:
 - o Freedom of entry and nature of product => number of firms
 - o Number of firms => degree of competition that influence market power
 - o Long-run equilibrium => price, output and profit levels, and Pareto efficiency

Introduction

- Market structure is defined as the way in which a market or industry is organized. It is traditional to classify industries according to the degree of competition. There are four such categories. At one extreme is perfect competition (eg primary produce) where there are very many firms competing to sell homogenous products. At the other extreme is monopoly (eg MediaCorp), where there is one dominant firm in the industry and hence no direct competition from within the industry.
- Given such contrasting setups, it is no wonder that their relative efficiency is opposing.

Development

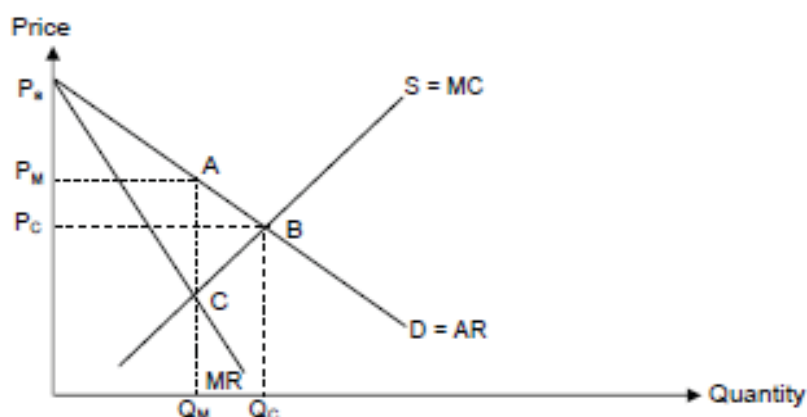
Characteristics	Perfect Competition	Monopoly
Number of firms	Very Many	One centre firm
Nature of product	Homogeneous	Unique
Freedom of entry	Completely unrestricted due to perfect knowledge and perfect factor mobility	Restricted or insurmountable barriers to entry that may be natural or man-made

Note that:

- Nature of product/service – homogenous or differentiated can influence the ease of entry.
- Nature of barriers to entry – type and degree dictate the number and size of the firms.
- These will influence the firms’ price and output decisions and their level of profitability in the long run.

Price and Output Levels

Figure 1 – Industry



- A competitive industry has a demand curve, D , and a supply curve, S . equilibrium occurs where the quantity demanded equals to quantity supplied at output Q_c and price P_c .
- In the case of a monopoly, the profit maximizing output where marginal revenue equals marginal cost is Q_m and price charged is P_m .
- Thus, the monopoly price is higher than the competitive price and the monopoly output is less than the competitive industry output.
- As price is higher than MC , the monopoly is said to be allocatively inefficient while the perfectly competitive industry is allocatively efficient.
- *Teaching point: Besides if the monopolist can perfectly price discriminate, it will charge a different price for each unit sold and increase its output to Q_c . The highest price charged is P_a and the lowest price charged is P_c (P_a is the highest price because there is no demand at any price above it and P_c is the lowest its marginal revenue curve is the same as the demand curve and at any price its marginal cost exceeds marginal revenue). Hence, the more perfectly the monopoly can price discriminate, the closer its output gets to the competitive output.*

Profitability

- In the short run, as long as any (competitive or monopoly) firm's total revenue is higher than its total variable costs (ie $P > AVC$), it will continue to produce.
- However, in the long run, competitive firms cannot maintain supernormal profits due to the entry of new firms attracted by these profits. They will eventually compete such profits away till all firms only receive normal profits.
- There is no guarantee that monopoly will always earn supernormal profits as it is still subject to the demand conditions. It could just as well be earning only normal profits (or forced to leave if losses are incurred). However, if supernormal profits are made, the monopoly can continue to reap the profits because of the presence of barriers to entry.

Conclusion

The possibility of sustaining high profits causes many to detest monopoly and subscribe to the belief that appropriate policies are to be implemented to regulate a monopoly.

L3	For an answer that contrasts the implications of the two market structures.	7 – 10
L2	For an answer that contrasts the features of the two market structures.	4 – 6
L1	For an answer that identifies the features of the two market structures.	1 – 3

Part (b)

Interpretation of question:

- What are you expected to do?
 - o Explain what anti-monopoly laws are and how they work
 - o Explain how the laws can be beneficial to the society
 - o Explain how the laws may not be beneficial to the society

Isolation and application of relevant economic concepts:

- What are anti-monopoly laws?

Teaching points (students only need to explain the economic principles underlying the anti-monopoly laws):

- A monopoly's profit-maximizing level of output is below the level that maximizes the sum of consumer and producer surplus. That is, when the monopoly charges a price above marginal cost, the value society attaches to the consumption is higher than it costs society to produce it. As a result, monopoly causes deadweight losses.
- Policymakers can respond to this inefficiency of monopoly behavior in various ways. One of the ways would be the use of anti-trust/anti-monopoly laws to try to make the industry more competitive.
- (In the US, anti-trust is a body of law consisting of the Sherman Act, the Clayton Act, and the Federal Trade Commission Act.) The purpose of antitrust law is to promote and maintain competitive markets, in order to provide consumers with prices that are reasonably related to the costs of production, with choice, and with innovation. Antitrust laws deal with such issues as monopolization, collusion, and merger controls.
- That is to say, any anti-monopoly laws prohibit obtaining a monopoly by anti-competitive methods or the abuse of monopoly (not monopoly itself): *"Every person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony."* Thus, great size alone or market share alone is not illegal.
- How do the anti-monopoly laws work?

Teaching points (Students only need to explain the economic principles underlying the anti-monopoly laws):

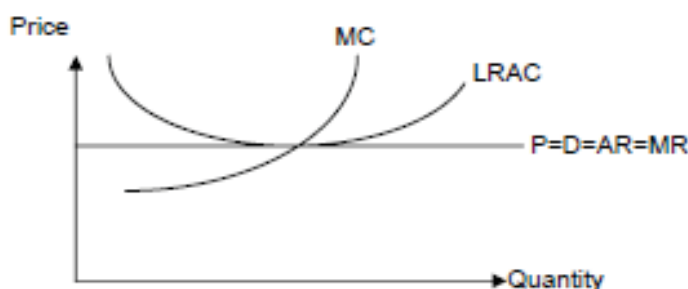
 - First it is necessary to determine whether a firm is dominant based on its concentration ratio, an indicator of the relative size of firms in relation to the industry as a whole. A monopoly has a near-100% four-firm measurement.
 - A dominant firm may impair competition in the market.
 - With collusive conduct, market shares are determined with reference to the particular market in which the firm and product in question is sold. For instance, tying one product into the sale of another can be considered abuse too, being restrictive of consumer choice and depriving competitors of outlets. This was the alleged case in Microsoft (22 December 2004) leading to an eventual fine of 497 million euros for including its Windows Media Player with the Microsoft Windows platform.
 - Corporations have been fined large penalties for breaching the law.
- Benefits of anti-monopoly laws to China:
 - To local companies:
 - Good for small businesses in that it keeps big businesses from monopolizing a market. Promotes competition for goods and services.
 - Prevent collusive behavior: keeps companies from making agreements on setting prices which will deter competition
 - To help local companies to compete as the country prepares to remove the final trade barriers and investment hurdles after five years in the World Trade Organization. However, anti-trust laws may deter multi-national corporations from investing in China and hence may affect China's rate of growth.
 - To consumers:
 - Consumers benefit when companies have to compete vigorously for their business. Such competition leads to lower prices, better service, more innovative offerings, and a wider range of choices.
 - Lower prices also reduce redistribution of wealth from consumers to monopolies.
 - In the absence of choice, the consumer must deal with one seller and thus lacks bargaining power.
 - Prevent first degree and second degree price discrimination – keeps businesses from charging customers different prices which and reduce consumers' surplus. However, for a monopoly which practices third degree price discrimination, cross-subsidization is in the interest of consumers.
 - To society: more efficient allocation of resources (Pareto efficiency) with the increased competition, reducing deadweight loss (area ABC in Figure 1).

Allocative Efficiency

- Attained when the marginal cost of production is equal to the price ($P=MC$). Here price indicates the value that the consumer places on the last unit of the good consumed. MC indicates the opportunity cost incurred by the market in providing that last unit.
- Allocative efficiency is achieved in a perfectly competitive market because firms always equate marginal cost to price prevailing in the market (Figure 1).
- The monopoly is allocatively inefficient because the monopoly's price always exceeds its marginal cost. Consumers would be prepared to buy additional units for an amount that is higher than the cost of producing these units. Some consumers could be made better off, and none need be made worse off, by shifting extra resources into production of this commodity sold by the monopoly.
- Anti-trust laws that promote and maintain competition is expected to result in lower price so that it is near to marginal cost.
- An exception occurs when the monopolist is able to practice perfect price discrimination. His demand curve is his MR curve and at equilibrium output, price charged for the last unit will equal MC (Figure 1).

Productive Efficiency

Figure 2 – Productive Efficient Firm in Perfect Competition



- Productive efficiency is achieved when a given level of output is produced at the lowest possible cost. Each firm is producing on its relevant LRAC curve.
 - In a perfectly competitive industry, in the long run, each firm produces at the lowest point on its LRAC curve.
 - All firms in a competitive industry face the same price for their product and equate MC to that of price. It follows immediately that MC will be the same for all firms. No further reallocation of resources among the firms could reduce the total industry cost of producing a given output.
 - Productive efficiency is achieved under perfect competition because all firms in the industry have identical marginal costs and identical minimum average costs in long-run equilibrium.
 - For a profit-maximizing monopoly, it may have the incentive to be productively efficient since profits will be greatest when they adopt the lowest-cost method that can be used to produce a given level of output. Thus monopolist will operate at LRAC but the output level does not correspond to minimum LRAC.
 - However, a monopoly may be productively inefficient as it may not have the incentive to be efficient due to the lack of competition.
 - With the implementation of anti-trust laws, there will be greater incentive to be productively efficient, producing near minimum efficient scale.
- Costs of anti-monopoly laws to China:
- To businesses and society:
 - Reduce dynamic efficiency, where dynamic efficiency is gained through improvements in technology due to the ability to invest profits in research and development and hence lowering costs over the long run.
 - Working with other companies to perhaps create better products and services for consumers can be viewed as a violation.
 - Creates uncertainty for successful businesses because they have no way of knowing if and when their business practices will be targeted. For example if their prices are high it can be considered a monopoly, prices that are too low

can be considered predatory pricing and, prices that are the same can be considered as collusion.

- Creates exploitation of successful businesses by making successful companies the targets of other rival competitors who want to destroy their competition and antitrust enforcers who make their living off enforcing antitrust laws and who, therefore, seek out companies to hold in violation. This is particularly so for a less transparent, more corrupted government.

Conclusion

- For China, developing scale sufficient to raise competitiveness and engage in international markets is a major challenge. The bigger problem is however poor governance. With widespread corruption, inadequate public finances, and weak judiciary and oversight institutions, competition policy may become in itself a barrier to entry which may reduce incentive of multinationals like Microsoft to invest in China. With a fall in investments, this may slow down China's growth and development.

L3	For an answer that discusses the argument from all perspectives.	9 – 11
L2	For an answer that discusses the argument from society's viewpoint.	5 – 8
L1	For an answer that explains the economic principles underlying the anti-monopoly laws.	1 – 4
E2	For an answer that explains the macro implications on China.	4 – 6
E1	For an answer that comments on the net effect on society.	1 – 3

SECTION 3C – Challenging Questions

1. HCI 2010 Prelim Exam H2 P2 Q2

(a) Explain why the Mass Rapid Transit (MRT) network can be considered a natural monopoly and explain how, according to economic analysis, profit maximizing price is set. [10]

(b) Discuss to what extent the behaviour of the operator of MRT disproves that economic analysis. [15]

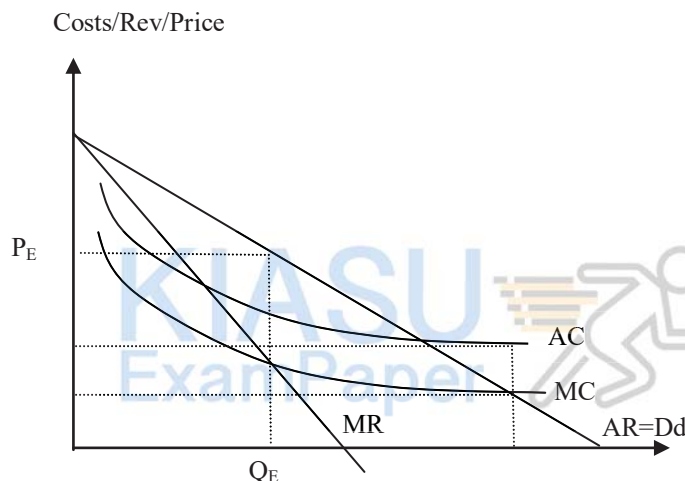
Part a)

Define a natural monopoly: Industry with such substantial EOS that one firm can supply the whole market; AC is declining over the entire demand curve.

Justification applying to the train system: High fixed cost in the railway line and station building.

With a diagram of natural monopoly, students have to show $MC=MR$ and explain, why that is the price that will maximize profits, **using the marginalist principle**.

At an output on the left of Q_E , increasing the output will increase total revenue by more than the increase in total cost. At an output on the right of Q_E , decreasing the output will decrease total cost by more than the decrease in total revenue. For both cases, the profits will increase by adjusting the price..



Level		Descriptors
L1	1-4	<ul style="list-style-type: none"> Answers are mostly irrelevant Only a few valid points are made incidentally in an irrelevant context
L2	5-6	<ul style="list-style-type: none"> Answer shows an ability to identify facts, some ability at graphs, fair ability to apply known laws to new situation (e.g. able to draw the natural monopoly graph correct instead of the normal monopoly, without much details) Accurate though undeveloped explanation of the facts relating to the question together with an explanation. (e.g. stating $MC=MR$ without explaining using the marginalist principle, without choosing an output on the left and right of the profit maximizing output.)
L3	Lower 7-8	<ul style="list-style-type: none"> Answer shows a good knowledge of the marginalist principle, clear evidence of the ability to use theory with accurate reference to the question Clear reasoned structure to the whole answer <p>(e.g. able to explain that profits can be increased at output levels to the left and the right of the output given by profit maximizing price but did not explain to all cases or analysis is not thorough enough)</p>
	Upper 9-10	<ul style="list-style-type: none"> Thorough knowledge of facts and theory with an excellent ability to describe & explain this in a precise, logical, reasoned manner New illustrations & examples appropriate to the material discussed should be introduced as further evidence of the ability to recognize the principles of the question & their application to relevant current situation. <p>(E.g. Able to explain very well how SMRT fits the scenario of a natural monopoly. Diagrams are fully integrated with the analysis of the marginalist principle.)</p>

Part b)

Thesis: SMRT only cares about profits

- SMRT has shareholders and needs to be accountable to them in generating an acceptable rate of return
- SMRT needs to earn supernormal profits to constantly innovate for dynamic efficiency (distance fare, ezlink card). Also, they need to replace the old trains every 7 years.
- SMRT price discriminates among students, adults and elderly passengers, increasing their profits.

Anti Thesis 1: SMRT cannot only care about profits as its fare level is regulated by Public Transport Council to ensure efficiency/affordability/equity.

We can give credit if students either mention equity or efficiency reasons or even both. Students can show the deadweight loss and explain, again using the marginalist principle. It will be a good test whether students truly understand how to use it in a NATURAL monopoly setting since they have never done it before.

Since public transport is an important method for many workers in Singapore to get to work, the government needs to regulate the system to ensure "affordability" of fares, especially for the lower income group since taxis and cars may be priced out of their reach.

Thus, SMRT may have to end up using AC pricing/MC pricing due to regulation and not just be concerned about maximizing profits.

Anti Thesis 2: SMRT may have other objectives in mind other than profit maximization

Students can explain the following (only a guide, accept any reasonable point students can make)

Profit Satisficing: SMRT may have only a vague idea of revenue and cost functions and aim for an acceptable level of profits, earning say 5% return to total assets (ROTA). Factors causing vagueness might be, for example, population policy in Singapore for the next few years, given that our government uses immigration policy as a buffer.

Revenue Maximization: SMRT may have to operate stations that are not profitable due to “Universal Service Obligation” set by PTC to ensure that they do not just cater for the profitable downtown routes and ignore unprofitable stations like Buangkok.

Market Share: SMRT is given the exclusive right to operate the North-South line as well as the East-West line so this is not really an objective that SMRT should be worried about since market share will not change for the duration of the rail licence

Principal Agent model (Separation of ownership and control): SMRT bosses and employees may not necessarily want to maximize shareholder's return. Employees may not provide the best service to passengers to minimize their own personal cost, for example.

Note: Students do not have to mention every single point listed here for full credit but I expect to see some attempt in applying the alternative theories into SMRT's behavior. No need to be fully accurate as I do not expect students to have contextual information on how SMRT is regulated.

Synthesis

SMRT will be aware that the government may regulate to ensure market remains contestable by the granting of rail licenses. Thus, pricing and quality of service must be at levels that ensure their rail license will be renewed.

Conclusion

SMRT certainly needs to generate profits to answer to shareholders and to ensure sufficient funds for replacing old trains. However, market dominance and the inefficiency of Natural monopoly will mean SMRT certainly can expect heavy government regulation on its pricing. This implies profit maximization is certainly not the main goal of SMRT

L1 1-5	Largely descriptive answer that shows some knowledge on how SMRT behaves.
L2 6-8	For an answer that shows some examples of profit maximizing behavior by firms and recognizes that government intervention is inevitable due to the inefficiencies of natural monopoly. Expect to see some mention of alternative theories of firm behavior but answer is largely generic with very little attempt to apply those alternative theories to SMRT's actual behavior.
L3 9-11	For an excellent explanation and detailed analysis of SMRT's behavior with respect to government intervention. Analysis of alternative theories is done with a clear attempt to apply them in SMRT's context. Balanced view between the profit maximizing behavior with the alternative motivations.
E1 1-2	For an unexplained assessment.
E2 3-4	For a judgment or evaluative assessment based on sound economic analysis.

2. The growth of emerging economies such as China and India has seen their companies growing into global corporate giants by acquiring big established companies of Western economies.

(a) Explain why companies from emerging economies might want to acquire those of Western economies. [10]

(b) Discuss how such acquisitions might affect the consumers and producers in the industries of the Western economies where these occur. [15]

(a) Key approach:

Students will do well if they provide a response that takes into consideration the features of an emerging economy that could have hindered the expansion plans of firms, such that acquiring western firms is a sound strategy

Acquisition and size expansion of firms

- Expansion in size creates economies of scale and the pooling of resources.
- Acquisition is a short-cut way to expansion, compared to organic method (natural growth)

Emerging vs Western economies

- Emerging economies (also termed emerging markets) refer to countries with the rapid pace of growth and industrialization. China, India, Brazil, Russia are the largest ones in this group of fast growing economies. The big firms in these countries have access to

- Large supply of funds from their rising national income and trade surpluses
- Large domestic markets
- Hunger for new technology as these countries pursue manufacturing to pump up their economic growth.
- Western economies are generally developed, have matured in their industrialization and have large service-based industries. Economic growth is no longer robust.
- The inroads made by western firms in emerging markets are many. However, what has been an increasing trend in recent years are high-profile purchases of firms in the West by big firms from the emerging markets.
- An example: Brazilian company, JBS, in 2009 acquired an American company Pilgrim's Pride and this acquisition made its sales bigger than Tyson foods, the largest American poultry company. In 2007 it acquired Swift, the third-biggest processor of beef and pork in America and the biggest processor of beef in Australia. JBS was (at Sept 2009) was the second-largest private sector company in Brazil by sales. International shopping sprees has enabled the economy to expand in Argentina, Italy, America, Mexico and Australia.

Reasons why firms from emerging economies acquire those in Western economies

Unlike the organic expansion of Japanese and South Korean companies in the past, the 'champions' from emerging markets prefer mergers and acquisitions for expansion. Reasons:

- Innovation capabilities:

To be global giants, firms from emerging markets need to raise the technological content of production and buying over firms in the West provides the short-cuts.

- Market-related reasons: acquisition of brands, marketing and distribution networks to become global names in shorter times.

These mergers provide the emerging markets' companies with potential for higher-value markets.

The spending power and consumption propensities in Western countries provide markets with higher profit margins. An example is 2004's Lenovo's purchase of IBM's personal computer. This allowed entry into a market along with benefits of the advanced technology of the acquired firm.

- Opportunities to utilize excess cash

The growth of equity and venture capital funds in emerging markets creates the need for ways to utilize the funds, buying companies in the West is one of such targets.

L3 Explains 2 or more reasons with good contextual relevance, able to suggest that firms from emerging markets look for factors beyond cost-advantage which their home countries can offer.

L2 Explains 2 reasons for acquisitions with limited reference to the relevance of these reasons to firms from emerging economies.

L1 Identifies reasons without references made to firms from emerging economies.

(b) Discuss how such acquisitions might affect the consumers and producers in the industries of the Western economies where these occur. [15]

Key Approach:

Students will do well if they consider the impact on consumer welfare and local producers' profits.

An analysis of the impact on cost, price and output is unavoidable, and so is an analysis of the expected response from the local producers & firms. Students may also explore the nature of acquisition, and the new owners' intention and strategies to improve the business activities or competitiveness of the new entity.

The context: the acquiring foreign firms may be of a related business (similar industry) or from unrelated ones.

Effects of such acquisitions on the demand and cost conditions of the larger firm

- Technically the more immediate expansion of market is likely to come from overseas (due to the integration with foreign markets brought about by the acquisition) but the foreign ownership may give the taken-over firm the strength of resources for marketing and innovation. In the long term at least demand can shift right and probably steeper if the firm can have stronger hold on consumer loyalty with improved products and marketing.
- If the acquisition is by a firm in similar industry, there may be savings from economies of scale and purchases from cheaper foreign sources (rightward shift of cost functions)
- **But**, it is also possible that the foreign buyer firm may just leave the bought over firm as it is and there is only a change in ownership.

Effects on consumers of the industry

- The outcomes in price will depend on the changes in demand and cost conditions.
- If we assume cost conditions to remain the same, the increase in demand or the greater steepness will raise price. This is undesirable to consumers.

But, consumers may gain from

- Expansion in range of goods which the foreign-owned firm can bring in from their foreign plants.
- There could be revamps in service quality arising from more resources available for marketing and business development.
- If cost conditions improve (MC curve shifts rightward), this will offset against the possibility of rising price. If cost reductions are significant, consumers may even gain from lower price.
- Improvements are more likely if existing domestic firms in the industry are threatened by the entry of foreign ownership in the industry (risk of further acquisition) and they strive to improve competitiveness via efficiency and product quality.

Effects on producers in the same industry

- Threatening effects on existing firms as even if the acquiring foreign entity is not from the same industry, the bought-over firm is likely going to have access to more resources and management expertise to win over larger market share domestically.
- To deal with this threat, these firms will have to
 - Improve their efficiency and cost conditions so that their prices can be made more competitive without cuts in profit margins.
 - Allocate more resources for innovation in products. The foreign-owned firm may have more resources and support from its foreign parent company for R & D and if the domestic firms in the industry do not match up the race, they will lose out in market share eventually.
- As a whole, the acquisition is not good news for domestic firms.

Overall: Size is so crucial in today's business and very often companies are prepared to merge or be bought over by foreign entities to survive or to make a profit from the sale. These may have potential adverse effects on consumer welfare and the survivability of other domestic competitors.

However, just as in other normal merger cases (among domestic firms), the need remains for governments to ensure that there is sufficient level of competition in an industry to promote efficiency and consumer welfare.

L3 Uses market structure analysis and gives balanced focus in explaining the potential effects on consumers and firms.

L2 Gives relevant and contextual ideas – effects of acquisition by foreign firms, but lacking in use of Economics in analysis or depth of explanation **OR**

Unbalanced focus: sufficient in explanation but answer is more slanted to either consumers or firms.

L1 Gives relevant ideas about effects of acquisitions but with minimal references to case of takeover by foreign firms.

E2 Judgement is based on use of economics

E1 Mainly unsubstantiated judgement about the potential effects





2013 JC2 H2 ECONOMICS

22. Firm's & How They Operate:

Monopolistic Competition; Oligopoly

Review on: Firms & How they Operate Monopolistic Competition & Oligopoly

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly.

SECTION 1 – Concept Reinforcement

The Monopolistic Competitive (MC) Market	Tick
1. What are the Characteristics of a MC market?	
2. What are the possible objectives of a MC firm?	
3. Using marginalist principle, show how the firm decides on its price and output?	
4. Explain how firms compete in the such a market structure	
5. In the short-run what are the types of profit that a MC firm may achieve? Explain.	
6. In the long run what are the types of profit that a MC firm may achieve? Explain.	
7. What is the shutdown condition of a MC firm in the short run?	
8. What is the shutdown condition of a MC firm in the long run?	
9. Does a MC firm have a supply curve?	
10. List the key advantages of a MC market structure?	
11. List the key disadvantages of a MC market structure?	
The Oligopolistic Market	Tick
1. What are the Characteristics of an Oligopolistic market?	
2. How does mutual interdependence affect the way an oligopolist compete?	
3. What are the possible objectives of a Oligopolistic firm?	
4. Explain the difference between collusive and non collusive oligopolist	
5. Using marginalist principle, show how the firm decides on its price and output?	
6. Explain how firms compete in the such a market structure	
7. In the short-run what are the types of profit that an Oligopolist may achieve? Explain.	
8. In the long run what are the types of profit that an Oligopolist may achieve? Explain.	
9. What is the shutdown condition of an Oligopolistic firm in the long run?	
10. What is the shutdown condition of an Oligopolistic firm in the short run?	
11. List the key advantages of a Oligopolistic market structure?	
12. List the key disadvantages of a Oligopolistic market structure?	

Monopolistic Competition

1) Which of the following is *not* an assumption of the theory of monopolistic competition?

- a. There are high barriers to entry.
- b. There are many sellers and few buyers.
- c. Each firm in the industry produces and sells a homogeneous product.
- d. all of the above.

Answer: d

2) In a monopolistically competitive market, which of the following factors probably does not give rise to product differentiation?

- a. packaging of the product
- b. brand names
- c. loyalty of customers to a particular producer
- d. the small number of sellers

Answer: d

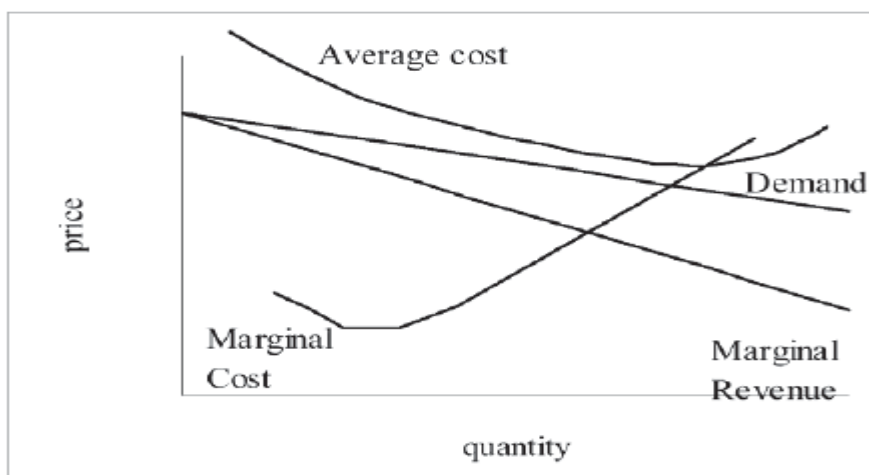


Figure 1

3) Refer to Figure 1. The graph shows a firm in monopolistic competition. The profit-maximizing firm in this graph is earning _____ profits.

- a. positive
- b. negative
- c. zero
- d. not enough information to answer

Answer: b

4) If a monopolistically competitive firm raises its price, then

- a. it should expect to lose all of its customers because there are many other sellers of the product.
- b. this is a trick question because the firm does not have the ability to change its price.
- c. it should expect to lose some, but not all, of its customers.
- d. it will be able to increase its profits.

Answer: c

5) Which of the following statements is false?

- a. The monopolistic competitor is a price searcher.
- b. The monopolistic competitor produces a product that differs slightly from the products of the other firms in the industry.
- c. The monopolistic competitor faces a horizontal demand curve.
- d. The monopolistic competitor produces an output at which price is greater than marginal cost.

Answer: c

6) Why can't an economist say for certain that a monopolistically competitive firm will always earn zero economic profits in the long run?

- a. Barriers to entry exist.
- b. The very large number of buyers indicates that there will always be demand for the firm's product.
- c. The firms in the industry do not produce identical products.
- d. The firms practice price competition, so at least some firms will always be charging a lower price than other firms and will sell more as a result.

Answer: c

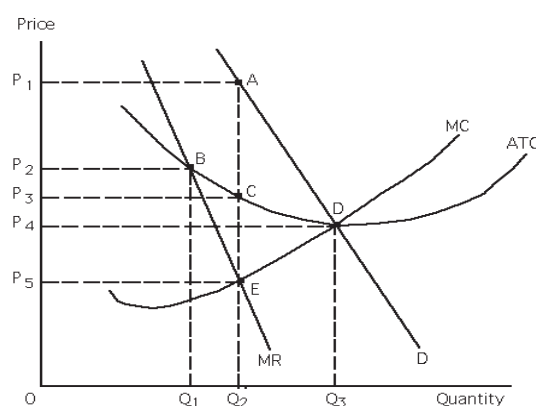


Figure 2

7) Refer to Figure 2. Which of the following points represents the profit-maximizing quantity and price of a monopolistic competitor?

- a. A
- b. B
- c. C
- d. D

Answer: a

8) Refer to Figure 2. Profits of this monopolistic competitor equal the area

- a. $0P_4DQ_3$.
- b. P_5P_3CE .
- c. P_3P_1AC .
- d. $0Q_1$ times P_2P_4 .

Answer: c



9) A market with more than one seller where at least one of those sellers can significantly influence price is called

- a. monopoly.
- b. oligopoly.
- c. monopolistic competition.
- d. pure competition.

Answer: b

10) In an oligopoly market, unlike in other market structures, firms

- a. face a downward-sloping demand curve.
- b. can produce a homogeneous product or a differentiated product.
- c. use advertising.
- d. face low barriers to entry and exit.

Answer: b

11) Under which model of oligopolies do prices tend to remain unchanged over time even if costs change?

- a. dominant firm with competitive fringe
- b. price leadership
- c. contestable market
- d. kinked demand

Answer: d

12) In the kinked demand curve theory, firms match price cuts but they do not match price hikes. Why?

- a. Because it is harder for firms to learn when a single firm has hiked price than cut price.
- b. Because firms believe if they do not cut prices when a single firm does they will lose market share. They do not match price hikes because they want to gain market share.
- c. Because the cartel agreement that firms enter into specifies that this should be the behavior.
- d. Because prices are inflexible upward but not downward.

Answer: b

Cross Comparison between Market Structures

13) Compared to a monopolistic competitor, a monopolist produces a good with _____ substitutes and so has a _____ elastic demand curve.

- a. fewer; more
- b. fewer; less
- c. more; more
- d. more; less

Answer: b

14) If a perfectly competitive firm and a monopolistic competitor in long-run equilibrium face exactly the same demand and cost curves, then there is high probability that

- a. the former will earn zero economic profits, but the latter will earn positive economic profits.
- b. both will earn zero economic profits, but the former will attain lower unit costs than the latter.
- c. both will earn zero economic profits, but the latter will attain lower unit costs than the former.

- d. both firms will earn zero economic profits, and attain the lowest possible unit costs.

Answer: b

15) One of the ways in which monopolistic competitors differ from perfect competitors is that

- a. perfect competitors produce the quantity of output at which marginal revenue equals marginal cost and monopolistic competitors do not.
- b. perfect competitors produce a homogeneous product and monopolistic competitors do not.
- c. there is easy entry and exit for a perfect competitor, but not for a monopolistic competitor.
- d. a and c

Answer: b

16) Which of the following is not an example of barriers to entry?

- a. The firms in an industry are only earning small economic profits.
- b. A resource used in production of a good is solely owned by one company.
- c. The costs faced by firms make it cheaper for one firm to produce the entire industry's output.
- d. Patents

Answer: a

17) For which market structure will the firm shut down in the short run if it is not able to cover its variable costs?

- a. perfect competition
- b. monopolistic competition
- c. monopoly
- d. all of the above

Answer: d

18) Explain whether each of the following statements is true or false.

- (a) A monopolistically competitive firm in long run equilibrium can achieve allocative efficiency.

False

Explanation:

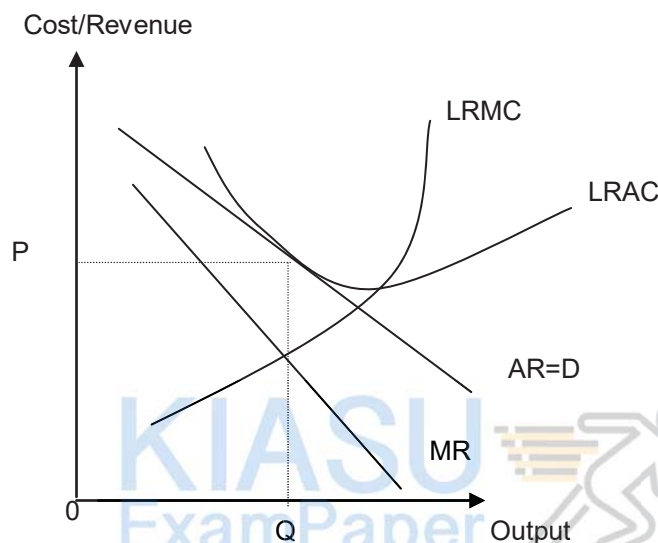


Figure 3: Long run equilibrium of a monopolistically competitive firm

In Figure 3. A profit-maximizing, monopolistically competitive firm produces at $LRMC=MR$.

- The equilibrium output and price: OQ and OP
- In addition, $P=AR=LRAC/ATC$ indicating the firm is earning normal profits.
- Since the MR is always less than the price for any given level of output, when $MR = LRMC$, price must be greater than MC .
- Thus there is allocative inefficiency in production.

(b) Oligopolists can enjoy long run supernormal profits because their products are differentiated.

False

Oligopolists can enjoy long run supernormal profits because of the existence of significant barriers of entry like large economies of scale, high start-up cost, government licensing or control of key resources.

(c) When firms cooperate with one another, it is generally good for society as a whole.

False

Firms can come together to agree to maximise their joint profits and behave like a monopoly. They can cooperate and behave like a multi-plant monopolist and charge higher prices which allow for higher profits for members. However, it is not good for the whole society as consumers' interests are harmed as they have to pay higher prices.

19) Give 2 possible reasons why the petrol retailing market in Singapore is an oligopolistic one.

- A few large firms in the market: the four main players that can be found in Singapore are Caltex, Shell, Exxon-Mobil and SPC.
- Mutual interdependence among firms: each petrol retailing firm is affected by its rivals' actions (for e.g. if rivals cut price, other petrol retailing firms will follow suit).
- Substantial barriers to entry: barriers to entry include the high fixed costs of setting up the stations, obtaining of licenses to set up the stations and also strong branding that has attained customer loyalty.
- Practising non-price competition: such as advertising on TV, using posters to display their prices, providing services like wiping of the windscreen when a customer patronizes, giving accumulative loyalty points which may be used to redeem gifts.

Sources:

(1) Microeconomics Explore and Apply – Ronald M. Ayers & Robert Collinge.
Prentice Hall

(2) Economics 6e – Roger A. Arnold. Thomson Learning



Cross Comparison Between Four Market Structures

Market Type		Perfect Competition	Imperfect Competition		
	Market Structure	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Characteristics	Number and size of firms				
	Nature of the Product				
	Ease of entry				
Examples	Examples				
Demand curve	Firm's Demand Curve				
Performance & Efficiency	Profits in short run				
	Profits in long run				
	Efficiency (Productive & Allocative)				



Suggested Answer

Cross Comparison Between Four Market Structures

Market Type		Perfect Competition	Imperfect Competition		
	Market Structure	Perfect Competition	Monopolistic Competition	Oligopoly	Monopoly
Characteristics	Number and size of firms	Many small firms	Many firms (not large enough to dominate industry)	Few large firms	Single firm
	Nature of the Product	Homogeneous product	Differentiated product	Homogeneous or differentiated product	Unique product (No close substitutes)
	Ease of entry	Free entry and exit	Free entry and exit	Substantial barriers to entry	Formidable barriers to entry
Examples		Agricultural produce, stock market	Restaurants, fashion retailers, fast food, budget hotels	Banks, car manufacturers, big supermarkets, petroleum, airline	Microsoft, public utilities
Demand curve	Firm's Demand Curve	Perfectly elastic (horizontal)	Fairly elastic (downward-sloping)	Collude: Inelastic downward-sloping demand Do not collude: kinked demand	Inelastic (downward-sloping)
Performance & Efficiency	Profits in short run	Supernormal/normal/subnormal profits	Supernormal/normal/subnormal profits	Supernormal/normal/subnormal profits	Supernormal/normal/subnormal profits
	Profits in long run	Normal Profits	Normal Profits	Normal/Supernormal Profits	Normal/Supernormal profits
	Efficiency (Productive & Allocative)	Productive and allocative efficiency	Allocative inefficiency; productive efficiency	Allocative inefficiency; productive efficiency	Allocative inefficiency; productive efficiency



SECTION 2 – Case Studies

Case Study Question 1: Recent Developments in the Pharmaceutical Industry

IJC 2009 Prelim Exam 2 H2 P1Q1

Extract 1: Profitability of pharmaceutical companies

The pharmaceutical industry is one of the most profitable industries in both the United States and Britain. The global drugs market is controlled by corporate giants such as Pfizer, Johnson & Johnson, Abbott Laboratories and GlaxoSmithKline. Their market domination enables them to dictate drug prices. The fact that there is very little price elasticity associated with price increases is a major factor contributing to the high profitability of the pharmaceutical industry. Actual manufacturing costs of medicines are relatively low.

The big pharmaceutical companies' profits can be even higher due to limited competition in the pharmaceutical industry caused by strict patent to enter the industry. In addition, through a recent and ongoing wave of mergers and acquisitions the big companies intensify the process of consolidation limit competition even further. Also, more frequently strategic alliances (less costly than mergers and acquisitions) are being formed with small biotech companies in order to reap the (new) economic benefits biotechnology offers. The drug giants cannot keep track of all new developments themselves, but want to keep their pipelines full.

Source: www.corporatewatch.org, retrieved on 20 August 2009

Extract 2: Drug firms 'block cheap medicine'

Recently, regulators in the United States and European Union have announced separate crackdowns on anti-competitive practices, including "pay-for-delay" deals, whereby big drugmakers pay generics firms to delay the launch of competitors to drugs coming off patent. From Japan to Germany, governments are liberalizing drug markets, sweeping away barriers to generics.

This pressure from above comes just as the bottom is falling out. A record number of drug patents expire over the next few years, which should lead to stiff competition from generics and a collapse in prices. Evaluate Pharma, an industry consultancy, estimates that about half of the US\$383 billion-worth of patented drugs to be sold in the world this year will lose patent protection within five years. In 2010 alone the industry will see nearly 15% of its revenue from patented drugs put at risk. Where competition from unbranded generics is fiercest, for instance in the United States, the price of a given drug falls by more than 85% within a year of patent expiry.

According to the European Commission, the blocking or delaying the entry of cheaper generic medicines into the EU, besides being potentially "anti-competitive", has imposed significant cost to healthcare systems, consumers and taxpayers. The EU healthcare providers were deprived of US\$3.9bn in savings between 2000 and 2007, it said.

The European Federation of Pharmaceutical Industries and Associations (EFPIA) said "these [practices] are essential for innovators to protect their huge investment in R&D".

Source: adapted from news.bbc.co.uk, 28 Nov 2008



Figure 1: Market share of sales of off-patent drugs (2008)



Table 1: Selected sector R&D Investment as % of all sectors and respective R&D Sales Ratios for each sector in Europe (2005)

Sector	R&D Investment (as % of total)	R&D/Net Sales Ration (%)
Technology Hardware & Equipment	19.2	8.2
Pharmaceuticals & Biotechnology	18.5	14.9
Automobile & Parts	17.5	4.2
Electronic & Electrical Equipment	7.4	4.7
Software & Computer Services	6.7	10.1
Chemicals	4.6	3.2

Source: The Pharmaceutical Industry in Figures, EFPIA, 2007

Extract 3: Big drug firms embrace generics

In many rich countries and most poor ones, pharmaceutical companies are managing to avoid declining revenue by peddling “branded” (but not patented) versions of their original drugs for higher prices than unbranded generic equivalents.

It seems that due to brand loyalty and inertia among doctors and patients these branded generics often help the firm losing the patent retain half or more of the market, even after generic competition is legally permitted.

Several pharmaceutical companies have gone further and bought generic-making rivals. That can speed up a move into branded generics. But most important, access to emerging markets is improved by buying over a local generic-making firm.

Will these alliances of convenience really last? The inevitable clash of cultures is a potential difficulty. Atul Sobti, boss of Ranbaxy, an Indian generics firm bought last year by Daiichi Sankyo, a Japanese pharmaceutical giant, offers another reason for doubt. His concern is not culture but rather the coming cash crunch. The generics business faces “phenomenally high cost pressures”, he explains, not least because “some government somewhere will always be ready to chop prices.”

Source: adapted from The Economist, 6 August 2009

Extract 4: A rethink by drugs companies

The threats of generic drugs and price controls, with slow growth in developed markets are making the drugs companies change their thinking about developing countries. It is predicted that the seven biggest emerging markets will account for more than half of the industry's total sales growth this year. By 2012, nine of the top 20 markets will be emerging economies. Where drugs firms have set up shop in developing markets, it has generally been to cut costs, rather than to cater to the needs of locals. But that is changing. Serving these markets will mean building up local expertise and research efforts.

New thinking is also needed when deciding how to sell drugs in developing countries. Some firms have adopted "differential pricing" schemes that use formulas, based on average income per head, to set lower prices in poor countries. Merck, for example, recently launched Januvia, a blockbuster diabetes drug, in India for a fraction of the price it charges in America. But in future, says Prashant Yadav of the Massachusetts Institute of Technology, firms must "price differentially not between developed and developing-country markets, but within each developing-country market." In other words, middle-class Indian patients will pay more than the rural poor.

Source: adapted from The Economist, 15 May 2008

Questions

- (a) (i) Explain the type of market structure the pharmaceutical industry operates in. [2]
- (ii) Explain the effects of patents expiration on profits of pharmaceutical companies selling the original brands. [4]
- (b) (i) With reference to Figure 1 and Extract 2, explain how the market share of unbranded generic drugs might have affected the price of drugs in the United States. [2]
- (ii) With the use of data provided, discuss whether competition should be limited in the pharmaceutical industry. [8]
- (c) (i) Explain whether the use of differential pricing by the pharmaceutical companies is an example of price discrimination. [4]
- (ii) Assess the effectiveness of recent strategies adopted by the pharmaceutical companies to protect their profits. [10]
- [Total: 30]

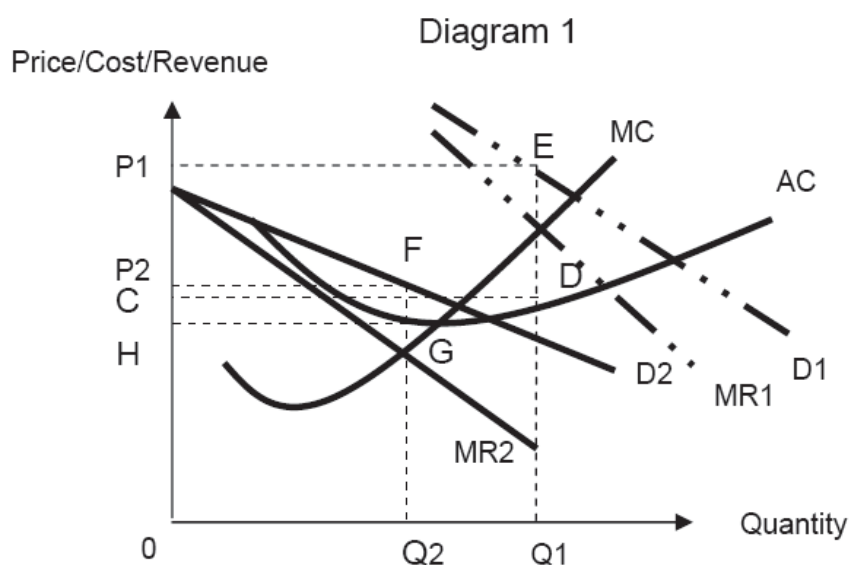
Case Study Question 1: Suggested Answers

- ai) Explain the type of market structure the pharmaceutical industry operates in. [2]

The pharmaceutical industry operates in an oligopolistic market (1 mark).
It is dominated by a few large firms which have the ability to set prices (1 mark).
Other possible reasons: significant barriers to entry, eg patents.

- (aii) Explain the effects of patents expiration on profits of pharmaceutical companies selling the original brands. [4]

Patents provide protection for the profits of existing firms in the pharmaceutical industry as substitutes to their patented drugs are not legally permissible while the patents are in force. With reference to the diagram below, given that the initial demand curve for the original brand drugs is D_1 , the equilibrium quantity, where $MR_1 = MC$ is OQ_1 and price is OP_1 . The profits at this quantity are given by P_1EDC . When these patents expire, new drug substitutes are allowed to enter the market to compete with the original brands. As a result, the demand for the original brand drugs will fall and become more elastic. As the demand curve shifts to D_2 , the new equilibrium quantity is now at OQ_2 and price is OP_2 and profits is now at P_2FGH . Hence, there is a reduction of profits made by the firms selling the original brands. However, in view of the fact that entry barriers are present, some level of supernormal profits can still be maintained.



(bi) With reference to Figure 1 and Extract 2, explain how the market share of unbranded generic drugs might have affected the price of drugs in the United States. [2]

In comparison to other countries, the market share of unbranded generic drugs is the highest in the US (1 mark). This accounts for why in Extract 2 it was mentioned that as competition from unbranded generics is fiercest in the United States, the price of a given drug falls might have fallen more drastically (by more than 85%) after patent expiry (1 mark).

(bii) With the use of data provided, discuss whether competition should be limited in the pharmaceutical industry. [8]

Limiting competition in the pharmaceutical industry implies that entry barriers are present in the industry which blocks new firms from entering to compete with existing firms. Whether it is justified to do so depend on the nature of the industry, but more importantly the effect this will have on society.

The pharmaceutical industry is one that relies on heavily on innovation in the development of new drugs. This requires significant resources to be devoted into research and development. This is supported in Table 1 which shows that heavier R&D investment, as a percentage of sales, is required in this industry as compared to others. Some incentives, in the form of protecting their profits need to be given to these firms to continue to engage in R&D. The ability to reap greater supernormal profits also provides more resources for them to develop newer and better drugs for the treatment of diseases that are beneficial to society. Hence, limiting competition through patents would enable society to achieve this. As mentioned in Extract 1, with limited competition, the pharmaceutical industry would be dominated by fewer firms facing fairly inelastic demand. As seen in the diagram 1 in part a(ii), greater market power therefore allows the firms to set prices and earn substantial supernormal profits, especially when the cost of manufacturing the drug is said to be relatively low. However, limited competition gives rise to greater market power which might not be beneficial to society. It can be seen in diagram 1 that, at price OP_1 , $P > MC$. Allocative inefficiency is not attained and welfare to society is not maximized. Needless to say, a higher price translates into a loss of consumer surplus and lower consumer welfare. Furthermore, there is potential for abuse of market power whereby existing firms use their position to block entry of new competitors in the market. This was the case in Extract 2 where the pharmaceutical companies were accused of blocking or delaying the entry of cheaper generic medicines into the EU with their “pay-for-delays” deals. Such practices, imposes greater costs on many in society like the healthcare systems, consumers and taxpayers. Not only are consumers paying for more expensive drugs, but taxpayers also end up paying greater taxes to fund the subsidies for the healthcare systems (Extract 2). Therefore, the government felt justified in investigating into these actions which were deemed anti-competitive.

Given the nature of the pharmaceutical industry as a R&D driven industry, some limit to competition is probably necessary to provide the incentive for innovation in the development of new drugs through patents. However, this probably should not extent to existing drugs as some degree of competition is needed to ensure society' welfare is not severely compromised and greater efficiency is attained.

Level	Description	Mark
3	In-depth analysis of how limiting competition can have both positive and negative effects to society, with reference to case materials.	7-8
2	Some attempt to explain how limiting competition affects society, with little reference to case or in-depth analysis.	4-6
1	Weak attempt to explain how limiting competition affects society. Mere listing of effects without elaboration.	1-3

(ci) Explain whether the use of differential pricing by the pharmaceutical companies is an example of price discrimination. [4]

Price discrimination refers to the charging of different prices for the same product at different prices not due to differences in costs. Based on Extract 4, some firms have adopted “differential pricing” schemes that use formulas, based on average income per head, to set lower prices in poor countries. Merck, for example, recently launched a diabetes drug in India for a fraction of the price it charges in America. To some extent, this can be considered third degree price discrimination, as it is the charging of different prices for the same product in different market, low-income versus high-income markets, due to differences in their price elasticities of demand. It can be argued that the demand for the drug in the low-income countries is more elastic as the cost of the drug constitutes a larger proportion of the consumers’ income.

While the cost of producing the drug could be the same if they are produced in the same location, there is insufficient information with regards to whether the two markets are entirely separable. However, assuming that it is difficult for resale of the drugs to take place, then the above example can be considered as an example of price discrimination.

Clear explanation of definition and conditions of price discrimination with reference to the case material – 3 - 4 marks

Vague explanation of definition and conditions of price discrimination without reference to case material – 1 - 2 marks

(cii) Assess the effectiveness of recent strategies adopted by the pharmaceutical companies to protect their profits. [10]

There are numerous strategies adopted by the pharmaceutical companies to protect their profits. This discussion will focus on three strategies, namely mergers and acquisitions, forming strategic alliances and diversification.

Mergers and acquisitions:

Initially probably involve combination of fairly dominant firms in the industry but recently might include buying into generic-making rivals (Extract 1 and 3)

• Advantages:

Revenue advantages, e.g. increase in market share, reduction in competition, greater market power (see b(ii))

Cost advantages, e.g. economies of scale (with relevant examples to the pharmaceutical industry)

• Limitations:

Rise in cost, e.g. due to diseconomies of scale especially with another fairly large

firm, unnecessary duplication

Government legislation preventing firms from abusing market power, e.g. price controls (Extract 3)

Strategic alliances:

Strategic alliances are being formed with small biotech companies in order to reap the economic benefits biotechnology offers (Extract 1)

- Advantages:

Less costly than mergers and acquisitions

Maintain competitive edge by harnessing potential offered by new developments (Extract 3)

- Limitations:

Danger of spreading resources into too many areas

Inability to keep up with the latest developments or identifying wrong trends

Diversification:

Into new markets, e.g. emerging markets (Extract 4); or

Into more products, e.g. generic drugs (Extract 3)

- Advantages:

Expansion of markets, capturing more revenue, especially in new growth areas (Extract 4).

Spreading risks, e.g. offset declining or slow growing demand in established markets or products (Extract 4).

Brand loyalty ensure that consumers are less sensitive to higher prices of branded generic drugs (Extract 3).

- Limitations:

Risks incurred in breaking into new markets, e.g. due to lack of local knowledge.

Teaming up with local firms can lead to clash of cultures (Extract 3).

Requires packaging product to cater to local consumers in emerging markets, hence “price differential” scheme (Extract 4).

Preventive measures needed to ensure seepage is not possible.

Government legislation preventing firms from abusing market power (Extract 3).

Level	Description	Mark
3	In-depth analysis of the various strategies with good use of relevant data from the case and evaluation. Max 7 marks if there is in-depth analysis of the strategies but no evaluation.	7-10
2	Some attempt to analyze the strategies, with little reference to case and/or evaluation.	4-6
1	Little or no attempt to analyze the strategies and no evaluation.	1-3



Case Study Question 2: The Sugar Industry

TJC Prelim Exam 2008 H2 P1 CS Q1

Extract 1: The UK Sugar Market

Sugar, a sweet substance, is obtained from the juices of various plants. Due to differences in climatic conditions, sugar **beet** that thrives well in temperate countries is processed into white sugar while **sugarcane** that proliferates in the tropical areas is processed into raw and white sugar.

British Sugar (BSC) is a firm in an enviable position. As the sole processor of the sugar beet grown in the UK, it enjoys a large share of the market for refined white sugar. In addition it receives a guaranteed price from the European Union (EU) for the sugar it produces.

Tate and Lyle (T&L) is a company that also processes sugar in the UK, but uses sugar cane, which is imported from countries outside the EU such as Brazil, Australia and the Caribbean countries. Imports of sugar cane are limited by quotas, which restrict the supply and ensure that BSC faces little competition.

Neither BSC nor T&L has any incentive to cut prices. BSC has its production quota set by the Common Agriculture Policy (CAP) of the EU while T&L's ability to increase sales is limited by the sugar cane import quota. The EU subsidises the export of all surplus sugar and this helps to keep prices in the world market low.

In the past BSC has more than once been found guilty of abusing its market power. It has twice been fined by the EU, on the first occasion for blocking the entry of another firm into the market, and later for colluding and price fixing.

BSC's profits have exceeded 20% in every year but one since 1994. In 2001, the margin was 21% compared to the overall profit margin of its parent company (Associated British Foods) of just 6%. It has been estimated that if the guaranteed price were reduced by 11%, profits of 10% could still be earned. The reduction would transfer 123m euros from the company to its consumers.

Source: extracted from GCE 'A' Level Examination, November 2004

Extract 2: The EU Sugar Regime³

In operation for the last forty years, the sugar regime has insulated the beet farmers and sugar processors from low prices and vagaries of the world market through intervention. Cane-sugar producers enjoy lower cost of land and labour. Brazil's cost of producing sugar is four cents per pound¹ while EU producers incur 25 cents per pound. With world prices never rising beyond 15 cents per pound, the EU producers would have been wiped out of existence. Yet they have been able to make substantial profits. This is made possible with import restrictions. The 2004 import tariff stood at 324 per cent.² Excess supply makes export subsidies necessary.

Attracted by the glitter of profit, refiners produce above the quota ceiling. This non-quota sugar is not eligible for price support or subsidies and is not to be sold domestically.

However, under the African, Caribbean and Pacific (ACP) Sugar Protocol some 18 sugar exporting countries that are former European colonies have been given special access to the EU markets. These ACP countries include Mauritius, Barbados and Fiji. Similar duty-free access to EU has been accorded to least developed countries such as Mozambique, Ethiopia and Malawi under the Everything But Arms (EBA) initiative.

Left out of such preferential trade, Brazil, Australia and Thailand lodged a formal complaint to World Trade Organisation (WTO) that EU engaged in 'cross-subsidisation' of non-quota sugar exports, and indirect and direct subsidies of quota sugar. EU's claim that its sugar regime was non-subsidising and self-financing export regime and that its trade preferences for developing countries were consistent with 'waiver' from the WTO rules was overturned.

Extract 3: Reform of EU Sugar Regime³

With the aim of securing a competitive sugar beet industry in the EU, short and long-term planning has gone underway.

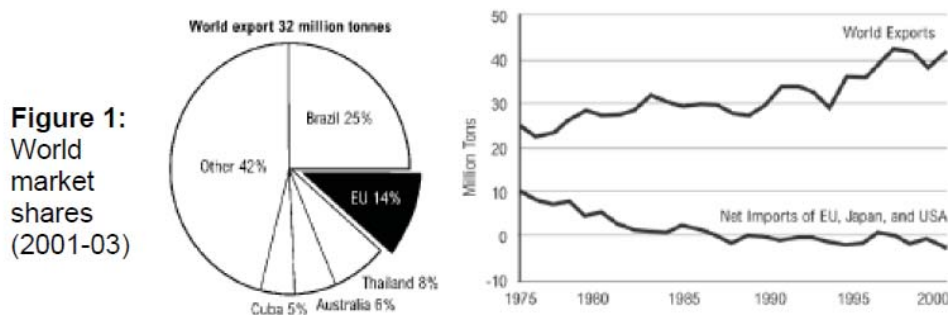
To reduce the glut created by subsidized profit, minimum sugar price will be reduced by 36 per cent without compensation and minimum beet price to be cut by 39 per cent with compensation for 60 per cent of the price reduction. Levies on the sugar industry will be deployed as restructuring fund to incentivise uncompetitive producers to leave the industry. This is complemented by reduction in EU sugar production by 6 – 7 million tonnes (mt) with a substantial halt to EU sugar exports. However, external protection remains limiting the rise in imports by protective clauses.

As the EU unveiled its plans to reform the sugar sector, loud protests were heard. Mixed response was received from the rest of the world.

Extract 4: The Global Sugar Market³

Owing to favourable weather condition on the one hand and owing to the need to earn foreign exchange on the other hand, world sugar production is estimated to expand rapidly reaching 150.6 mt by 2006. The bulk of this increase will come from developing countries. Brazil which is the world's leading sugar producer will put even more land under cultivation.

A more favourable trade agreement with USA coupled with higher yields will see Mexico expanding its production to reach 6.1 mt. Total output in Pakistan, the Philippines, China, Thailand and Vietnam is expected to reach 22.3 mt.



Source: Oxfam Briefing Paper based on International Sugar Organisation and World Bank data

World consumption is expected to rise to 149.7 mt. the bulk of which is accounted for by developing countries. Developing countries is estimated to consume 101 mt, driven by growth in population and income. Consumption in the EU, the US and South Korea is expected to remain stable. World interest in ethanol as an alternative fuel has whetted the appetite for sugar.

Like other primary-produce exporters, sugar exporters face great market uncertainty which spells trouble for many of the world's least developed countries where abject poverty is the order of the day.

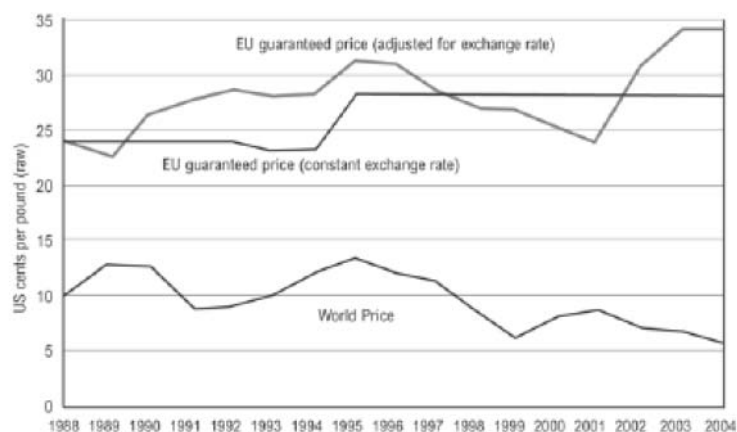


Figure 3:
EU guaranteed
prices and world
prices

Source: Oxfam Briefing Paper based on data from World Sugar Organisation, World Bank, European Commission

¹World Bank, Landell Mills Commodities, and national data; Oxfam Briefing Paper

²International Sugar Organisation and European Commission; Oxfam Briefing Paper

³Extracted from various sources

Questions

- (a) (i) Compare the EU price of sugar with the world price of sugar over the period shown. [3]
- (ii) Explain the differences observed and the implication for the EU commission. [4]
- (b) (i) Identify two characteristics of BSC that suggest that it has strong market power. [2]
- (ii) Explain another way by which BSC might have prevented the entry of another firm into the market. [2]
- (c) (i) With the aid of a diagram, explain what the impact would be on BSC's profits if free trade were allowed in the European sugar market. [3]
- (ii) Discuss the view that the advantages of monopoly outweigh the disadvantages. [6]
- (d) Examine the possible impact of the European sugar sector reform on sugar producers. [10]

[Total: 30m]

Case Study Question 2 – Suggested Answers

(ai) Compare the EU price of sugar with the world price of sugar over the period shown. [3]

- The world price of sugar was unstable, **deteriorating by 40%** while the EU guaranteed price was **stabilized at a higher level** (raised by 16%).
- As a result, the **price gap widened** with the EU price being **almost five times** as high as the world price by 2004, **up from twice** at the start of the period.

- When the EU price was **adjusted for changes in exchange rate**, the price gap became **even more pronounced** at the end of the period.

(aii) Explain the differences observed and the implication for the EU commission. [4]

- Explanation for the widening gap (3m):
 - As the EU price was **guaranteed**, it was stable and higher than in the rest of the world in order to successfully protect the producers.
 - World price being determined by the **forces of supply and demand** fluctuated with the dynamic changes in the market.
 - Supply from the **EU**: a major exporter of both **subsidized sugar exports and non-quota sugar exports** augmented world supply (Figure 2 – EU, Japan and USA became net exporters).
 - Supply from **developing countries**: bumper harvest and deliberate rise in exports to earn foreign exchange.
 - Demand was stable (although is expected to rise with economic and population growth).
 - As **world exports rose while net imports fell** (Figure 2), world supply persistently exceeded demand causing the persistent deterioration of the price.
 - EU's steep import tariff resulted in **producers competing more aggressively** globally.
 - The differences widened with the **strengthening of the Euro**.
- Implication (1m):
 - Falling world price and subsidized export price necessarily meant that the sugar scheme **became increasingly expensive to maintain**.
 - Furthermore, special access to EU markets due to ACP protocol and EBA initiative served to keep price in EU low costing **higher payouts** by EU Commission to EU producers.
 - (A concern is that the insulated sugar producers remain inefficient and complacent)

(bi) Identify two characteristics of BSC that suggest that it has strong market power. [2]

- One source of market power is that BSC is the “**sole processor** of the sugar beet” and thus “enjoys a large share of the market.” Also, T&L’s production was limited by the import of sugarcane.
- Another characteristic is that BSC has the **means and interest to block the entry** of another firm and has been found “guilty of abusing its market power.”

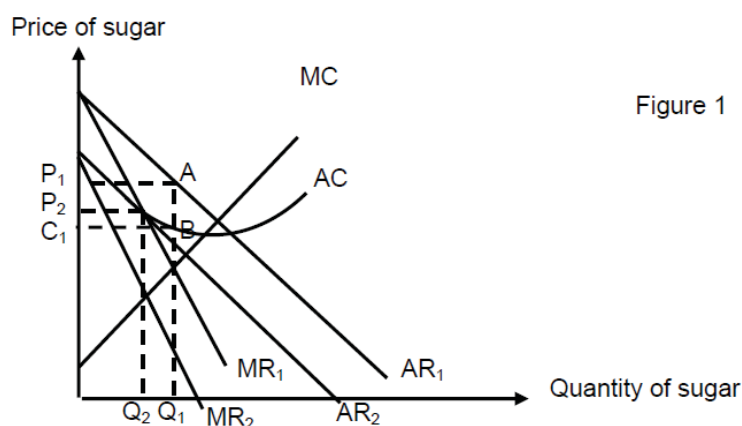
(bii) Explain another way by which BSC might have prevented the entry of another firm into the market.

[2]

- Even if new entrants could obtain the raw material, BSC could engage in **predatory pricing** by charging a new price that is way below average cost to **dominate the market** such that the potential entrant is unable to capture sufficient slice of the market to survive. T&L is likely to follow suit as it will benefit from it.
- (Forced takeover of new entrant)

(ci) With the aid of a diagram, explain what the impact would be on BSC's profits if free trade were allowed in the European sugar market. [3]

- Free trade would mean that **new firms attracted** by the high profits would join the industry by importing sugar from abroad and the **market share of BSC would fall**.
- This would shift the **average revenue and marginal revenue curves leftwards** to AR₂ and MR₂ respectively.
- The result is that price and quantity sold would fall to P₂ and Q₂ respectively.
- As average cost would also rise, profits would fall.
- As world price is only one-fifth of the EU's and if **BSC does not raise its efficiency**, it **may be squeezed out of the market** eventually.



(2m explanation, 1m diagram)

(cii) Discuss the view that the advantages of monopoly outweigh the disadvantages.

[6]

- The main advantages are (2m):
 - o The monopoly would be able to exploit more fully **economies of scale** as sugar refining permits for instance extensive use of machinery equipment thereby spreading the high overheads.
 - o The monopoly profits would provide necessary **funds for research and development** such as stabilizing the nutrient-fortified sugar.

- **Funds also available to face adversity** and not required for sales promotion.
 - Also the monopoly will be in a better position to **face foreign competition** thereby preserving employment and income.
 - For instance cost of production in Brazil is one-fifth of that incurred by EU and so **economies of scale are very crucial to raise competitiveness**.
- The main disadvantages are (2m):
- **Abuse market power:**
 - **Consumer exploitation** – even if guaranteed price was cut by 11%, 10% profits could still be made and would transfer 123 Euro to consumers and neither firm has the incentive to cut prices.
 - **Block entry** of potential entrants and **price fixing**.
 - **Lack of competition leads to complacency. Productive and allocative inefficiency** too as there is no incentive for firm to try to lower costs and price is higher than marginal cost.
- Assessment (2m):
- Advantages outweigh the disadvantages
 - **Research and development** to improve the method of production and quality of sugar is crucial to the enhancement of competitiveness but is costly and so monopoly profits are needed.
 - Also **consumer exploitation could be minimized or eliminated** through government regulation in the form of AC pricing.
 - **Allocative inefficiency** can be avoided through government regulation in the form of MC pricing.
 - In the case of UK, a member of the EU, monopoly would help the nation to **fend off exports from other EU countries** thereby saving jobs.
 - If the monopoly is listed in the market, the **high profits are shared by all shareholders**, big or small.
 - Globalization results in greater competition and competitive disadvantage will mean closure – the **monopoly has a fighting chance of surviving** thereby saving jobs

OR

- Disadvantages outweigh advantages
 - Sugar processing is a low value-added industry as technology being simple means that **economies of scale may not be as extensive** as industries where sophisticated machines are used and so there may not be a need for the market to be served by a monopoly.
 - While funds may be available, there is **no guarantee that the monopoly would indeed carry out the research**, after all the market is protected.
 - Government regulation may be **difficult and expensive** as it would require sharp auditing skills.
 - The high monopoly profits mean that there is a **redistribution of wealth** from the masses to a firm or in the case of a listed company to the major shareholders.
 - For a mature economy like the UK, government intervention to bring about efficiency **should be minimized** and market forces are to be allowed to operate as efficiently as possible.

(d) Examine the possible impact of the European sugar sector reform on sugar producers. [10]

- The reform:
 - Smaller price support – minimum price cut of 36% (sugar) and 39% (sugar beet).
 - Levies on imports – used as restructuring funds to encourage consolidation of the industry.
 - Cut back on production and exports.
 - Limit rise in imports.
- Negative impact (4m):
 - Reduction of guaranteed sugar price without compensation would adversely affect refiners like BSC and especially T&L which process sugar from imported sugarcane (imports restricted).
 - Exporters to the EU are hit:

- Hit sugarcane farmers and sugar refiners in ACP countries and least developed countries which have expanded output to capitalize on special access to the EU.
- These are countries that depend on sugar exports to earn foreign exchange.
- It may be expected that there will be more trading of production quotas that will raise the cost of production.
- A vicious cycle may develop as reform may prompt sugar producing countries to put more land under cultivation thereby raising the supply and in turn lowering the price. After all, the mere expectation of rising consumption has already led to higher production by the world's largest sugar producer, Brazil. It is unlikely that the other developing countries will let such an opportunity slip by.
- Positive impact (4m):
 - Remaining firms in the EU after market consolidation will have a bigger market share.
 - With a fall in export subsidies leading to a "substantial halt to EU sugar exports," world supply will fall boosting the price that would be a relief to the sugar producing countries such as Brazil, Australia and Thailand aside from Cuba and the ACP countries.
 - In the long run, the reform will force EU producers to improve efficiency in order to face competition upon the lifting of market protection in the foreseeable future with WTO's intervention.
- Assessment (2m):
 - In the UK, BSC's market power may strengthen if T&L is downsized.
 - Reform seems to be moving in the right direction as it is difficult for developed economies to justify protectionism.
 - However, the negative impact on some developing countries will evoke strong reaction but other developing countries would benefit.
 - As it is beneficial to allow market forces to operate more freely, EU should continue to reform the CAP.
 - To help its producers, EU could take a more long term solution by raising demand, considering that the supply is likely to rise over time as the developing countries try to develop their sugar industry.

- This however may not be very promising bearing in mind the rising awareness of health hazards associated with sugar consumption.
- To successfully do so, the harmful effects of sugar must be reduced.
- Another solution would be to develop new uses.
 - Use sugar beet as a fodder for producing biofuel.
 - This must be carried out cautiously so as not to cause a crisis.



SECTION 3 – Essays

Question 1

CJC 2009 Prelim Exam H2 Q2

“SingTel launched its much-anticipated pay TV service today, bringing an end to StarHub’s 12-year monopoly in this market.”

Adapted from Straits Times, 21st July 2007

- a) Explain how price and output decisions of firms are affected by competition in the market above. [10]
- b) Discuss the view that greater competition in the above market is beneficial to the society. [15]

Suggested Answer to Question 1

Part (a)

Introduction:

- Identify pay-TV market in Singapore: oligopoly or duopoly
- Justify using main characteristics of oligopoly:
 - o Two dominant firms: StarHub & SingTel
 - o High barriers to entry: high set-up costs in laying cable infrastructure, high charges for exclusive rights to screen popular programmes

Development:

Explain that in an oligopoly market as firms are mutually interdependent, the price and output decisions are affected by the actions of rival firms as well as their profit maximizing objective.

- To maximize profits, a firm would produce at the output level where $MC = MR$
- Price and output decisions – depend on actions and responses of rival firms

Hence, firms in an oligopoly can decide to compete or collude.

Competitive oligopoly (which is seen in pay-TV market in Singapore)

- Show price and output determination using kinked demand curve. Explain price rigidity
- Highlight that the product (pay-TV service) is differentiated in terms of certain programmes that each pay-TV provider can broadcast due to exclusive carriage rights.
- Therefore the providers compete largely through non-price strategies and price rigidity rather than price wars.
- Explain that due to the mutual interdependence of the two firms, we see strong competition from both firms that focus on value packages, wider variety of quality content, and greater flexibility in service offerings.
- Give examples in pay TV market where non-price competition such as product differentiation is used. Product differentiation can be real or perceived.
 - o Real product differentiation in terms of product bundling and exclusive broadcasting rights. Examples:
 - StarHub: attractive package comprising its pay-TV, mobile and broadband subscriptions at good discounted rates, exclusive screening rights to established and popular channels and

- content programmes e.g. Discovery Channel, National Geographic Channel, ESPN, English Premier League.
- SingTel: mio TV SuperSaver package comprising mio TV, a fixed line and broadband service, exclusive rights to UEFA Champions League, Malay entertainment content e.g. Astro Channel
- Perceived differences in terms of advertising to promote brand loyalty.
 - StarHub was the sole provider (monopoly) of pay-TV service in Singapore for 12 years and its brand has become synonymous with cable TV. SingTel has to compete with StarHub, a long-established incumbent in the pay-TV market that has entrenched itself with popular subscription channels for consumers.

Collusive oligopoly

- Informal collusion (price leadership): market leader sets price and other firms tacitly follow.
- Cartel: price and output decisions of firms follow the formal agreement

Conclusion:

While the objective of firms is mainly to maximize profits (i.e. maximize revenue and minimize costs), the price and output decisions of oligopolistic firms depend a great deal on the strong competition from rival firms and their possible actions and reactions.

L3	Good analysis and application on how price and output behavior is determined in context of pay TV market in Singapore. Good use of examples.	7 – 10
L2	Explanation on the characteristics of oligopoly in the context of pay TV market in Singapore but inadequate development on how mutual interdependence of firms can affect the price and output behavior. Clear reference to context with some examples given.	5 – 6
L1	Descriptive knowledge on the characteristics of oligopoly. Vague explanation on mutual interdependence. No reference to pay TV market.	1 – 4



Part (b)

Introduction:

Recognise that the media authorities liberalized the pay-TV market in Singapore to promote greater competition that will affect the price and output decisions of the sole provider of pay-TV service

Development:

Benefits	Costs
<p>Greater allocative efficiency</p> <ul style="list-style-type: none"> - Before introducing competition: <p>$P > MC$ (allocative inefficiency) Explain that firm produces at $MC = MR$ (profit-maximizing output) but $P > MC$. Consumers value the product more than what is produced by the firm.</p> <ul style="list-style-type: none"> - After introducing competition: still allocative inefficient but less so. - Explain that with competition, market will produce at a higher level of output that is closer to the allocative efficient output. - Explain that difference between P and MC is smaller as less monopoly power and demand for their product is more price elastic with more substitutes available. 	<p>Greater wastage of resources</p> <ul style="list-style-type: none"> - High advertising costs <p>Due to competition, firms incur higher selling and administrative expenses, eg during launch of new product offerings</p> <ul style="list-style-type: none"> - High content costs <p>As compelling content offerings is the key demand factor to attract new subscribers and retain existing ones, firms are willing to incur the high content acquisition costs.</p> <ul style="list-style-type: none"> - Eval: The media regulatory body (MDA) may wish to intervene in the exclusive carriage agreements of the media content so that consumers need not bear the inconvenience and cost.
<p>Greater consumer welfare</p> <ul style="list-style-type: none"> - Consumers may benefit from possibly lower prices and higher output of products. <p>Explain that the opening up of the pay TV market has resulted in competitive packages in terms of value-for-money bundled services, more and better quality content, and greater flexibility in service offerings.</p> <ul style="list-style-type: none"> - Eval: prices need not necessarily be lower. Eg if each provider carries different content channels with exclusive rights, the subscribers may need to sign up with both providers in order to 	

enjoy the different programme and content offerings.	
<p>Dynamic efficiency (more R&D)</p> <ul style="list-style-type: none"> - Competition stimulates innovation through: <p>Greater variety and better quality content: eg firms will source for popular and appealing media content.</p> <p>Innovative service offerings, eg pay-as-you-watch price plans, Hub Club member offering good discounts and bundled services.</p> <ul style="list-style-type: none"> - Eval: more enjoy less supernormal profits due to increased competition and hence less funds to finance R&D efforts. 	

Conclusion:

Make a stand as to whether greater competition brings more benefits or costs to society.

Possible conclusion: Due to the increased competition, we expect the pay-TV market to move from a seller's market to a buyer's market as the subscribers enjoy value packages, wider variety of quality content, and greater flexibility in service offerings.

L3	A well-developed and balanced answer that explains clearly the benefits and costs to society using economic analysis. Good use of examples.	9 – 11
L2	Answer that addresses the effects on society but largely one-sided or inadequate explanation. Little or no examples given.	6 – 8
L1	Answer shows some knowledge of the economic effects on society but little or no elaboration.	1 – 5

E2	Evaluation based on economic analysis.	3 – 4
E1	Unexplained evaluative comments.	1 – 2

Question 2

MI 2009 Prelim Exam H2 Q3

Discuss the view that oligopoly is the most common market structure in Singapore.
[25]

Suggested Answer to Question 2

- Define briefly the four market structures
 - o No of sellers

- Barriers to entry
 - Perfect knowledge
 - Product differentiation
 - Types of competition
 - Types of profits
 - LR equilibrium of the different structures (At minimum diagrams for monopoly and oligopoly)
- Discuss the various factors that favour oligopolies in Singapore
- Few sellers
 - Large capital outlay
 - Economies of scale
 - Intensity of competition
 - Consumers taste and preferences for big firms
 - Entrepreneurial talent pool
 - Examples; telecommunications, banking & finance, hospitals, transport etc.
- Discuss the opposing view that despite the presence of oligopolies there exist numerous examples of firms that fit the MC model as well as some that fit the monopoly model.
- Diseconomies of scale
 - Niche markets
 - Personalized services
 - Natural monopolies etc.
 - Examples; Restaurants, food courts, dental and medical clinics, PUB etc.

L3	For an explanation of a balanced view on the dominant market structure, supported by clear, accurately drawn diagrams and appropriate examples. The answer is clearly explained within the theoretical framework.	15 – 21
L2	For an undeveloped or unbalanced explanation of the different market structures showing the preponderance of one structure.	9 – 14
L1	For an answer that shows some knowledge of the market structures.	1 – 8

E2	For an evaluative critical discussion supported by analysis.	3 – 4
E1	For an unexplained judgment, or one unsupported by analysis.	1 – 2

Question 3

NJC 2009 Prelim Exam H2 Q2

- (a) With the use of examples, differentiate between the key features of the economic models of monopolistic competition and monopoly. [8]
- (b) Discuss the view that more market power leads to the exploitation of consumers. [17]

Suggested Answer to Question 3

Distinguish the two economic models of monopolistic competition and monopoly by comparing their key features: number of firms relative to the market size, the nature of product, availability of information and the ease of entry and exit into the industry.

Features	Monopolistic Competition	Monopoly
Number of firms	There are many sellers and buyers in the industry. Each firm produces only a small proportion of the total market output.	Only one, possessing full control of the market. Is able to influence price or output but not both simultaneously
Nature of product	Products are differentiated. Each firm's product is an imperfect substitute for one another. Product differentiation can be real or imaginary.	Unique (no close substitutes)
Availability of information	Imperfect knowledge of market by buyers and sellers	Imperfect knowledge of market by buyers and sellers
Ease of entry and exit	There are no barriers to market entry and exit. For instance, there are no patents or government licensing program to restrict the number of firms. Existing firms are unable to stop new firms from entering the industry.	High barriers to entry and exit which can be man-made or natural
Examples	Boutiques in the retail industry; footwear, hair salon, bakery shops. Each firm is small and sell either differentiated goods or provide differentiated services. Firms can enter and exit the industry easily because of the relatively low sunk costs.	Microsoft (for computer operating systems), public utilities, De Beers Diamond. The firm is the industry with tremendous market power. The product sold has no close substitutes and high barriers to entry and exit because of natural/man-made barriers due to high sunk costs or government regulations.

L3	A comprehensive answer that differentiates between the 2 economic models based on all 4 key features and well-illustrated with examples.	7 – 8
L2	Expect an accurate but undeveloped answer that attempts to differentiate between the two models. Examples are provided but with limited elaboration.	4 – 6
L1	Expect a largely inaccurate or incomplete answer. Attempts to explain the key features of the two models but no attempts at differentiation/ comparison. Examples of the 2 models are not provided.	1 – 3

(b) Discuss the view that more market power leads to the exploitation of consumers. [17]

Introduction:

More market power may lead to the exploitation of consumers because of the higher price they pay and the lower quantity which is transacted on the market. However, firms with larger market power may also enjoy economies of scale which may benefit consumers in the form of lower prices and better quality products in the light of competition for greater market share which entices the firms to engage in R&D.

Body:

The extent to which a firm can exercise its influence on market prices is an indication of its market power.

What contributes to a firm's market power?

- No. and size of firms

- Nature of product – homogenous or differentiated

Firms that produce a product which is slightly different from its competitors has a certain amount of market power.

- Barriers to entry

Availability of Information – Perfect vs Imperfect

- If information on the product prices and quality is **readily available** to all consumers, producers have **less influence** over the market price since any price increase will be made known to the consumers and they would experience a fall in the demand for their good.
- Similarly, information on the production processes and technology is **easily available** to the producers and **no firm has an exclusive right to technology**, as such they all have similar production techniques. In this case, firms are **unlikely to have any influence over the market**.
- Hence, when consumers and producers have **perfect information** on the product, such market structure is known as a **Perfectly Competitive** market structure. For **Imperfect** market structures, consumers **lack information** on the products and some firms tend to have far superior technology and advance production processes compared to their competitors. Such firms tend to have **greater market power** over the market.

Firms with market power include firms in imperfect markets such as Monopoly, Oligopolies and Monopolistically Competition. Firms in these markets can either influence price or output in order to maximize profits. A perfectly competitive industry is one in which firms have no market power to set prices.

The question is about “more market power” and whether that would lead to the exploitation of consumers. As such, students need to discuss and focus on “market power” and use the different market structures as illustration.

Thesis: more market power leads to the exploitation of consumers.

Areas to discuss:

- prices, quantity
- variety of choices
- allocative efficiency

For instance, comparing a PC industry with a monopolistic industry.

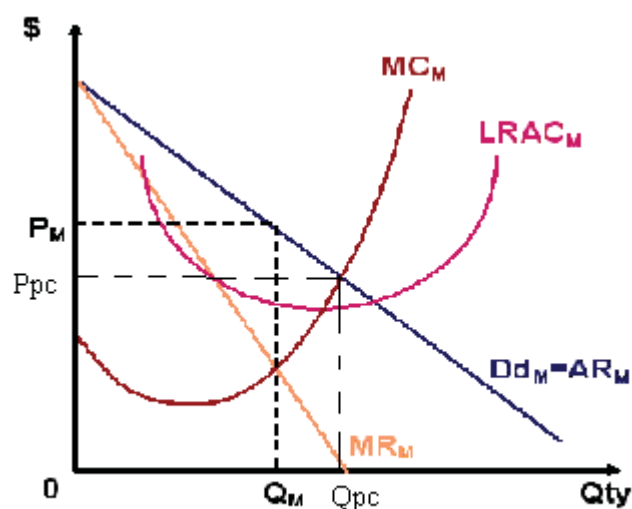
P.C

- Infinitely many small firms in the industry, each firm is small.
- Homogenous/identical products
- Free entry and exit from the industry
- Perfect knowledge of market by buyers and sellers.

Monopoly: (as discussed in part a)

- The firm is the sole seller leading to the firm having tremendous market power to influence price or output.
- The firm's product is unique having no close substitutes.

Assuming that the PC industry and the Monopoly have the same revenue and cost structures,



When there is more market power,

- Prices are generally higher, and output levels are lower. Firms have more influence over either prices or output with more market power.
e.g. In Figure 1, $P_M > P_{PC}$, $Q_{PC} > Q_M$
- P.C – allocatively efficient where $P = MC$ but Monopoly is not. In fact, all imperfect markets are not allocatively efficient. This means that consumers' welfare is not maximized. The value that the consumers place on additional units of the good is more than the cost that it would have cost the firm to produce them.
- There is some consumer surplus if the monopolistic charges a single price where $MR = MC$. However, as a Monopolistic firm has greater ability to price discriminate as compared to a firm with less market power (e.g. a monopolistically competitive firm), if 1st degree P.D is practiced, then the consumer enjoys zero consumer surplus. The consumer is exploited at the expense of the producer with greater market power.

Grey areas:

- Lesser choice/ variety for consumers? P.C. – no market power but also identical product. Monopoly with tremendous market power – also no variety. However, does seem to indicate that less market power (like M.C industry) has more variety of products than an monopoly/oligopolies
- In a monopoly, there is no need for innovation as there is no competition in the industry. But it is the same in a P.C. with no market power. In industries with more market power, firms tend to engage in innovation and R & D in order to increase the variety/quality of products. This will benefit consumers.
- As firms compete for market share, they compete in terms of price and non-price competition. Product innovation may thus occur.
- For example, as firms in the bakery industry such as Breadtalk, Four Leaves, Qbread and other neighbourhood shops compete for business, they come up with better and more interesting variety of bread for consumers to choose.
- Hair salons offer differentiated services and may try to compete on service quality (e.g. more personalized services, head scalp massage etc) as well as lowering prices (on hair cuts and hair treatments) which benefits consumers.

Anti-thesis: More market power may not lead to the exploitation of consumers but benefit them instead.

- Given the scale of production that a large firm with more market power carries out, it is more likely to enjoy EOS (e.g. Technical, Marketing, Managerial, Financial, Risk-bearing EOS) which can lower the cost of production, and leading to lower prices in the cost savings are passed on to consumers. Consumers thus gain greater consumer surplus.
- The pursuit of LR profits leads to product innovation. The large firm earns supernormal profits to engage in R & D which can benefit consumers. Firms in the Monopolistically Competitive industry do not have the ability to engage in R & D and there may not be any real differences in the products that they innovate.
- Price discrimination
Given the market power of large firms (e.g. oligopolies), they would sometimes practice price discrimination. The most common form tends to be 3rd degree PD where consumers are segmented into different groups and prices are charged according to the group. For example, in the telecommunication industry in Singapore, all the firms charge a higher price for certain groups (working adults) but provides the same services if not more to other groups (students and senior citizens) at a lower price.
Furthermore, with other forms of PD, certain essential services would also then be provided to those with lower ability to pay, thus increasing their welfare. For example, certain unprofitable bus routes can be kept running because of cross subsidization using PD. This would not be possible if firms do not have substantial market power to practice PD.

Conclusion

The level of market power influences the conduct of firms in the industry. Although a larger degree of market power may lead to the exploitation of consumers, there are also instances when more market power might actually be beneficial instead. The outcome would generally depend on the type of industry. Furthermore, given various government regulators and competition law present, the firms would be less able to engage in activities that would exploit the consumers.

Level 1 (1-5)	<ul style="list-style-type: none"> Where the answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context. For a one-sided answer showing how more market power could lead to more exploitation of consumers <u>or</u> how more market power could benefit consumers. The question has not been properly grasped, and there is inadequate development of analysis and application. Little/no examples given.
Level 2 (6-9)	<ul style="list-style-type: none"> For a one-sided answer that explains how more market power may lead to exploitation of consumers or how more market power could benefit consumers. There is evidence of development of analysis and application though it may not be fully developed. <u>Or</u> for an accurate but undeveloped explanation answer with a balanced view. Answer is illustrated with some examples.
Level 3 (10-13)	<ul style="list-style-type: none"> Expect a good knowledge of the facts and theory of the question. Clear evidence of the ability to present a logical and reasoned analysis. Answer is well-illustrated with examples.
E1 (1-2)	For an assessment that is not supported by analysis
E2 (3-4)	For an evaluative assessment based on economic analysis

Question 4

NYJC 2009 Prelim Exam H2 Q2

2) Assess the market structure that would best achieve equity, innovation and choice. [25]

Suggested Answer to Question 4

L3	Analysis that includes at least MC or Oligopoly. Concepts are clearly explained and applied to various situations (real or hypothetical).	15 – 21
L2	Analysis comparing two extreme market structures (PC and Monopoly) Some but limited application.	7 – 14
L1	Knowledge of the different market structures and assessment criteria other than just price and quantity (eg equity, innovation and choice).	1 – 6

E2	For an evaluative critical discussion of the conflicts between the three criteria.	3 – 4
E1	Recognition of the conflicts between the three criteria	1 – 2

Outline:

Introduction:

Define market structure, equity, innovation and choice.

Outline the characteristics of the market structures to be assessed (PC, Monopoly, MC or Oligopoly).

Development:

Basic polar situations: competitive vs non-competitive market.

	Equity	Innovation	Choice
PC	Likely (normal profits)	No (no supernormal profits)	No (homogeneous good)
Monopoly	No (exploitation possible)	No (no incentive)	No (no close substitute)

Thus, competitive and non-competitive markets in the extreme may not be able to encourage innovation or provide sufficient choice. However, an extremely competitive market (PC) may achieve equity.

Less extreme market situations: MC and Oligopoly

	Equity	Innovation	Choice
MC	Likely (normal profits)	No (there is incentive to innovate but no funds to support R&D)	Yes (products are differentiated) (real or perceived)
Oligopoly	No (some exploitation)	Yes (there is incentive and funds available to support R&D)	Yes (limited)

Thus, a more competitive market will result in a more equitable price and output solution. However, with regard to innovation, more competitive markets will provide the incentive to innovate but not the funds, conversely a less competitive market will result in less incentive but provides the funds to innovate.

More competitive markets necessarily provide greater choice for the consumers compared to less competitive markets.

Conclusion:

Overall conclusion as to the kind of market structure to be encouraged to achieve equity, innovation and choice.

There are other considerations for encouraging competitive or non-competitive markets. E.g. EoS, MES, market size, nature of product etc.

Question 5

VJC 2009 Prelim Exam H2 Q2

“Monopolistic competition is the worst of all possible worlds, failing to achieve either the pricing efficiency created by the intensity of perfect competition or the scale economies and innovation of oligopoly and monopoly”

- (a) Explain what is meant by monopolistic competition, and why the majority of firms in Singapore are operating in such a market. [10]
- (b) Does the existence of so many monopolistically competitive firms lead to inefficiency in the Singapore economy? [15]

Suggested Answer to Question 5

Part a)

Monopolistic competition

Definition

Characteristics: Some degree of product differentiation providing firms with market power; weak BTEs; many sellers & buyers; lack of rival consciousness

Why many firms in Singapore operate in such a market

E.gs – various personal services, retail, restaurants

□

-Weak BTEs in many markets (As such most markets are not oligopoly or monopoly).

-Low start-up costs – E.g. low costs involved in setting up a hair salon

-Service is easily copied

-Minimal EOS relative to size of the market - due to labour intensity of the production process and lack of scope for automation

-Singapore is physically very small – most markets are not geographically segmented (i.e. lack of natural transport barriers causing monopoly power)

-Openness of Singapore (i.e. lack of artificial barriers) => manufacturers producing more for the domestic market have to compete with numerous imported brands

-Govt help assists in overcoming some BTEs e.g. financial

□

Diversification of products (As such markets are not PC)

- Firms which provide unique and/or personalized goods/services (e.g. hairdressers, cafes) => suit MC market structure

- Firms who practice non-price competition focus on product differentiation

L3	Explains how Singapore favours such structure in certain markets because of no PC – primary industries, desire for choice/differentiation backed by high income to exercise it in food, entertainment, etc, with low EOS in localized market. Application to Singapore context required for this range.	8 - 10
	More detailed explanation	7
L2	Understands how MC emerges (desire for choice, absence of BTE such as EOS, government assistance for start-ups, lower financial BTEs).	5 – 6
L1	Defines, identifies and illustrates the characteristics of MC generically.	1 – 4

Part b)

Briefly explain what types of efficiency to consider:

- Productive
- Allocative
- Dynamic

Thesis

1. In the long run, the perfectly competitive firm produces at the minimum point of the LRAC, whilst the monopolistically competitive firm produces on the downward sloping portion of the LRAC, indicating that there is unused EOS. Hence, price is higher under monopolistic competition than perfect competition. Each firm produces low levels of o/p, may not reap EOS (contrast with monopoly or oligopoly).

2. Allocative inefficient

MC firms are profit maximizing => produce where $MC=MR$ and charge $P>MC$, given their market power => allocative inefficiency

3. Lack of innovation

Monopolistically competitive firms lack both the incentive and ability to engage in R&D => dynamic inefficiency

Anti-thesis

1. MC is productively efficient because

Firms as profit-maximizers will be cost-minimizers and will produce its goods at the lowest possible cost. Whilst they are not fully exploiting EOS, all points on LRAC are productively efficient for the output being produced, including those to the left of MES. Unlike monopoly/oligopoly they will not drift towards X-inefficiency.

Excess capacity is also *desirable* because it offers convenience (Imagine going last minute to a restaurant that was always running at full capacity. You would always have to book.)

2. Firms that are in monopolistic competitive markets do not *need* EOS to survive in the domestic market. They sell products for which consumers place a greater premium for uniqueness rather than cheap prices (from EOS). A wide variety of products/services are available to consumers in monopolistic competition.

3. Although they do not engage in *expensive* R&D like oligopolists in e.g. the pharmaceutical market, their efforts at product differentiation do enhance welfare by creating variety desired by consumers. (E.g. Hawkers)

4. Unlike oligopoly MC do not advertise heavily. The main form of product differentiation in Singaporean MC is geographic/spatial.

Synthesis

□ Ultimately, firms in Singapore operate under monopolistically competitive type of market structure for several reasons:

- Personalized product/service they produce e.g. a hair cut
- Emphasis on providing varied products/services

Hence, although theoretically, their existence in abundance seems to be a threat to the efficiency of the economy, the characteristics of *the types of products/services they actually sell* suit the type of market structure they belong to.

Whilst there are many MC firms in Singapore, they do not impede the efficiency of the economy because those markets which ought to be oligopoly or monopoly for the sake of cost efficiency *are* such in S'pore

E.g. : Domestic market - Telecommunications; TV, bus transport, taxis (HQ costs spread over a large network, plus economies of scope).

Conclusion:

Does not. MC firms are allocative inefficient just like oligopolists and monopolists. They do not achieve scale economies nor engage in R&D like oligopolists and possibly monopolists. However, they offer product variety not found in PC and they are found mainly in markets where EOS are not so significant **and** whose consumers place less importance on low prices (from EOS) and more importance on product variety. They are productively efficient firms based on their output levels. The existence of so many monopolistic competitive firms does not preclude the existence of oligopolists and monopolists in markets in S'pore which are better off, for the efficiency of the economy, by being oligopolies and monopolies, as the vibrant export market shows.

L3	More analytical. Below + considers the usefulness of oligopoly/monopoly in particular markets, giving Singapore examples.	10 – 11
	A balanced answer which analyzes the performance (based on efficiency – analyzed with diagram) of MC firms and considers the Singapore context (qns whether EOS or choice is preferred by consumers in Singapore). Gives egs relevant to Singapore context.	8 – 9
L2	Some explanation of the positive and negative performance (based on 2 of the 3 versions of efficiency – productive, allocative, dynamic) of MC firms. Eg why $P > MC$ for MC firms, why they are productively efficient OR a detailed one-sided answer on benefits or disadvantages of MC. Little reference to Singapore context.	5 – 7
L1	For an answer which merely identifies some basic correct facts about the performance of MC firms and defines efficiencies but makes assertions about MC efficiency rather than reasoning.	1 – 4

E2	Makes judgments based on sufficient critical analysis and consideration of the Singapore context. Makes an overall stand.	3 – 4
E1	Makes judgments based on insufficient critical analysis. Conclusion largely generic and does not consider the Singapore context.	1 – 2



23. 2011 Other JCs' Prelims - MARKET STRUCTURE (H2)

1	AJC 2011	'Monopolistic competition is the more prevalent market structure than oligopoly in an increasingly globalised world.' Discuss. [25]
2	CJC 2011	Barriers to entry enable firms to grow big to pursue market power. So a reduction in competition & a rise in consumer exploitation are inevitable in any capitalist economy.' (a) Explain how barriers to entry affect the market power of firms. [10] (b) Discuss whether it is in society's best interest for firms to grow big. [15]
3	DHI 2011	<i>The three giants in the local fast-food business are McDonald's, Kentucky Fried Chicken (KFC) and Burger King; McDonald's has over 100 outlets as the market leader. Arnold's Fried Chicken, a locally grown firm, has recently opened its third outlet.</i> (a) Explain how firms in the fast-food business can discriminate between buyers by charging different prices for the same product. [10] (b) Discuss the extent to which the decisions of businesses like KFC and Arnold's depend on the actions of its competitors. [15]
4	HCI 2011	<i>With growing environmental awareness, large cosmetic companies advertise they have invested in research to ensure their products are environmentally friendly. The aim is to increase demand and profits.</i> (a) Explain what might happen to the fixed and variable costs in the above companies and how any changes might affect their profit maximizing prices and output. [10] (b) Discuss whether the profits of such companies will increase, and whether in the real world they will set prices and output at profit maximizing levels. [15]
5	IJC 2011	(a) Explain the relevance of barriers to entry in determining the key differences between oligopolistic competition and monopolistic competition. [10] (b) Consider different retailers in Singapore and assess the extent to which barriers to entry may be detrimental to competition and economic welfare. [15]
6	JJC 2011	<i>Apple Inc has been the star of technological investors in recent years, outperforming powerhouses like Nokia, BlackBerry (Research in Motion). Market watchers attribute Apple Inc's performance to its ability to be at the frontier of smart phone technology with its flagship products such as the iPhone.</i> (a) Explain how consumer welfare can be affected by Apple Inc.'s ability to achieve economic efficiency and innovation. [10] (b) Discuss how barriers to entry can influence the behaviour of firms. [15]

7	MI 2011	<p>(a) Using appropriate diagrams, distinguish between internal and external economies of scale. [10]</p> <p>(b) Discuss the extent to which barriers to entry explain the differences in allocative and dynamic efficiency levels between market structures. [15]</p>
8	MJC 2011	<p>(a) Explain whether it is always advantageous for a firm to grow in size. [12]</p> <p>(b) Discuss how you would decide whether a firm is exerting its monopoly power. [13]</p>
9	NJC 2011	<p>(a) Explain the pricing decisions of firms in both collusive and competitive oligopolistic markets. [10]</p> <p>(b) Discuss the view that firms in the oligopolistic market structure are the most likely to differentiate their products from those of their rivals. [15]</p>
10	NYJC 2011	<p>'Barriers to entry are the only considerations necessary in a firm's pricing and output decision making process.' Discuss. [25]</p>
11	PJC 2011	<p><i>US confectionary Mars received the all clear from the European commission to buy number one chewing gum maker Wrigley in a deal worth €15 billion. Their competitors are concerned that this would give Wrigley an unfair advantage over them.</i></p> <p>(a) Explain how, in economics theory, firms in imperfect markets would determine the price that would maximize profits. [8]</p> <p>(b) Discuss the assertion that acquisitions by large firms such as Mars are desirable to society. [17]</p>
12	RI 2011	<p>Firms' pricing and output decisions depend on barriers to entry and the behaviour of competitors. Discuss. [25]</p>
13	RVH 2011	<p>(a) Explain how the existence of economies of scale can affect the behaviour and performance of firms. [10]</p> <p>(b) Discuss the extent to which economies of scale determines the types of market structure in Singapore. [15]</p>
14	SAJC 2011	<p><i>Proton, Malaysia's largest car producer, continues to struggle with high production costs that make local cars relatively more expensive than many foreign cars.</i></p> <p style="text-align: right;">Source: AsiaTimes Aug 2003</p> <p>(a) Explain how a firm like Proton can enjoy economies of scale. [10]</p> <p>(b) Discuss the relevance of achieving cost savings in determining the welfare of consumers. [15]</p>

15	SRJC 2011	<p>(a) Explain how firms in monopolistic competition and oligopoly compete in their respective market structure. [10]</p> <p>(b) Discuss whether there is more innovation and greater consumer welfare in oligopoly than in monopolistic competition. [15]</p>
16	TPJC 2011	<p><i>"The consumer products giants Unilever and Procter & Gamble (P&G) have been fined 315m euros for fixing washing powder prices in eight European countries."</i></p> <p>BBC News (www.bbc.co.uk) 13 April 2011</p> <p>(a) Explain why firms such as Unilever and P&G might be able to fix prices. [10]</p> <p>(b) Consider whether the market structure in which they operate is more efficient than others. [15]</p>
17	VJC 2011	<p>Barriers to entry confer more market power on firms in their pricing and output decisions and behaviour.</p> <p>(a) Using examples, explain how barriers to entry will confer more market power on firms. [10]</p> <p>(b) Discuss whether greater competition should be introduced into markets in Singapore. [15]</p>
18	YJC 2011	<p><i>In the real world, most firms are either monopolistically competitive or oligopolistic in nature.</i></p> <p>(a) Explain the above statement. [10]</p> <p>(b) Discuss the extent to which monopolistically competitive and oligopolistic firms exploit consumers given that they have market power. [15]</p>

PAST YEAR A LEVEL QUESTIONS

No.	Year	Question
1	2007 H2	<p>Explain how, in economic theory, a monopolist would determine the price that would maximize profits. [8]</p> <p>Discuss whether firms in the real world set prices at profit-maximising levels. [17]</p>
2	2008 H2	<p>Firms' pricing and output decisions depend on barriers to entry and the behaviour of competitors.</p> <p>(a) Explain why barriers to entry are a key determinant in firms' pricing decisions. [10]</p> <p>(b) Discuss the extent to which the behaviour of firms depends in reality on the actions of their competitors. [15]</p>

3	2009 H2	<p>A very popular band is due to play one concert at a 5000 capacity venue. The plan is to charge different prices according to the area in which the seat is located.</p> <p>(a) Explain whether this pricing policy could be considered to be an example of price discrimination. [10]</p> <p>(b) Discuss the problems that are likely to be faced in determining the prices to be charged for the seats. [15]</p>
4	2010 H2	<p>Retailers in Singapore supply a wide range of services and products in a variety of market structures.</p> <p>(a) Explain the key differences between oligopolistic competition and monopolistic competition. [10]</p> <p>(b) Consider different retailers in Singapore and discuss which of these two market structures best explains their market behaviour. [15]</p>
5	2011 H2	<p>(a) Explain how the different features of monopolistic competition and oligopoly affect price and output determination in these market structures. [10]</p> <p>(b) Recession will affect firms in different ways depending, for example, on what they produce and the market structure in which they operate. Discuss the likely effects of a recession on different firms. [15]</p>





2013 JC2 H1 & H2 ECONOMICS

24. Market Failure & Government Intervention

Review on: Market System And Market Failure

Below are general issues you need to know before attempting the tutorial questions. Please put a tick in the column, to indicate that you are aware of the issue and understand it clearly. Else do revise the issues before attempting the essay and case study questions.

Market System	Tick
1. What are the fundamental economic problems arising from limited resources and unlimited wants?	
2. What are the key characteristics of a Market Economy?	
3. What are the goals of consumers and producers in the market?	
4. What is the role of price mechanism in resource allocation in a market based economy?	
5. What are the advantages of a market economy?	
Public Goods and Private Goods	Tick
6. What are the key characteristics of a public good?	
7. How is a public good different from a private good?	
8. Is there a difference between a merit and demerit as compared to a private good?	
9. How would the existence of public good cause the market economy to fail?	
Externalities	Tick
10. How do Total Private Cost and Benefits differ from Total Social Cost and Benefit?	
11. Can public good extend out externalities?	
12. Explain how consumer and producer use the marginalist principles when deciding on how much to consume or produce respectively.	
13. Illustrate positive and negative externalities in both production and consumption using simple demand and supply diagrams or otherwise.	
14. What is meant by deadweight loss?	
15. What are the policies a government may adopt should a good extend out externalities?	
16. How effective are these policies in achieving the socially optimal output?	



Market failure	Tick
17. What is meant by Market failure?	
18. What is meant by an efficient market?	
19. Identify the sources of market failure.	
20. Clearly explain how each source results in market failure.	
Government Intervention	Tick
21. Explain why governments intervene in the markets to correct market failures.	
22. Examine the various methods by which governments intervene in markets.	
23. Discuss how governments may create inefficiencies when they intervene in markets due to factors such as political objectives, administrative costs and lack of information.	
Singapore Government Current Policies	Tick
24. What are the current government policies in dealing with second-hand smoke?	
25. What are the current government policies in dealing with road congestion?	
26. What are the current government policies in the healthcare sector?	
27. What are the current government policies in the property sector?	
28. What are the current government policies in the education sector?	



SECTION 1: Concept Reinforcement

Exercise 1

Which of the following could be considered 'public', 'merit' or 'demerit' goods? Why?

	'Good'	Type of good ... Why?
i	Street lighting	Public Gd, non-excludable, non-rival
ii	Elementary education	Merit Gd (Gd w +ve exnlty) most govts deem as desirable
iii	Flood control systems (drainage systems)	Public Gd, non-excludable, non-rival
iv	Irrigation systems	+ve exnlty, may be 'merit' gd (Make comparisons with iii)
v	Traffic Congestion	Not a good.
vi	Cigarettes	-ve exnlty, may be 'demerit gd'
vii	National Museums	Merit good, most govts deem it as socially desirable

Exercise 2

With respect to the '**Bus Transportation**' market, identify the possible evidence of the different sources of market failure.

Source of Market Failure	Possible evidence
Public Good	No. Excludability and rivalry present
Asymmetric information	Some ignorance on the part of the Cr (may not know there is a bus that plies that route)
Market Power	Presence of EoS suggests that Pr may have mkt pwr
Factor Immobility	Dvr training and acquisition of busses may be a problem.
Positive Externalities	Reduces road congestion thus increases 3 rd party benefits.
Negative Externalities	Does add to pollution and the associated 3 rd party costs

- Consider which of these failures is most impactful.
- Consider whether this can be considered a form of analyzing costs and benefits.



Multiple Choice Questions:

1. Why does the Singapore government finance the maintenance of privately owned buildings such as the Sun Yat Sen Villa?
A. There is no market for historic buildings.
B. The social benefits from maintaining historic buildings exceed the private benefits.
C. Historic properties fall into the category of 'public goods'.
D. The supply of these historic buildings is inelastic.

Ans B

2. A factory situated on a river bank suffered a breakdown which costs \$10,000 to repair. As a result the river was polluted and a fish farm downstream lost stock worth \$20,000. In addition, the water authority had to spend \$15,000 on water purification, \$5,000 worth of which it was able to claim back from the factory. Assuming these are the only costs involved, what is the total cost to society?
A. \$10,000
B. \$30,000
C. \$35,000
D. \$45,000

Ans D

3. A government replaces cash grants paid to students in full-time higher education with a scheme of loans to be repaid by the students from their future incomes earned within the country. Which of the following is likely to result?
A. A decrease in the opportunity cost of higher education to the student.
B. A decrease in the private rate of return on investment in higher education.
C. A switch in demand by students away from job-related courses.
D. Reduced emigration on the part of graduates.

Ans B

Analytical Exercises:

1. Using a diagram, show the effects 'supplier induced' demand on the socially desirable price and output combination in a market.
(see figure 2 from the notes)
2. Using a diagram, show how the market determined price differs from the socially desirable price in the case where there is a negative externality in consumption with the case where there is a negative externality in production.
Both cases result in overproduction ($Q_s < Q_p$)
-ve externality in production $\Rightarrow (P_s > P_p)$
-ve externality in consumption $\Rightarrow (P_s < P_p)$
3. Consider the type of market failures that may occur in the following markets:

Market	Type of failures
National Defence	Public Good
Healthcare	Positive externalities, Inequity
'Microsoft' Operating Systems	Monopoly Power, asymmetric info
Orchestral concerts	Positive externality, monopoly power,
Public Housing	Positive externality, inequity

Enrichment Exercises:

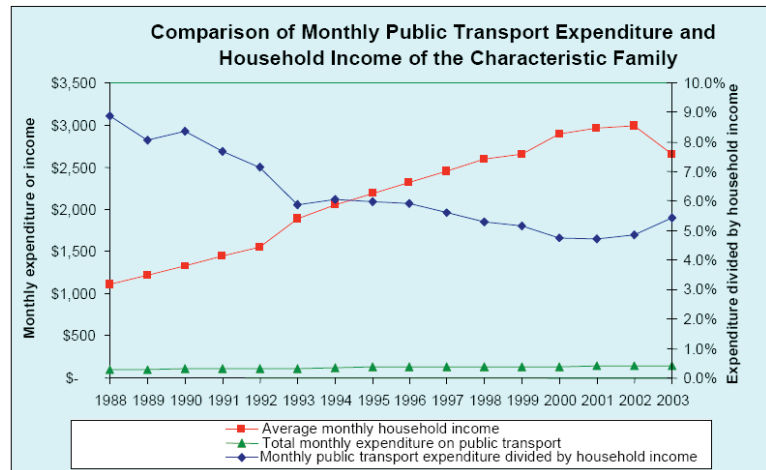
1. Watch LTA video #3 "Managing Traffic Congestion in Singapore"
2. Read Mr Ravi Menon's speech (pg22-20) and summarise the key principles the Singapore government uses when deciding when and how to intervene in markets.

SECTION 2 - CASE STUDIES

Question 1 Land Transport in Singapore (RJC 2008 Prelim)

**Table 1:
Singapore Real GDP
Per Capita**

Year	S\$
2001	37749.49
2002	39017.53
2003	41083.33
2004	44459.84
2005	46784.78
2006	52941.06



Source: The Committee on the Fare Review Mechanism.

Figure 1

Table 2: Bus Fare Structures

Distance Travelled (fare stages)	Fare Per Ride (cent)		Type of Passholder	Price of Bus Pass
	Ez-link Card	Cash		
			Primary Student	\$22.50
4 or less	67	90	Secondary Student	\$27.50
4.5 – 7	89	110	Tertiary Student	\$52.00
7.5 – 10	109	130	Full-time NS man	\$61.00
10.5 – 13	119	140		

Extract 1: 4 Months After Taxi Fare Hike

In a bid to raise taxi drivers' earnings, the six taxi companies increased their starting metered fare from \$2.50 to \$2.80, adjusted the meter to tick faster (a 50% increase for every km) and revised peak-hour surcharge upwards by 35% in December last year. Three weeks after fares were raised, many taxi drivers claimed their earnings had fallen. Taxi driver Mr Richard Chew said business had been slow and he spent a longer time waiting for passengers. A check showed his net hourly takings had fallen by just 10%.

Another driver claimed his average net hour takings had fallen from \$13 to \$10 but yet another driver said his average takings of \$80 a day had remained largely unchanged. 'The number of trips have dropped slightly, but the higher fares mean our income is more or less stable', he added.

It seems there has been a turnaround according to surveys done. ComfortDelgro, the largest taxi operator here with about 15,000 of the country's 24,000 taxis, saw a 16% increase in takings for a cabby's full day of work. The average daily ridership for taxis in January and February's was about 900,000.

Last year, the average daily ridership was 945,000. Discretionary taxi-takers have been forced back to the train and bus by the costlier fares. The issue of correct pricing to turn taxis into a boutique service, not supermarket-type socialised commuting, is what the Straits Times has been advocating.

Source: Adapted from *The Straits Times* 25 April 2008

Extract 2: PTC Says Public Transport Fare Hikes Likely to be Under 1.8%

Singapore's Public Transport Council (PTC) said bus and train commuters here are likely to face fare hikes of under 1.8% this year. The council uses a formula to calculate by how much prices can go up - by pegging the adjustments to the health of the economy. It also allows for reductions if the economy plunges into a deep recession.

Public transport fares had seen increases in both 2006 and 2007. Back in 2006, operators blamed rises in manpower cost and energy prices for the need to raise fares. 'Energy costs rose by 20% or \$20.3 million last year - having already increased by 41.2% in 2005,' a SBS Transit spokesman said. 'Manpower costs have increased by about \$12.1 million during the year.' The same reasons were cited in 2007.

The Consumers Association of Singapore (Case) was then not entirely convinced and pointed out that transport companies were enjoying 'good returns'. SMRT achieved a 39% rise in net earnings to \$37.94 million in the first quarter while SBS Transit's turnover in 2007 increased by 6.6% from \$612.6m to \$653.3m.

Source: Adapted from *Channel News Asia*, 14 July 2008

Extract 3: ERP Effective in Curbing Congestion

Transport Minister Raymond Lim announced a substantial expansion of the electronic road-pricing (ERP) coverage to keep Singapore's roads moving smoothly. Commenting on the effectiveness of ERP, he said, "Some people will drive regardless of the ERP charges but not all. If this was so, all your ERP-priced roads today will be congested".

Mr Lim added that if the ERP system was a failure, other cities like London, Milan and New York would not be implementing it. "Let me stress that the purpose of ERP is not to stop everyone from driving. That is absolutely counter-productive."

Since 1998, when ERP was introduced and vehicle policy began relying increasingly on usage charges, vehicle ownership taxes (Additional Registration Fee, excise duty and road taxes combined) have been cut significantly. ERP is something to make Singapore a liveable city so that even as the economy and population grow, "we ensure we are a city in a garden and not a city in a car park".

To curb vehicle population growth, the minister also announced that the 3% annual allowable growth rate will be halved to 1.5% from April 2009, which could potentially reduce the number of car COEs by 8%. He also said that \$14 billion worth of new roads will be built over the next 12 years - compared with \$3.4 billion in the last decade. The frequency of bus services along corridors affected by the ERP expansion will be increased. Bus services will also be allowed to duplicate sections of mature MRT lines. But he cautioned that increasing road capacity will not in itself guarantee smooth flowing roads.

In fast growing economies like China, the car population grows at more than 20% a year and peak-hour traffic in mega-cities like Beijing and Shanghai crawls at 5km an hour. In the United States, motorists spent more than 4.2 billion hours stuck in jams, and used up enough extra fuel to fill 58 supertankers, he said. The 'congestion invoice' in the US stands at some \$78 billion each year.

Source: Adapted from *The Business Times* 7 March 2008

Extract 4: Bus System Changes Will Make Singapore More Competitive

The Land Transport Authority (LTA) announced that more bus operators will be allowed to compete for the right to provide a package of bus services designed by LTA rather than bus routes planned by operators based on commercial obligations. Transport analysts welcomed

the prospect of more competition in the bus services sector and said it may exert pressure on the profit margins of existing players.

ComfortDelGro, which owns 75% of SBS Transit, will come up strong against potential bidders with its experience behind it. A transport analyst said: "The existing established players will already have established systems in place, whether it's physical buses, people or logistical structures."

Analysts said what will be critical is the type of tender that will be offered. In Sydney for example, operators are paid a fixed amount regardless of the amount of passengers they carry, so profit margins depend largely on keeping costs low.

Source: *Channel News Asia* 18 January 2008

Questions

- (a) (i) With reference to Figure 1, state the relationship between household income and proportion spent on public transport. [1]
(ii) Identify the evidence in Figure 1 that may be used to explain the above relationship. [1]
- (b) (i) Explain the relevance of price and income elasticity of demand to the taxi operators in their decision to increase fares. [4]
(ii) Explain the relevance of price and cross elasticity of demand to the PTC in evaluating the most recent applications for bus and train fare increases. [4]
(iii) Suggest **two** possible limitations that both the taxi operators and PTC may face when using elasticity concepts to help them make decisions. [4]
- (c) To what extent are the fare structures in Table 2 examples of price discrimination? [6]
- (d) Discuss whether the use of COEs and ERP are the best measures for Singapore in ensuring smooth flowing roads. [10]

Total [30]

Suggested Answers:

(a)(i) With reference to Figure 1, state the relationship between household income and proportion spent on public transport. [1]

- Inverse / Negative relationship 1

(ii) Identify the evidence in Figure 1 that may be used to explain the above relationship. [1]

- Household income increased over the years
- Total monthly expenditure on public transport remained **relatively constant** over the years
- Hence, proportion spent on public transport dropped

(b)(i) Explain the relevance of price and income elasticity of demand to the taxi operators in their decision to increase fares. [4]

PED:

Explanation of concept

- Define PED
- With price inelastic demand (**justify**), the number of taxi rides decreases **less than proportionate** to the rise in price, and thus **total revenue rises**
- **Evidence** - 16% rise in takings (total revenue)

OR

- Increase in price ranging from 12% (starting fare) to 35% (peak-hour surcharge) to 50% (faster-ticking meter) leading to a **more than** fall in quantity from 945,000 to 900,000 of 0.5%
- **Implication for taxi operators:** fare raise meets objective in raising revenue/earnings (Extract 1) if taxi rides are price inelastic in demand

YED:

- **Explanation of concept**
- Define YED
- Likely to be a normal/necessity/luxury good (justify) - when income rises, demand for taxi rides will increase (more than proportionately, if luxury good) - surge in demand creates shortage - raise fares
- **Evidence**
- From table 1, GDP per head rises - income rises
- **Implication for taxi operators:** not directly relevant in terms of assessing impact of fare increase but YED is relevant in explaining why the taxi companies are in a position to increase fares in the first place

(b)(ii) Explain the relevance of price and cross elasticity of demand to the PTC in evaluating the most recent applications for bus and train fare increases. [4]

PTC (regulatory body) would have 2 objectives:

- Welfare of commuters (ensure operators not exploiting consumers)
- Ensure operators able to cover cost (in the face of rising fuel cost) so that they would continue providing the essential service

PTC would be likely to reject applications based solely on profit considerations

PED:

Explanation of concept with evidence

- Definition of PED **not** required (already defined in (i))
- Likely to be price inelastic demand (justify) - the number of bus and train rides decreases **less than proportionate** to the rise in price, and thus **total revenue rises**
- Diagram **not** required
- **Evidence**
 - Net earnings rose despite rise in costs (extract 2), so it must imply that TR has risen more significantly
 - **Implication for PTC**
 - Scenario 1: operators may be abusing monopoly power – PTC will reject
 - Scenario 2: application to raise fare may be due to operators' price inelastic demand for fuel, leading to rising cost (Extract 2)
 - PTC has to carefully weigh these 2 factors before allowing the fare increase especially since this is the 3rd consecutive increase
 - Perhaps explains why it allowed only a smaller increase

CED:

Explanation of concept

- Define CED (in response to a change in price of another good, e.g., taxi fare hike)
- Likely to be positive in value _ substitutes
- Can be high _ close substitutes
- With taxi fare hike, the demand for MRT and buses rises and thus the train and bus operators are able to raise fares **Evidence**
- Taxi fare hikes (Extract 1) _ price of alternative mode has risen
- ERP charges (Extract 3) _ price of private transport has risen
- **Implication for PTC**
- Less likely to approve based on such considerations since the fares affect the lower income group more _ instead make operators find ways to increase frequency to meet the rising demand
- Has to assess if taxi and public transport are indeed close substitutes

(b)(iii) Suggest two possible limitations that both the taxi operators and the PTC may face when using elasticity concepts to help them make decisions. [4]

Possible evaluation points:

- 'Ceteris paribus' assumption does not hold in the real world
- Elasticity concepts and other factors may have to be seen together instead of separately
- Pricing and output decisions could be based more on expectations of changes in future demand and supply
- Difficulty in estimating values of elasticities
- Difficulty in calculating or determining exact elasticity values – the values for different income groups can be different
- Estimates based on past data which may not be relevant for current use – the more dated the data, the less relevant

Some elaboration:

Taxi operators:

- It may be a bad timing for the taxi operators if they decide to raise fares based on PED, but implement it in a time of recession where demand for taxi rides (boutique service) may fall
- The value of elasticity is likely to change with the time period. In the immediate period, demand for taxis could be more price elastic due to the discretionary taxi-takers (Extract 1) switching to public transport. This explains why some cab drivers' earnings had fallen

PTC:

- Apart from elasticity, PTC has to consider the issue of equity since public transport is an essential good where fare increases may especially affect the lower-income group
- The PTC has to make a weighed consideration. Even if the operators raise fares due to inelastic demand arising from possible monopoly power or collusion, other factors it has to consider include the impact of rising oil prices on the operators (Extract 2)

(c) To what extent are the fare structures in Table 2 examples of price discrimination? [6]

Definition of price discrimination:

Different prices for same good/service not due to differences in production costs (1)

Yes...

- Concessionary bus pass holders vs working adults who are not entitled to such concessions - example of 3rd degree PD
- Adults not entitled to concession as their demand is more price inelastic as it is a necessity and smaller % of their income, so they pay more

For argument on different prices not due to cost differences (1)

Well-elaborated (1)

No...

- Fares per ride: As fare stages increase, fares increase generally. This is due to the increase in variable cost of production (eg. fuel, aircon) with a longer distance.
- EZ link fare and fare by cash - due possibly to cost differences
- If fares are paid in cash, it is administratively more costly as the bus company has to hire administrative officers or account officers to count fares collected as well as bank fares collected. Fares paid by EZ-link are electronic in nature and do not require the additional labour.

For argument on different prices due to cost differences (1)

Well-elaborated (1)

Synthesis

E.g., ultimately, could be combination of both price discrimination and price differentiation at work (1) *[To be awarded only if thesis and antithesis are presented]*

(d) Discuss whether the use of COEs and ERP are the best measures for Singapore in ensuring smooth flowing roads. [10]

Introduction

Why ensure smooth flowing roads?

- correct market failure due to congestion (**diagram to illustrate market failure** seen in terms of price of **car ride/usage**, and not price of car)
- reference to evidence about 'congestion invoice'

Thesis: COEs and ERP as good measures

A) How they work

- ERP: works like a tax per unit to equate MEC caused by the car journey. If correctly estimated, reduces the amount of car usage to the socially optimal level (but not 0 congestion – Extract 3), thus ensuring smooth flowing roads
- COE: restrict car ownership (diagram optional)

B) Effectiveness:

- ERP:
 - Largely successful - other cities like London (called congestion charging),

Milan and New York model after Singapore*

- May be more appropriate to rely on ERP as congestion is caused by car usage (root of problem)
- Encourages car pooling
- Limitations of ERP
- Demand for travel on affected roads becomes price inelastic after a while as the convenience outweighs the ERP charge – partially explains why the coverage of ERP has been extended
- Diverts the problem to other small roads not covered by ERP

- Increases business (transportation) cost and businesses in affected areas – not appropriate in face of rising cost and possible economic slowdown
- Difficult to estimate extent of MEC
- Cost of correcting externalities (eg. cost of gantries, increased business cost) may exceed cost of the congestion
- COE:
 - o Restricts supply of cars
 - o Largely successful especially in controlling number of new cars allowed
 - o Limitations of COE
 - As country gets more affluent, more people may be able to afford hefty COE
 - May worsen the congestion problem since the exorbitant fixed cost makes car owners maximise usage of their cars
 - May explain why government has increasingly relied on ERP to curb usage

Question 2 The Beverage Industry – Fame or Fury? (SAJC Prelim 2010)

Extract 1: An Era of Competition

Much like the old tale about boiling a frog, the slow, steadily increasing heat of fuel prices had passed with little notice for several years. But when suddenly immersed in a boiling market of stratospheric price increases in 2008, beverage distributors intent on surviving jumped quickly out of the pot of complacency, with a growing appreciation for the need to more closely manage fuel costs. While practices such as limiting engine idle time and optimising routes are among the more obvious methods of holding down fuel costs, there are other several ways to cut costs. PepsiCo reached an agreement to buy its two largest bottlers in August 2009, The Pepsi Bottling Group Inc. (PBG) and PepsiAmericas, Inc., for US\$7.8 billion. The acquisitions will create one of the largest food and beverage companies globally and will give PepsiCo control of 80 percent of its North American beverage volume, a strategic move that allows the company to respond more quickly to changes in consumers' preference for more health- and wellness-oriented beverages. PepsiCo also predicts the deals will help it save about US\$300 million a year by 2012.

Pepsi and Coke, the world's most popular carbonated drinks, are losing their shares in the country's beverage market due to aggressive marketing of similar products and sudden emergence of so-called energy drinks. Industry people said that the demand for beverage, especially energy drinks, is rising as youths, who represent a larger section of the consumers, prefer energy drinks to Coke and Pepsi. "We're in an era of competition. We'll have to survive through new market strategies and promotional activities," said Mr Mohiuddin, deputy director of Abdul Monem Ltd., bottlers of Coke, Pepsi and allied products.

Adapted from <http://www.thefinancialexpress-bd.com>, 7 Nov 2009 and Beverage World magazine, Sep 2009 Issue

Extract 2: Fury against Cans and Bottles

Industry "greenwashing" obscures the real environmental costs of consuming beverages out of aluminum cans and polyethylene terephthalate (PET) bottles.

Though often touted as "the most recyclable" package in America, more than half of the 99 billion cans sold in the U.S. ended up in a landfill or incinerated, said Jennifer Gitlitz, Container Recycling Institute (CRI) research director. Globally, the figure added up to about 1.5 million tons of wasted cans in 2005. "Valuable ecosystems on every continent have been destroyed for the convenience of the aluminum industry and consumers," added Peter Bosshard, Policy Director of International Rivers Network. "Hydropower dams linked to

aluminum smelters have flooded vast tracts of land, displaced tens of thousands of people, and created unsustainable debt burdens for poor countries.”

According to Sunday Age, Australia’s consumption of bottled water (packaging, shipping, refrigerating) is costing the planet 314,000 barrels of oil a year whereas Pacific Institute recently calculated that demand for bottled water in the U.S. was burning up at least 17 millions barrels of oil a year. With only 35 per cent of water bottles being recycled, and 55 per cent going to landfill, Australian Conservation says the bottled water craze also poses an enormous waste hazard. However, Sally Loane, spokeswoman for Coca-Cola Amatil, Australia’s largest producer of bottled water, said the company was making every effort to reduce the impact of plastic bottles on the environment. She defended the company’s right to sell and market a product that is in high demand. “There is a market for it. Consumers like the convenience of bottled water. A lot of people believe it tastes better. It’s nice and cold. That’s what consumers want, and that’s what we’re giving them.”

Adapted from <http://hubpages.com> (accessed on 16 August 2010) and Containers Recycling Institute, 17 May 2006

Extract 3: Government Policies – Too little too late (and too wrong too?)

As the global beverage marketplace swells up to a tune of US\$700 billion, there would be as bloated a challenge to prevent the irreversible damage to the environment. Often, efforts by governments were quoted as being too little, too late, if not outright inappropriate. For example, New Jersey’s recycling effort needs a swift boost. Despite introducing a bottle deposit (consumers need to pay a deposit to purchase beverage in a bottle and redeem the deposit after recycling the empty bottle), the state does not have a long-standing curbside programme in place to encourage recycling. In Philadelphia, Mayor Nutter’s proposed soda tax has gotten the attention and analysis a proposed new tax deserves. The scrutiny has shown why it shouldn’t be enacted. The tax lacks coherent policy foundations, draws unjustifiable distinctions, could violate state law, poses several practical implementation problems, and would be too easily avoided.

Danish ambassador to Singapore, Ms. Lauritzen, suggests that a national frame is no longer sufficient, if we are to handle the challenge. She added that “every national government, international organisation and global company will have to formulate a policy of goals and a strategy of actions on how to behave in this new context. And it is of vital importance that we strengthen the rules and processes of the international system.”

Adapted from <http://www.nj.com> (accessed on 20 Aug 2010), www.philly.com 24 Mar 2010 and www.ambsingapore.um.dk (accessed on 20 Aug 2010)

Table 1: Market Share of Top 5 Carbonated Soft Drinks Companies in the U.S. (%)

	2007	2008	2009
Coca-Cola Co.	42.8	42.7	41.9
PepsiCo	31.1	30.8	29.9
Dr Pepper Snapple	15.0	15.3	16.4
Cott Corp.	4.8	4.7	4.9
National Beverage	2.5	2.6	2.7

Adapted from *Beverage-Digest*, 30 Mar 2009 and 24 Mar 2010 Issues

Questions

- (a) (i) Describe the 5-firm concentration ratio trend for 2007 – 2009 as given in Table 1. [1]
- (ii) Based on your answer to (a) (i), identify the market structure under which the beverage firms operate in the U.S. [1]
- (iii) Would firms in such an industry compete on price? Justify your answer. [4]
- (b) Assess the importance of achieving various types of efficiencies by the firms in the beverage industry on improving consumers' welfare. [8]
- (c) (i) Explain any one of the sources of market failure as mentioned in the data. [6]
- (ii) Discuss the roles that a local government can play in dealing with the market failure identified in (c) (i). [10]

Total: 30 marks

Suggested answers:

- (a) (i) **Describe the 5-firm concentration ratio trend for 2007 – 2009 as given in Table 1.** [1]

There is a decreasing/falling trend of the 5-firm concentration ratio from 96.2% in 2007 to 95.8% in 2009.

[Negative trend – 0m]

- (ii) **Based on your answer to (a) (i), identify the market structure under which the beverage firms operate in the U.S.** [1]

Oligopoly.

- (iii) **Would firms in such an industry compete on price? Justify your answer.** [4]

An oligopoly industry is composed of a few large dominant firms (in this case, Coca-Cola Co., PepsiCo, etc) whose actions will affect market outcomes. Therefore, competing firms in the beverage industry must be aware of each other actions and respond appropriately. This means that in contemplating a strategy, a firm must take into consideration the possible reactions of all competing firms and their countermoves (mutual interdependence).

For example, if Coca-Cola Co. is considering a price reduction, it may wish to estimate the likelihood that competing firms such as PepsiCo would also lower their prices and possibly trigger a price war. Or if it is considering a price increase, it may want to know whether other firms will also increase prices or hold existing prices constant to retain their customers. Therefore, an oligopolistic firm like Coca-Cola Co. would usually not lower the prices of their drinks for fear of a price war. (2 marks)

Instead, the firms in the beverage industry usually compete based on non-price competition. For example, through product differentiation such as advertising and

product innovation (coming up with new drinks), firms would usually be able to reduce the price elasticity of demand for their drinks as well as increase the demand for their drinks. Thus the firm would be able to capture a larger market share. (1 mark)

Evidences (from Extract 1): (1 mark)

- 1) "Pepsi and Coke, the world's most popular carbonated drinks, are losing their shares in the country's beverage market due to aggressive marketing of similar products and sudden emergence of so-called energy drinks"
- 2) "We'll have to survive through new market strategies and promotional activities"

Level 1 (1 – 2 m): Explanation of price competition only OR theoretical explanation and elaboration on non-price competition without evidence.

Level 2 (3 – 4m): Explanation and elaboration on non-price competition with evidence.

[Listing of evidences only – 0m]

(b) Assess the importance of achieving various types of efficiencies by the firms in the beverage industry on improving consumers' welfare. [8]

Students are expected to:

- identify the various types of efficiencies and explain how these efficiencies by the firms in the beverage industry will affect consumers' welfare.
- elaborate why it is important for the firms to achieve the various types of efficiencies to improve consumers' welfare.
- compare and explain the relative importance of the various types of efficiencies.

1) Productive Efficiency

- occurs at the point where a firm is able to use the lowest possible cost to produce each unit of output – producing at any point along LRAC.
- Though it can be assumed that an oligopolistic firm in the beverage industry could have attained productive efficiency in the long run, evidence from Extract 1 suggests that the firm may still be able to reap further internal EOS and enjoy even lower average cost of production, saving about US\$300m a year by 2010 as predicted by PepsiCo, after acquiring the two large bottling companies. Such cost savings, when passed on to consumers, may bring forth lower prices and thus higher consumer surplus.

2) Dynamic Efficiency

- Refers to a case where firms constantly innovate and adapt quickly to the changing environment by using the profits earned to conduct R&D to produce better and newer products to the consumers.

- Given that an oligopolistic firm still earns supernormal profits in the long run due to high barriers to entry, firms in the beverage industry would have the ability and incentive to conduct R&D. With R&D, consumers will benefit from an increase in their welfare due to better quality and a wider selection & choice of beverages to satisfy their tastes/preferences. Consumers will therefore get to enjoy a higher standard of living. In some circumstances, R&D in production process can also translate into lower prices of the beverages charged to the consumers.

Evidences:

From Extract 1

- “Pepsi and Coke, the world's most popular carbonated drinks, are losing their shares in the country's beverage market due to aggressive marketing of similar products and sudden emergence of so-called energy drinks. Industry people said that the demand for beverage, especially energy drinks, is rising as youths, who represent a larger section of the consumers, prefer energy drinks to Coke and Pepsi.”

From Extract 2

- “There is a market for it. Consumers like the convenience of bottled water. A lot of people believe it tastes better. It's nice and cold. That's what consumers want, and that's what we're giving them.”

3) X-inefficiency

- refers to a case where the firm is complacent and producing at potential cost inefficiencies arising from a lack of effective competition within a market. Such unnecessarily high cost of production may be passed on to consumers as unnecessarily higher prices to maintain the firm's profit margin. Consumer's welfare (both in terms of lower consumer surplus as well as less output being produced) would then be negatively affected.

Evidence: (from Extract 1)

- “But when suddenly immersed in a boiling market of stratospheric price increases in 2008, beverage distributors intent on surviving jumped quickly out of the pot of complacency, with a growing appreciation for the need to more closely manage fuel costs.”

Compare relative importance of achieving the above types of efficiencies

- Attaining or improving dynamic efficiency would seem to be able to improve consumers' welfare more than improving the other two forms of efficiency. The ever increasing preference for more variety of beverages (e.g. healthier energy drinks) indicates that more of such beverage should be produced. Evidence from the extract also suggests that consumers place great value in the ability to enjoy nice, cold beverage. Hence, making such cold, healthier beverage within easy consumer reach through the advent of better technology could serve to improve the consumer welfare more significantly.
- On the other hand, the ability to further reduce cost by any one beverage firm may have minimal impact on the reduction in prices charged to the end consumer. This is due to the multi-stage production process before the beverage lands on the hand of the consumers. Given that beverage is regarded as affordable product by most consumers, the reduction in prices charged, if at all, would unlikely to significantly improve the welfare of the consumers.

Note: Do not accept students' answer for allocative efficiency as there is no incentive for the beverage firms to be allocative efficient due to their profit-maximising objective

Level	Descriptor
3 (5 – 6)	Well-developed answer which explains clearly the various types of efficiencies (all three types of efficiencies) related to the beverage industry and how consumers' welfare can be improved. Explains with reference to evidence or data in the case study.
2 (3 – 4)	For an underdeveloped answer which explains the various types of efficiencies (at least two types of efficiencies) and how consumers' welfare can be improved. Explains with reference to evidence or data in the case study.
1 (1 – 2)	Contains several/serious conceptual errors. Student demonstrates a lack of understanding of the various types of efficiencies and is unable to explain how consumers' welfare can be improved.
E (1 – 2)	Candidate is able to give a considered judgment on the relative importance of achieving the various types of efficiencies on improving consumers' welfare. Explaining the importance of achieving AE, though not by the firms themselves, to improve consumer welfare should deserve full evaluation marks.

(c) (i) Explain any one of the sources of market failure as mentioned in the data.
[6]

Candidate is expected to explain any one of the following:

- (a) Imperfect Market – Oligopoly;
- (b) Negative Externalities in Consumption;
- (c) Negative Externalities in Production.

For each source of market failure, candidate is supposed to:

- (i) State the source of market failure;
- (ii) state and explain the original market equilibrium (optimal) outcome;
- (iii) Introduce and explain the condition to measure social equilibrium (optimal) outcome;
- (iv) Hence, justify the market failure – there had been inefficient allocation of resources (either too much or too little resources had been devoted to the production of the goods in the free/unregulated market). Where diagram is used, the area depicting DWL is expected as evidence of market failure.

Note:

There is no need for any evaluation/comparison/judgment of any sort. Marks are to be awarded for mastery of content knowledge and understanding.



Marks	Descriptors
5 – 6	<ul style="list-style-type: none"> Answer convinces reader candidates possess thorough knowledge of facts and theory. Hardly any mistakes/clumsiness detected. Application to context given in the case material is a must. For the level of difficulty of this question, full marks must only be reserved for near-perfect script.
3 – 4	<ul style="list-style-type: none"> Knowledge displayed can be considered passable, but just. Firm grasp of basic ‘must-haves’ observed (e.g. $MPC = MPB$ vs. $MSC = MSB$; $P > MC$, etc). Mistakes are present but not lethal.
1 – 2	<ul style="list-style-type: none"> Answers which betray lack of basic understanding of market failure – not knowing the criteria for optimality, wrongly drawn/labelled graphs, inability to define market failure, etc. Answers with countable words should deserve bottom mark.

- (ii) **Discuss the roles that a local government can play in dealing with the market failure identified in (c) (i).** [10]

Note:

The focus of this question lies with the roles played by the government and NOT the various policies which the government could avail itself to after assuming that role. Regardless of the source of market failure identified in **(c) (i)**, the various roles which a government could adopt would include interventionist, educator and ‘by-stander’. Candidate should then explain the advantages and disadvantages of each of these roles. To score well in the evaluation, the candidate should recommend which of these roles could the government adopt and provide suitable justification for the recommendation. The following suggested answer assumes one of negative externalities in production.

INTRODUCTION

- *Why the need for government intervention.*
- *The various roles would bring forth different impact to the market.*

The government plays a crucial role in correcting market failure so as to bring about optimal allocation of resources in order to achieve maximum social welfare. The two main roles a government could adopt in its attempt to correct the market failure are: interventionist, educator and ‘by-stander’.

BODY

- *explain each of the roles*
- *highlight the advantages and disadvantages of each role which the government plays.*
- *It would be necessary to bring in examples of policies within each role to provide a better illustration of the role the government could play.*

Interventionist – Taxes

The government could adopt the interventionist role to correct the market failure. The intention is to implement certain policies so as to allow the ‘free’ market to

continue to function and yet attain the socially optimal outcome at the same time. One example is to impose a tax on the aluminium can or plastic bottle producers, which would force producers to internalise the negative externalities caused. The higher MPC will thus make the firms produce at a lower output level so as to maximise its profits. Assuming correctly measured and implemented, the output thus chosen by the private producers will then be where the society would achieve its maximum welfare, thereby eliminating the deadweight loss.

Using the above interventionist role continues to allow the free market to work. By incorporating the appropriate amount of 'charge'/'tax' into the cost structure of the firms, the incentive for profit maximisation will ensure that the optimal amount of cans/bottles be produced. This also means that there is no need for cumbersome monitoring mechanism to be maintained (*'could too easily be avoided'*), which will mean scarce resources could be saved and diverted to more productive uses.

The downside of such a role usually originates from the difficulties faced when estimating the extent of negative externalities which the government needs to translate into tax. The wrong amount of tax imposed, whether due to error in measurement or inappropriate translation methodology adopted, would imply that the market remains sub-optimal.

Interventionist – Direct Provision

Should the government decide to take over the production of the cans/bottles, there would be no need for any form of tax to be implemented. Such a role, a direct taking over of the production, assumes that the government has the necessary expertise to produce the good to meet the demand by the beverage producers. It also further assumes that the government is aware of the optimal level of output to produce to achieve socially optimal output.

Adopting this role ensures that the optimal amount of output is produced. Assuming perfect knowledge/information exists, over-production or under-production would be unlikely. Resources used by competitive firms in advertising their cans/bottles could now be saved as the government remains the only producer of such cans/bottles. Being non-profit motivated, any cost savings (due to reaping of EOS) could also be readily passed on to the beverage producers who might eventually benefit the beverage consumers at the retail end.

However, direct provision may also bring some disadvantages. The need to oversee the operation would require the government to expend additional resources, which could incur opportunity costs in the form of other goods and services (public or merit) which could have been produced. The lack of profit incentive may also breed inefficiency and drive up costs. This increase in cost may be passed down the production chain and end up with higher prices for consumers, thereby harming the welfare of the consumers (lower consumer surplus for beverage consumers).

Educator – Moral Suasion

The government can also devote resources to educate the producers about the harmful effect of excessive production of cans/bottles. Should there be worsening of climate change in the long term, it would be difficult for any guilty parties of such a 'calamitous' act be absolved from any guilt/blame. Corporate backlash may hurt their bottom line eventually. In addition, there may be other firms who were truly concerned about their corporate social responsibility but which do not yet possess the knowledge of the damage they are causing to the society. In educating such firms, the society may in the end be able to produce at the socially optimal output level.

Once successful, such a policy usually has enduring effects which no longer requires recurring expenditure by the government. The subsequent cost-savings by the government could therefore be spent elsewhere (e.g. providing more healthcare/providing better accommodation for households which were displaced), thereby lowering the opportunity costs of such a policy. In addition, the lower external costs generated could mean that more tracts of land could be spared from flooding – less wastage of resources and less displacement of households. Welfare of the economy should then see an improvement.

Education policies, like some others, attract two main grouses – take up rate, 'gestation period' and costly. It is often difficult to expect/hope that the bottle/can producer to subscribe to a new, environmentally friendly but more costly way of producing bottles/cans. Being profit-motivated and perhaps myopic, such firms may not heed the advice of the government and continue to generate the negative externalities. Secondly, educating the private firms could also be very time consuming due to the amount of time needed to collate and present data as evidence of damage caused by the production of cans/bottles. Such laborious and long term nature studies of the damage done would also require a lot of resources to ensure the reliability of data used to convince/persuade the firms.

'By-stander' – lack of information/expertise to intervene

Especially true for the developing nations, the government may adopt a non-intervention policy as it fears that its intervention may result in worse outcome. Such a decision usually stems from the lack of sufficient information or know-how to intervene in the free market. Imposing unnecessarily high tax or banning the production may actually bring more harm than good to the society. The government may also not have the necessary technical knowledge to produce the good even if it desires to replace the private firms in doing so. Lastly, the government may also not have the resources (budget) to set up the necessary infrastructure/framework to monitor the firms so as to achieve the socially optimal level of production.

While the 'hands-free' approach may sound irresponsible, the worse outcome due to intervention is less desirable. Draconian approaches such as a ban could deprive the society the net social benefits should the optimal amount of cans/bottles were produced. In addition, conserving precious resources and directing them to more urgent needs (healthcare, poverty reduction) could produce more rewarding outcome than attempting to aim for multiple targets with less 'inadequate tools'.

The government should, however, turn to resolve this market failure as soon as the opportunity or its resources allow. This is especially true when excessive tracts of land become submerged under even more dams being built or that the miners of the minerals (aluminum ores) turn precious lands into wastelands. Such irreversible changes often pose immense costs to the society in terms of tourism dollars as well as welfare of its citizens over the long run.

EVALUATION

- *need to discuss which role should the government adopt and provide justification.*

Whichever the role the government decides to play depends on depends on the net benefits brought forth by that role. Where government failure prevails, it may sometimes be better off not to intervene at all.

Any highly excessive tax imposed or severe complacency due to lack of profit motive may bring more harm than when the free market is left untouched.

The government could also consider a combination of both roles should that turn out to be the best choice of strategy – to impose the tax in aim of reducing the deadweight loss and simultaneously educate the firms to reduce their output over the long run.

CONCLUSION

Depending on the situation and expertise that the government could avail itself to, the government could adopt the more cost-efficient role to correct the market failure. Given the changing nature of the industry (ever-demanding consumers as well as constantly improving technology, etc), the government might consider changing its roles to ensure adopting the best role to correct the market failure.

Level (Marks)	Knowledge, Application, Understanding and Analysis
3 (7 – 8)	Clear understanding of the question which leads to explicit discourse on the roles which the government could adopt in resolving the market failure. Policies raised serve to illustrate the roles a government can play and not to dominate the discussion of the essay. Pros and cons are valid though not exhaustive, given the time constraint and exam condition.
2 (5 – 6)	Candidate is able to explain each of the roles using appropriate economic analysis. Pros and cons of each of the roles are provided though loopholes and incomplete discussion is evident. Answers in this category may also tend to lean towards discussion of government policies rather than the government's role.
1 (1 – 4)	<p>Confused answers stemming from lack of understanding of the question. Answers which laboriously describe policy after policy and assessing the suitability of each of them should fall into this category – do not deserve a pass.</p> <p>Where the question is properly understood, meek answers in suggesting the various roles without firm discussion of the pros and cons should be given high L1. Though it is difficult to see how conceptual errors could be made in such answers, such incidents/occurrences should be awarded low L1.</p>
E (1 – 2)	Candidate is able to provide a considered evaluation of the role/s the government could take, giving the necessary conditions or breaking down any assumptions which would alter the decision made by the government. For example, the multiple roles taken could simultaneously reduce short term pain as well as quicken the pace of mindset change of the firms to achieve long term reduction in number of cans/bottles produced.



SECTION 3 – ESSAYS

SECTION 3A

1. Explain why pollution and congestion cause by cars are likely to cause market failure.
[10m]
A-Level 2005
2. Explain how monopoly power in an industry can lead to inefficiency in resource allocation.
[10m]
A-Level (H1) 2007
3. Explain why imperfect information and immobility of factors of production may lead to market failure.
[10m]
A-Level (H2) 2008
4. Explain why income inequality is a cause for government intervention, and how price controls can aid in reducing income inequality.
[10m]
AJC Prelim 2010

Suggested answers:

1. Explain why pollution and congestion cause by cars are likely to cause market failure. [10m]

Good answers, particularly for (a), with the best answers also giving excellent evaluative discussion of Singapore's approach to dealing with this problem.

A common response, and one that could have been improved, was to set the diagrams within the context of the production of cars rather than the use of cars. An improvement would have been achieved if the horizontal axis on the diagram had taken account of this distinction i.e. through use of qty of km driven or the no. of cars owed rather than no. of cars produced. Pollution was thus presented as the result of the manufacture of cars rather than the use of cars, although all policies later presented in the Singapore case referred to pollution (& congestion) caused by the use of cars.

- (a) Well-answered with Level 3 marks. Diagrams need to be correctly drawn and carefully explained. Key issues relating to deadweight welfare loss and overproduction were correctly identified. Must show pollution and congestion affecting the cost curves rather than the benefit curves. Need to apply answers to question set.

L3	For an explanation of market failure supported by analysis within the context of use of cars and with diagrams correctly drawn and used to analyse problem	7-10
L2	For an undeveloped explanation of the concepts of resource allocation and market failure OR an answer that applies the market failure concepts to examples without analysis to explain them OR an answer that is not applied to the question set and gives rehearsed answers to the problems of dealing with externalities in general or with application to totally different sources of externalities eg external benefits	5-6
L1	For an answer that shows some knowledge of the concepts of resource allocation and market failure and/or gives examples of market failure without explanation OR an answer with diagrams correctly drawn but no explanation offered	1-4

2. Explain how monopoly power in an industry can lead to inefficiency in resource allocation. [10m]

The answers to **(a)** were generally of quite good quality. They made clear what the candidate understood by monopoly power in an industry, and then attempted to link the consequences in terms of the behaviour of firms that enjoy monopoly power to efficiency/inefficiency in the allocation of resources. Weaker answers failed to make clear what monopoly power involved, or failed to demonstrate an understanding of the way in which economists use the concepts of efficiency and inefficiency. Many answers used a diagram as part of their explanation; in such cases, it is important both that the diagram is accurate, and that it is integrated into the candidate's answer, rather than merely inserted as a replacement for explanation.

Among the better answers, the main variation was in terms of how well they dealt with the issue of efficiency of the allocation of resources. Most showed knowledge of allocative efficiency, though some tended to make assertions about it rather than reasoned explanations; but several went little further in their consideration of the efficiency implications of monopoly power, whereas the best answers considered aspects of productive efficiency too.

3. Explain why imperfect information and immobility of factors of production may lead to market failure. [10m]

This was a popular question but it proved difficult for many candidates to access the higher mark range because there was a widespread inability to link the two concepts to market failure adequately. Thus the term 'market failure' all too often triggered a prepared response on market failure in general rather than one that was well directed to the question set.

That said, it must not be overlooked that a significant minority were exceedingly well prepared for this question. These candidates were able to explain why both imperfect information and immobility of factors of production leads to market failure in **part (a)** and to evaluate the policies employed in Singapore in **part (b)**.

(a) Many candidates wrote at length either on the issues that result in negative/positive externalities causing market failure or on issues linking monopoly to market failure. There was limited attempt to link these responses either to imperfect knowledge or to immobility of factors.

Where a link was made, many candidates considered only imperfect knowledge. This was really surprising because often the same candidates, when answering questions on the macroeconomics part of the examination paper, used the concept of immobility of factors due to lack of education or skills in explaining why there is a need for supply-side policy.

The best answers used a number of approaches. Some argued that a lack of information about external costs and benefits will cause market failure. This approach was accepted, provided an explicit link to imperfect information was made. Others explained that individuals may not also be able to value private benefits and gave current examples relating to the market for healthcare within Singapore.

These excellent answers also referred to the difficulties in achieving productive efficiency if labour, land and capital were not perfectly mobile. Often these candidates referred to both occupational and geographical mobility. These candidates explained why labour may not have the skills to switch jobs when there was a structural change in the economy and this may lead to market failure in the sense of absence of productive efficiency.

The problems of governments being unable to value the cost of externalities were also alluded to in terms of imperfect information.

Weak candidates often confused 'imperfect knowledge' with imperfect markets, and assumed that consumers did not have knowledge of prices or of products produced by monopolists.

4. Explain why income inequality is a cause for government intervention, and how price controls can aid in reducing income inequality. [10m]

Part (a)

Measurement of Income inequality : GINI coefficient. The value of the coefficient can range between 0 (total equality) and 1 (total inequality).

Income inequality is of concern to government because it could result in government not being to achieve some of the objectives.

Reasons for government intervention :

1. Income inequality may result in inefficiency in the product market

Market mechanism is based on the ability and willingness to buy. As a result, income inequality may affect the What to produce and For Whom to produce and the resultant allocation of resources within the economy may not achieve maximum social welfare.

2. Inefficiency in the factor market

Price in any market including the factor market is based on demand and supply. As a result the equilibrium price generated by the market may not be desirable and the government needs to intervene to ensure certain minimum level .

3. Income inequality may have adverse effect on the economy

Worsening of income gap may create social problems which if not corrected may lead to disruption of production leading to lower employment and eventually slower growth.

Use of price control in the product market

Price control can be in the form of price ceiling that is the maximum price that the producer can charge. It is set below the market equilibrium price. It is usually applied on certain basic necessities which take up a significant proportion of the income of the lower income group. These items include staple such as rice, cooking oil and fuel. It serves to reduce the amount of expenditure so as to increase their real income.

Use of price control in the factor market

Price control can also be used in the factor market in the form of minimum wage rate. The government can introduce a national minimum wage rate or for certain industries. The producer will have to pay the given minimum wage rate thus ensuring that the individual has a minimum level for subsistence. The main problem is that with the imposition of the minimum wage rate, there may be a fall in demand for labour units and some will get no wage instead of low wage rate.

The rationale for government intervention in the case of income inequality may be a combination of both micro in terms of allocation of resources or macro in terms of growth and stability.

Knowledge, Application, Understanding and Analysis		
L3	A clear and developed explanation of the reasons for government intervention which include both the micro and macro aspects and a clear explanation of the price control in both the product and factor market.	7 – 10
L2	Able to explain the various reasons for government intervention although limited in analysis. Limited in terms of price controls.	5 – 6
L1	Generally descriptive in nature, limited reference to economic framework.	1 – 4

SECTION 3B:

1. Evaluate the relative effectiveness of the current measures adopted by the Singapore government to reduce the problem of traffic congestion. [15m]
ACJC Prelim 2009
2. “The presence of external benefits from health care and national defence suggests that they should be provided for free by the government.”
Examine critically the above strategy in improving efficiency in resource allocation. [15m]
NYJC Prelim 2008

Suggested answers:

1. **Evaluate the relative effectiveness of the current measures adopted by the Singapore government to reduce the problem of traffic congestion.** [15m]

MPC, MSC

Students must provide a balanced discussion and the answers should consider the relative effectiveness of each policy. Congestion can be reduced by either increasing road capacity (supply), or by reducing traffic (demand).

1. Car Ownership

⌚ The **COE** (certificate of entitlement) system is a system which dictates that car buyers must purchase a COE before actually being able to buy the vehicle. The implementation of road tax is also an additional peripheral cost of a vehicle purchase. The purpose is to reduce the growth of car ownership.

Evaluation and relative effectiveness

- congestion is due to road usage and not mere possession of cars, in this regard, car ownership measures are a blunt instrument
- high car ownership costs may have perverse effect on increasing car usage. Once a car is bought, it is used very intensively. In Singapore, average mileage is 21 000 km per year compared to 9100 km in London and 13900 km in Melbourne.
- There are monitoring and enforcement costs
- Compulsory inspection should be done every 6 months for all vehicles. Cars that breakdown often should be tested at regular basis.
- Monitoring of traffic situations is perhaps the most effective way to reduce traffic congestions. Regular announcements must be made over radio to warn motorists of possible alternative routes. More police patrols are also needed.

2. Road Usage

⌚ **Electronic Road Pricing (ERP)** ERP gantries were set up at roads leading to areas with heavy traffic as well as the city areas to collect road usage charges during peak hours. The purpose is meant to reduce the number of cars entering the city areas and redistributing these car users to use the public transport to access the city areas.

⌚ **Tax on petrol.** The underlying principle is ‘internalisation’. In this way, the MPC will rise, moving closer towards MSC. Students are required to explain the diagram

Evaluation and relative effectiveness

- ⌚ ERP is more effective as it is based on road usage rather than car ownership.
- ⌚ Despite the charges, traffic congestion still persists.
- ⌚ The policy requires accurate valuation of the external cost which in practice is difficult.
- ⌚ Taxation provides revenue for the government to finance social and community development projects.
- ⌚ The effectiveness of tax in reducing production level is also constrained by price elasticity of demand. Where demand is highly price inelastic, effect of tax on output is ineffective.
- ⌚ As compared to levies, tax on petrol is not felt as it is incorporated as part of the price of petrol and people are unaware that they are paying the taxes. Road tax has been reduced in favour of ERP charges.

3. Public Transport

For a compact city-state like Singapore, public transport must be the centerpiece of its land transport system. A high reliance on public transport is key to managing congestion and preserving a high quality urban environment.

To keep public transport affordable, the development of the public transport infrastructure is funded entirely by the government.

Fares are regulated by Land transport Authority for MRT and Public transport Council for buses.

Evaluation and relative effectiveness

Public transport services tend to have some elements of a natural monopoly. This is particularly with the MRT system.

Bus operators are concentrating more on serving high demand routes like Orchard Road like outlying areas like Yishun, Jurong are not well served.

Buses are poorly maintained and services are infrequent despite regulations by PTC.

Synthesis:

- ⌚ The Singapore government of course would continue with its successful policies in dealing with restricting car ownership
- ⌚ Government is also considering extending the ERP system to other roads to solve congestion.
- ⌚ A more rigorous attempt is also needed to persuade the motorists to use public transport.

(b) Marking Scheme

Knowledge, Application, understanding and Analysis		
L3	For an analytic discussion referring to policies employed by the Singapore government and doing comparative analysis of which is the better measure.	9-11
L2	An undeveloped analysis of measures in Singapore without the discussing the issue of relative effectiveness. OR measures to reduce traffic congestion in general without evaluating the effectiveness	6-8

L1	A superficial treatment of the issue without applying appropriate economic principles to the required context of S'pore. E.g. explanation of theoretical measures like taxes, campaigns etc.	1-5
E2	For evaluative assessment based on economic analysis of the extent on relative effectiveness	3-4
E1	For unexplained assessment or one that is not supported by the analysis	1-2

2. **“The presence of external benefits from health care and national defence suggests that they should be provided for free by the government.”**
Examine critically the above strategy in improving efficiency in resource allocation.
[15m]

Suggested Answer for part b

1. Both national defence and health care services have high social benefits that exceed private benefits(both give rise to the existence of positive externalities). This implies that there is market failure as MSC is not equal to MSB and society welfare is not maximised.

2. For the provision of public goods, government has to provide them for free:

- Private sector will not provide such goods because the characteristics of public goods and the free rider problem make it difficult to charge people on the basis of how much they use. Hence, there is no profit incentive to produce.
- Government provides public goods free of charge by undertaking the production of these goods itself via a statutory board or ministry, financed from tax revenue.

3. For the provision of health care services, government will not provide all of them for free because the private sector will produce them due to the characteristics of excludability and rivalry in consumption.

b. there is opportunity costs in using the limited government funds.

c. there may be overconsumption as consumers will maximise their satisfaction by consuming up to the point where marginal utility = 0.

4. Government will provide some merit goods for free because the social benefits far outweigh the private benefits for example, compulsory free vaccination against smallpox, measles etc

5. Instead of providing them for free, government could improve resource allocation through

- subsidies
- direct provision of/supplement the goods & services

Conclusion: Both public and merit goods are vital and essential goods that generate positive externality. Government will provide all public goods for free while produce some merit goods and charge it at a subsidized rate to reduce the divergence between social benefits and private benefits and increase the efficiency of resource allocation.

L1 Mere explanation of the various methods of government intervention (1 – 5)

L2 One sided answer with details on why government should provide goods for free or not for free to improve resource allocation. Or both sides are given but not well explained. (6 – 8)

L3 A balanced and sound discussion on why government should provide goods for free and not for free to improve resource allocation. (9 – 11)

E1 An evaluation/conclusion that is not explained/supported by analysis (1 – 2)

E2 An evaluation/conclusion that is well explained/supported with analysis (3 – 4)

SECTION 3C: Challenging Questions

1. Discuss if the free market is the most efficient way of allocating resources in Singapore. [25m] **JJC Prelim 2009**
2. To what extent can the presence of government in the market for health care services improve the allocation of resources? [25m] **VJC Prelim 2009**
3. "Resources are used to produce bottles for the water industry. Around the world campaigns to ban bottled water are under way as consumers become aware of the environmental and economic costs involved." *The Straits Times, Tues 14 Jul 2009*
Discuss if a ban on bottled water is the best way to reduce the environmental and economic costs involved. [25m] **ACJC Prelim 2010**
4. With reference to examples, discuss whether there is a need to change the current policies adopted by the Singapore government in the market for healthcare. [25m] **NJC Prelim 2010**
5. Discuss the view that the development and operation of the Integrated Resorts should be left entirely to private enterprises but the fireworks display during the National Day Parade and healthcare must be provided by the Singapore government to correct market failure. [25m] **JJC Prelim 2010**
6. Can public subsidies on areas that improve the society's well-being be justified on economic grounds? [35m] **AJC Prelim 2010 (H3)**

Suggested answers:

1. **Discuss if the free market is the most efficient way of allocating resources in Singapore. [25m]** **JJC Prelim 2009**

- **Explain the free market mechanism and how it can be used to allocate resources**

The price mechanism is a system which allocates resources through the free forces of market demand and supply, both in the goods and factor markets. The price mechanism in the goods market determines what and how much of the goods and services are to be produced. Similarly, the price mechanism in the factor market determines what and how much of the factors of production are employed.

- **Explain allocative and productive efficiency**

Productive efficiency is attained when firms produce at the output level at any point on the long run average cost curve. Allocative efficiency would require firms to produce at the output level where the marginal social benefit (MSB) is equal to the marginal social cost (MSC) thereby maximising the society's welfare.

- **Explain why price mechanism achieves efficiency**

The price mechanism is the best mechanism for efficient allocation of resources provided that it is operating in a perfectly competitive market with perfect information and under the situation of no externalities and public goods. In the absence of externalities and public goods and with perfect knowledge of market conditions, $D=MPB=MSB$, and $S=MPC=MSC$,

hence the actions of consumers and producers through the working of the price mechanism have caused the individual consumers and producers to interact at a price where the associated output is also the output where $MSC = MSB$.

- **Explain how externalities, public goods, imperfect competition, factor immobility might lead to an inefficient allocation of resources**

Firstly the market fails to internalize external costs generated from productive activities. For example, car consumption gives rise to air pollution caused by exhaust fumes. This creates third party costs such as breathing difficulties and lung problems. The external cost arising from pollution are neither paid by the producer nor the consumers. [Explain market failure with diagram]

Examples in Singapore: car consumption, cigarette consumption

Secondly, the price mechanism also fails to internalize external benefits. In the case of education or retraining, a person who pursues the course merely considers the private benefit he gains like raising his level of knowledge and skills and in anticipation of higher expected future returns and he weigh against the cost incurred in pursuing it. He ignores external benefits generated from education and skill training which raises his productivity and hence increases his contribution in terms of output to the society and a more civilized society. Hence, taking into account the external benefits that education or training provides, the good will be underconsumed by individuals in the society when left to the working of the price mechanism. [Explain market failure with a diagram]

Examples in Singapore: Education, healthcare, HDB flats

Thirdly, in reality, market is far from perfect. Take the case of monopoly. Being a profit maximiser, a monopolist will produce where $MC = MR$ at output OQ_m units and charge a price much higher than marginal cost.

Fourthly, public goods which generates substantial external benefits to the society will not be provided under the working of the price mechanism. Public goods are goods which possess the characteristics of non-rivalry and non-excludability in consumption. Non-rivalry in consumption means that the consumption of the good by one person does not deprive another of its consumption. Hence, its marginal cost is zero. For efficiency reason to be attained, that is, $P=MC$, the good should be provided free to everyone. Hence, it does not encourage private producers to supply the good.

Non-excludability in consumption means that the provision of the good to any one person automatically make it available to others. National defence once made available cannot be excluded even to the non- taxpayers. This gives rise to free rider problem.

- **Conclusion**

In conclusion, the extent of government intervention must be determined by her level of efficiency and by using cost-benefit analysis. Too much intervention could also results in inefficiency as a result of government failure.

Knowledge, Application, Understanding and Analysis		
L3	For an explanation of efficiency in the allocation of resources supported by analysis and with application to the Singapore economy. Low L2: For an analysis of allocative efficiency only in Singapore	15-21

L2	For an answer that shows descriptive understanding of the concepts of efficiency and/or inefficiency in terms of the allocation of resources, OR for an answer that applies the efficiency concepts to examples within the Singapore economy without analysis to explain them OR for an answer that explains the market allocation processes without reference to efficiency.	9-14
L1	For an answer that shows descriptive knowledge of the concepts of efficiency and/or gives examples of market allocation without explanation.	1-8
Evaluation		
E2	For an evaluative assessment on market failure based on economic analysis. Eg. Comment on cases where the free market is more efficient without government intervention in reality.	3-4
E1	For an unexplained evaluative statement.	1-2

2. To what extent can the presence of government in the market for health care services improve the allocation of resources? [25m]
VJC Prelim 2009

Approach

This question tests the depth of analysis of a student. Students need to show that there are different causes for market failure. Hence a specific solution is required in each scenario. This should be further strengthened with a good range of causes and solutions, with limitations and with a range of different countries as examples.

Introduction

Define allocative efficiency and explain that market failure occurs in health care services due to different sources: Positive externalities, imperfect information and monopoly power. Show understanding that there are a range of health care services, e.g. administering of health care – Poly clinics and hospitals, health promotion/preventive healthcare, legislation etc

Body

Sources of Market Failure:

1. Presence of positive externalities

Preventive healthcare and health promotion is a merit good due to the presence of positive externalities and market mechanism will not be able to allocate resources efficiently.

MPB = the protection of health that the individual receives from the healthcare services

MEB = the external benefit that is accrued to the whole economy in terms of higher productivity due to a healthier population.

As $MSB = MPB + MEB$, the marginal social benefit is higher than the marginal private benefit.

Explain with ref to diagram how, when left to the free market, there is under-consumption of healthcare services because consumers ignore the MEB, given the assumption of the pursuit of self-interest. **Monopoly power**

If left to the free market, it could be that likely in the long run, several dominant health care providers would emerge raising concerns of increasing market concentration and opportunities for these firms to exploit consumers by restricting output and increasing price, enabling them to earn large supernormal profits and leading to allocative inefficiency ($P > MC$).

Solutions for Positive Externalities and Monopoly power

There are a number of ways in which the govt can intervene to attain the socially efficient level of consumption. It can choose to step in to subsidize the consumers, or the firms. It can also step in to take-over production (Direct provision), regulate the industry by imposing standards and also setting legislation.

Subsidies [Careful! Depends on whose point of view you are looking at!]

Consumers' Point of view: Government can address the issue of under-consumption by either subsidizing or providing transfer payments to consumers.

Producers' Point of view: Government can also attain the socially efficient level of production through providing subsidies to health-care providers (e.g. reducing the training cost of doctors and other medical professional to increase the level of healthcare services) and government provision for health checks.

Evaluation for subsidies:

Whether the net economic welfare of the society can be improved/ maximized depends on the accuracy of estimating the MEB and thus the exact amount of cash grant per unit to be given. Too much may result in over consumption/production. For countries with a large budget deficit, they will need to consider how to pay for these subsidies, it may entail a worsening of the budget deficit and may lead to a distortion in the other markets.

Transfer payments to consumers

The government can intervene to encourage consumption of preventive health care by offering cash grants per unit amounting to the marginal external benefit (MEB). This cash grant must be spent on health checks only. For example, this could be in the form of a Medisave top-up. This shifts the MPB curve up to where the MSB is.

Evaluation for transfer payments:

Whether it is subsidies or transfer payments to the consumers, the government is allowing for a redistribution of income, it uses tax revenue to finance healthcare, which is an important necessity for the poor. This ensures a more equitable distribution of income. But due to a lack of information, government intervention could lead to a greater allocative inefficiency.

More targeted measure compared to subsidies that generally benefit all.

Again, we need to consider the high opportunity cost involved since this fund can be channeled to other developmental purposes.

Direct provision of healthcare

The rationale is that the government is able to exploit economies of scale and provide the service for the whole country at an efficient cost. The funds can be drawn from taxpayers through mostly progressive taxation, thus achieving greater equity.

Evaluation of direct provision of healthcare:

Since the service is provided for free, a rationing system is needed but this could lead to long queues and waiting lists and increases the opportunity cost of obtaining health services.

Also the problem of over consumption/production might arise especially on non-essential treatments and this may lead to greater inefficiency as too many resources are being channeled to this sector.

The lack of profit motive may also lead to under-funding and under-investment affecting the level of technology available to healthcare providers and the difficulty in recruiting qualified staff. This may lead to substandard services. The argument is that public hospitals may have

high bureaucracies and paperwork and technology may not be fully exploited for patients' benefits.

Imperfect Information

Consumers may under value the longer term private benefits of consuming healthcare due to insufficient information or ignorance. Healthcare providers such as doctors and consultants may have more specialized information than consumers leading to asymmetric information. This will lead to the 'wrong' level of healthcare service being consumed.

Solution for Imperfect Information:

Public Education

Health promotion programs/campaigns (Give e.gs. anti-smoking campaigns, AIDS awareness, billboards)

Evaluation: This required Govt expenditure and is more of a long-term solution. The effectiveness of moral suasion depends on how it is conducted and how people respond to it. Nonetheless, public health information does help to address one of the **root causes** of market failure in this industry – lack of info. Also, public health info has characteristics of a public good and given that it is not profitable for the private sector, the govt has to be the provider to fill this gap.

Regulation

E.g. childhood immunization against diseases is mandatory in some countries. Mandate savings or health insurance to promote individual responsibility towards healthy living and medical expenses.

Evaluation:

Legislation may result in more people complying which may result in healthier population and will reduce healthcare cost. However, it is rather difficult to implement harsh punishment for offenders as failure to comply with the regulation may be due to financial reasons. Therefore compulsory healthcare services are often provided free.

Conclusion

The presence of government in the market for health care doesn't necessarily result in a more efficient or more equitable allocation of resources. Government failure may result. However, a **correct mix of policies** could address to some extent the different sources of market failure and to meet the increasing health care costs because of new treatments and drugs and the rapid ageing population in developed nations. Give an example.

Level	Descriptor	Marks
L1	Answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context.	1 - 5
	For an answer that shows descriptive knowledge of market failure in health care market and health policies (provides a mere listing of the types of government intervention). An unexplained list of one or more examples of policies or an answer that contains errors or irrelevancies. (Max. 5m for no reference to given context of health care)	6 -9

L2	Provides theoretical analysis of the reasons for market failure but treatment of the measures are still largely descriptive.	10 -11
	Provides a theoretical analysis of the reasons for market failure (but gaps in explanation) but explanation of how measures are supposed to work. (1-sided)	12 - 14
L3	Has more rigour in analysis of causes and measures + considers the limitations of up to only 2 measures (2-sided) but lacking breadth	15 - 17
	Depth and breadth in analysis - considers at least 3 different forms of government intervention) + limitations of the measures (2-sided).	18 - 21
E1	Makes judgments based only on critical analysis. Conclusions are largely generic – that govt can also fail or makes a stand about how “it depends on whether it used the right mix of policies” but no judgment about what constitutes the latter.	+1-2
E2	Makes judgments based on critical analysis - comparison of measures, and provides a stand on when certain types of intervention can bring about a better allocation of resources in spite of their limitations and what is a good mix of the extent of govt intervention for the case of health care.	+3-4

2. “Resources are used to produce bottles for the water industry. Around the world campaigns to ban bottled water are under way as consumers become aware of the environmental and economic costs involved.”

The Straits Times, Tues 14 Jul 2009

Discuss if a ban on bottled water is the best way to reduce the environmental and economic costs involved.[25m] ACJC Prelim 2010

Suggested Answer

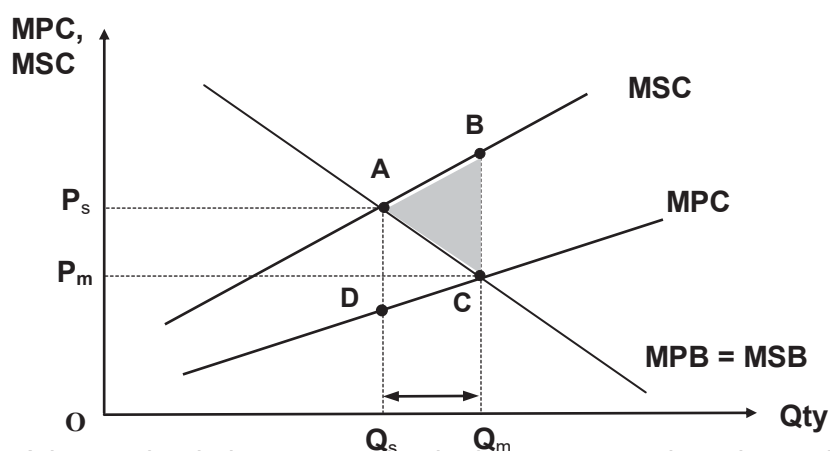
- Determine and weigh the economic costs and benefits of producing bottled water
- Consider if a ban reduces these economic costs and raises the economic benefits to society.
- Provide alternative ways of potting water, and consider efficiency issues
- Conclusion → Decide if a ban is the best way by comparing its efficiency effects against alternative methods of production of potable water.

Economic costs of bottled water

- Bottled water is more expensive to produce and no healthier. Producing the bottles for consumption required the equivalent of more than 17 million barrels of oil, not including the energy for transportation. It takes 3 liters of water to produce 1 liter of bottled water.
- Bottling water produced more than 2.5 million tons of carbon dioxide. More energy is needed to fill the bottles with water at the factory, move it by truck, train, ship or air freight to the user, cool it in grocery stores or home refrigerators, and recover, recycle or throw away the empty bottles.
- Plastic bottles are durable and degrade very slowly. All plastic bottles leach synthetic chemicals into water. Burning plastic can release toxic fumes. Industrial practices in plastic manufacture can lead to polluting effluents. Hence, the environmental concerns include the release of toxic pollutants, greenhouse gas, litter, biodegradable and non-biodegradable landfill impact as a result of the production and disposal of petroleum-based plastics.

Theoretical concepts

1. Identify the situation as a form of market failure. Define market failure to be a situation where allocation of goods and services by a free market is not efficient as individuals pursuit of self interest leads to consequential results for the society as a whole.
2. Externalities are said to exist when the actions of producers or consumers affect not only themselves but also third parties. This results in social inefficiency because individuals only consider the private costs and benefits of their decisions to consume bottled water. They ignore the economic and environmental costs.
3. Private cost would be the price the consumer pays for the bottled water. Private benefits would be the convenience, taste preference and the safety in consumption.
4. Both consumers and producers do not consider the external costs which is the economic and environmental costs which include the toxic pollutants, greenhouse gas, litter, biodegradable and non-biodegradable landfill impact as a result of the production and disposal of petroleum-based plastics.
5. Assume that $MSB=MPB$ (no positive externality). Explain how the production of bottled water generates external costs. Where there are external costs $MSC>MPC$. Explain with a diagram how the production of plastic bottles and the consumption of bottled water result in a divergence between MSC and MPC . Production and consumption of bottled water will occur at $MPC=MPB=MSB$ as external costs will be ignored by both parties. Draw diagram to illustrate the external cost which shows market failure.



- A ban on bottled water may be the best way to reduce the environmental and economic costs involved.

Benefits of bottled water:

- An emergency source of water in the event of the primary water source fails or becomes contaminated.
- A convenient source of usually safe water for drinking outside of the home.
- Bottled water, since it does not contain chlorine, and may contain a mix of minerals to enhance flavor, may taste better than untreated tap water.

Banning plastic bottles

- Replace plastic bottles of water with reusables such as stainless steel water bottles.
- Provide quality home water filter and refillable glass water bottles.

Benefits from banning water bottles:

- Save resources to produce plastic bottles.
- With home water filter, better quality than bottled water, pure and natural taste.
- Reduce cost of consumption: tap water costs less than 1/10 the cost of bottled water.
- No plastic bottle pollution.

Compare with other policy measures that a government may adopt**1. Taxes**

- Since external cost is unaccounted for by consumers and firms in their market decisions, a tax will increase the cost of production and hence the price.
- A per-unit tax equal to the marginal external cost will shift the MPC (supply curve) to the left. Market equilibrium = social optimum level.
- A lump-sum tax at the equilibrium level of output could also be imposed.
- Internalization of external costs through taxes allows market to continue operating according to market forces.
- Taxes provides revenue for the government to pay for the cost of disposing plastic wastes.

2. Regulatory restrictions

- Directives on manufacturing plastic bottles
- Rules for disposal
- Fines

Monetary valuation is a key component of CBA. It is difficult to place monetary values on non-financial benefits such as health benefits or aesthetic benefits. For example, it is not possible to quantify or estimate in real monetary terms the value of an elimination of odour in water supply or the value of human lives potentially saved due to improvements in water quality. This is because a market does not exist, or market prices are not directly observable or easy to estimate. Many water quality benefits cannot be directly measured through the market system; therefore non-market methods have been developed to assess them. Consequently, a ban on bottled water is not the best way to reduce the environmental and economic costs involved.

High L3	For an excellent analysis on the issue with clear applications of economic principles and evaluation.
Low L3	For an explanation of market failure and the allocation of resource supported by analysis and with application of economic concepts and principles. A well-balanced response.
L2	For an undeveloped explanation that explains the concepts of market failure in the bottled water industry with some reference to the context.
L1	For an answer that shows some knowledge of the concepts of market failure and efficiency in resource allocation.
E2	For an evaluative discussion that refers to examples of market failures and is based on economic analysis.
E1	For an unexplained judgement, or one that is not supported by analysis.

4. With reference to examples, discuss whether there is a need to change the current policies adopted by the Singapore government in the market for healthcare. [25m] NJC Prelim 2010

Introduction

- Identify the possible different sources of market failure in healthcare – presence of positive externalities (merit good), equity reasons and possible market dominance.
- Identify the current policies undertaken by the Singapore government - direct provision, subsidies, education / campaign to raise awareness, legislation / regulation.
- Definitions = market failure, allocative efficiency, positive externalities, merit good

Body

Explain the sources of market failure in the market for healthcare

(i) Presence of positive externalities

- Explain that healthcare is a merit good which generates positive externalities.
- Explain that the presence of positive externality leads to a divergence between private and social benefits.
- Diagrammatic analysis.

(ii) Equity reasons

- If left to the free market, many individuals, households may not have access to healthcare if financed purely from their own income or wealth since the market responds to the “dollar votes” of consumers. Resources may therefore be allocated mainly to the production of healthcare services demanded by the rich.

(iii) Possible market dominance in healthcare provision

- If left to the free market, it is likely that in the LR, several dominant health care providers would emerge thereby exploiting consumers by restricting output and raising price thereby enabling them to earn large supernormal profits, leading to allocative inefficiency ($P > MC$).

Explain and evaluate the current policies undertaken by the Singapore government and the objective of these policies.

Current policies undertaken by the Singapore government - direct provision, subsidies, education / campaign to raise awareness, legislation / regulation

Conclusion / Evaluation

- Current policies largely effective, therefore there is no need for a major change to current policies.
- However, these policies can be further refined to take into account of the changing socio-economic needs of Singapore.

Mark Scheme

Level	Descriptors
Level 3 18 – 21	For an answer that demonstrates a thorough analysis and explanation on the different sources of market failure in the market for health care, the current policies undertaken and if it meets the government's objective. Excellent application to the context.
15 – 17	For an answer that demonstrates a more thorough analysis and explanation on the sources of market failure, the current policies undertaken and if it meets the government's objective. (at least 2 well explained sources of market) Good application to context.

Level 2 12 – 14	For an answer that is accurate and developed in explanation on the sources of market failure in the market for health care, current policies undertaken and if it meets the government's objective. (At least 1 well explained source of market failure)
10 – 11	Answer demonstrates limited contextualization – eg. use of direct subsidies. For an answer that is accurate but undeveloped in explanation on the sources of market failure in the market for health care, current policies undertaken and if it meets the government's objective.
Level 1 6 – 9	For an answer that shows limited knowledge on the sources of market failure in the health care market OR mere listing / some limited explanation on policies currently undertaken.
1 – 5	Errors and/or inconsistencies in explanation. Answer is mostly irrelevant and contains only a few valid points made incidentally in an irrelevant context
E2 (3 – 4)	Judgements based on analysis
E1 (1 – 2)	Unexplained judgement.

- 5. Discuss the view that the development and operation of the Integrated Resorts should be left entirely to private enterprises but the fireworks display during the National Day Parade and healthcare must be provided by the Singapore government to correct market failure. [25m]**
JJC Prelim 2010

Marking Scheme

Knowledge, Application, Understanding and Analysis		
L3	For an answer that uses analysis to underpin the discussion of whether private enterprises should develop and operate IRs without government intervention, and whether the Singapore government must provide fireworks display during NDP and health care because the free market fails to provide them.	15 – 21
L2	For an answer with limited economic concepts that gives an explanation of the development and operation of the IRs by private enterprises with government intervention, and why fireworks display during NDP must be provided by the Singapore government but health care may be provided by free market as well.	9 - 14
L1	For an answer that shows a descriptive knowledge of the development and operation of the IRs, and the market failure caused by fireworks display during NDP and health care.	1 – 8
Evaluation		
E2	For an evaluative assessment based on economic analysis, e.g., whether government intervention is required besides provision of public goods, limitations of government intervention, etc.	3 - 4
E1	For an unexplained assessment or one that is not supported by economic analysis.	1 – 2

- ❖ A private good is one that has the characteristics of both rivalry and excludability. Private goods can be provided by the private enterprises. The hotels, shopping outlets, restaurants, theme parks and casinos at the Integrated Resorts (IRs) can be crowded during holidays or weekends and most of the facilities at the IRs are excludable. As majority of the facilities at the IRs have the characteristics of rivalry and excludability, IRs are private goods that can be developed and operated by private enterprises. It is not necessary that IRs to be developed and operated by the government.
- ❖ However, the government may not leave the development and operation of the IRs entirely to private enterprises due to the presence of positive and negative externalities. There are substantial external benefits in terms of promoting the tourism industry and contributing towards higher economic growth. On the other hand, there may be significant negative externalities such as encouraging gambling among Singaporeans and leading to social problems. In view of the positive or negative externalities generated, the development and operation of IRs should not be left entirely to private enterprises.
- ❖ The free market fails to provide public goods. A public good is one that has the characteristics of non-rivalry and non-excludability. The level of enjoyment from viewing the fireworks display during National Day Parade (NDP) does not reduce as more people view the fireworks, so it has the characteristic of non-rivalry. It is not possible to confine the benefits of enjoyment to those who have the NDP tickets, thus it is non-excludable too. Therefore fireworks display is a public good. In addition, the costs incurred for fireworks display is very high. Government will provide the public good and finance it through taxation.
- ❖ Health care in terms of health promotion and preventive health care is considered as a merit good as the government deems it desirable for the people but it is under-consumed. Health care has the characteristics of rivalry and excludability so it can be provided by the private sector.
- ❖ The government can intervene by giving subsidies and supplementing the conduct of health checks. Difficult to determine the amount of subsidy accurately to attain the socially efficient level of health care. Although health care services may be provided by the Singapore government through public hospitals and polyclinics, they are not public goods and are also provided by the private sector. Not necessary that health care must be provided by the Singapore government.
- ❖ Private enterprises can undertake the development and operation of the IRs but the Singapore government should not leave it entirely to private enterprises due to the presence of positive or negative externalities. Fireworks display during NDP is a public good and will not be provided by the free market, so the government has to provide it. Health care can be provided by the private sector and the government provides it as well because it is a merit good. Government intervention usually ensures a better allocation of resources despite the limitations encountered.

6. If all individual consumers and producers seek to maximize their own gains, society will have an efficient allocation of resources. Discuss.

[25m][2009 RJC H2]

THESIS: “all individual consumers and producers seek to maximize their own gains” _
Pursuit of self interest

Explain:

- (I) How individual consumers seek to maximize private benefits from a given income.
- _ Willingness to pay depends on value of benefits they derive from the consumption of a unit of the good.
- _ If P (actual price they pay) < value of benefit derived from the unit (price they are willing to pay)

_ enjoy consumer surplus from that unit. Therefore, as long as $P < \text{value of benefit}$ _ consumption of these units adds to their consumer surplus.

_ to “*maximize their own gain*” (_ private benefits _ consumer surplus) _ consume up to point where $P = \text{valuation placed on the last unit of the good consumed (Marginal Benefit)}$ _ relevant point on dd curve).

_ Diagram to illustrate and illuminate consumer surplus. Explain individual consumer’s behaviour in relation to price. (reference to diagram)

(II) How individual producers seem to maximize their own gains _ profit-maximization from the production of a good.

_ To maximize profit, takes into account revenue and cost

_ If $MR > MC$ _ the production of the last unit adds more to his total revenue than it adds to the total cost _ production of the last unit adds to his total profits.

_ to “*maximize their own gains*” (_ total profit), individual producers will produce up to point where $MC=MR$.

_ Diagram (profit-maximization in Perfect Competition) to illustrate

_ Explain *with reference to the diagram* – from maximization of profit (by firm) to efficient allocation

of resources ($P=MC$) in the market _ sum of consumer and producers’ surpluses is maximized.

AN ALTERNATIVE APPROACH TO (II) ABOVE

_ Producer: willing to produce the unit of good as long as $P > \text{cost of producing that unit}$ _ _ adds to their producer’s surplus

_ to maximize “*their own gain*” (_ private benefits _ producer’s surplus) _ produce up to point where $P = \text{cost of producing the last unit of the good}$.

_ Diagram to illuminate producer’s surplus

(III) “...Society will have an efficient allocation of resources” _ welfare maximization

_ Efficient allocation of resources: $P = MC$ or Pareto Optimality: $MSC = MSB$

_ Explain how price mechanism brings about allocative efficiency with aid of diagram.

o Equilibrium price as determined by demand and supply ® efficient allocation of resources ® maximization of welfare (sum of consumer and producer’s surplus is maximized)

ANTI-THESIS: However, even if “all individual consumers and producers seek to “*maximize their own gains*”, it does not always lead to efficient allocation of resources.

Explain Reasons for deviation from efficient allocation of resources:

(I) Externalities ® Divergence between private and social benefit (existence of positive externality), private and social cost (existence of negative externality) _ $MPB \neq MSB$ or $MPC \neq MSC$ ® Underproduction / overproduction of a good. Explain Social efficiency / pareto optimality and condition for its attainment

Explain implication of $MSB > MSC$ i.e how society can benefit from allocating more resources to the production of the good until point where $MSB = MSC$.

(Diagram to illustrate and illuminate).

(Note: Students can choose to support their case with **either** positive **or** negative externality. They are not required to explain both as the analysis is similar. A mention of the opposite will suffice.)

(II) Imperfect competition – Inefficiency would arise if a) competition is not perfect and hence if $MR \neq P$ and as a result $MC \neq P$ _ monopoly pricing ($P > MC$) deadweight (welfare) loss.

Explain implication of $P > MC$ i.e how society can benefit from allocating more resources to the production of the good as every additional unit brings forth net benefit. (Diagram to illustrate and illuminate). \ produce till $P=MC$ _ sum of producer's and consumer surpluses is maximized.

(III) Explanation of non-production – must relate pursuit of self interest to characteristics of public goods.

Public goods – consumers to “*maximize their own gains*” --- concealed their demand;
producers – to “*maximize their own gains*” --- non-production ---leading to welfare loss.

Conclusion

- Sound and insightful conclusion that ties in with what is written in the discussion. E.g Is social efficiency

(Pareto Optimality) / Allocative efficiency the only goal of society? Can the pursuit of individual gains lead to greater inequity? Is there a need for government intervention? Can government do a better job...? Is there a value that consumers will attach to choice and product differentiation?

L1

Lacks use of theoretical framework in analysis (including use of diagrams).
Weak application of theoretical concepts. Gross errors in the explanation of concepts.

Superficial treatment of issue – lacks depth or scope of coverage.

Answer is mostly irrelevant.

1 - 9

L2

Balanced treatment of issue with thesis and anti-thesis (at least 2 reasons for market failure which are fairly well-explained).

Use of appropriate framework that shows sound understanding and good grasp of the issues with occasional lapses in clarity in explanation.

Answer shows clarity, depth and rigour. However, this may not be sustained throughout the essay.

For an answer that is one-sided but provides a good, well-explained thesis OR anti-thesis (mark to a max of 12m)

10 – 14

L3

Shows good balance and analysis and the use of appropriate framework that shows good grasp of the issues in the question

Answer is well-structured, well-considered and well-developed with the effective use of diagrams.

15 - 21

E1

Evaluation that is not supported or substantiated e.g need for govt intervention. 1 – 2

E2

An evaluative assessment based on sound economic analysis throughout the answer (e.g govt failure and relating this to (in)efficient allocation of resources)

OR

Provides insight into economic issues that go beyond efficiency

3 – 4



25. 2011 Other JCs' Prelims - MARKET FAILURE (H2)

1	AJC 2011	<p>The European Commission is asking the public how best to reduce the use of plastic carrier bags. It will ask if charging for the use of plastic carrier bags would be effective, or if other options would be better.</p> <p style="text-align: right;">Adapted from http://europa.eu, 18 May 2011</p> <p>(a) Explain why the usage of plastic carrier bags may result in market failure. [10]</p> <p>(b) Discuss policy measures that could be adopted by the European Commission to address this issue. [15]</p>
2	ACJC 2011	<p>Half of the world's population enjoys fuel subsidies. The cheapest petrol is in Venezuela, at 5 cents per litre. That makes China's subsidized pump price of 79 cents seem expensive, but even this is a bargain compared with \$1.04 in the United States and \$2.35 in Germany where fuel taxes are imposed.</p> <p style="text-align: right;">Economist, 2008</p> <p>Explain the economic case for these two different approaches and assess whether the pricing of fuel should instead be left to market forces. [25]</p>
3	CJC 2011	<p>"The Cabinet has decided to develop two Integrated Resorts comprising of museums, convention spaces, theme parks and casinos. The Singapore government continues to be involved in the development and operation of the IR, including the building up of infrastructure supporting the IR and controlling access to the casino.</p> <p style="text-align: right;"><i>Adapted from PM Lee Hsien Loong Parliamentary Seating, 18 April 2005</i></p> <p>(a) Explain the reasons why the government is involved with the development and operation of the IR. [10]</p> <p>(b) Discuss the effectiveness of the government policies undertaken to ensure efficient allocation of resources in the case of the IR. [15]</p>
4	DHI 2011	<p>The bottom 30% of working families in Singapore has now experienced stagnating real household incomes for eight to ten years. If wages continue to stagnate, there is a limit to poverty alleviation through working longer and harder, or driving the unemployment rate lower.</p> <p>(a) Explain the case for government intervention in the market for vocational training. [10]</p> <p>(b) Discuss whether you agree that employment creation is no longer the best method to alleviate poverty in Singapore. [15]</p>

5	HCI 2011	Discuss the effectiveness of government intervention in resource allocation in the provision of merit goods and when market dominance exists. [25]
6	IJC 2011	<p>Wireless@SG is a wireless broadband programme developed by Infocommunications Development Authority of Singapore. Registered Wireless@SG users are able to enjoy free wireless broadband access with speeds of up to 1 Mbps at public areas within its coverage. Wireless@SG is powered by the network of three wireless operators: iCell, M1 and SingTel.</p> <p>(a) Explain the key differences between “public good” and “merit good”, and consider whether Wireless@SG is an example of a public good. [12]</p> <p>(b) Discuss the extent to which the Singapore economy would benefit from the free provision of Wireless@SG. [13]</p>
7	JJC 2011	<p>(a) Using appropriate examples, explain how a private good differs from a public good and why public goods are a source of market failure. [10]</p> <p>(b) Assess the economic case for varying degrees of government intervention in the market for education in Singapore. [15]</p>
8	MI 2011	<p>(a) Analyse why immobility within the labour market and imperfect information can lead to market failure. [10]</p> <p>(b) Assess the policies implemented by the Singapore government to address these causes of market failure. [15]</p>
9	MJC 2011	<p>To solve income inequality, the USA uses a minimum wage law while Singapore believes that improving the skills of workers is the best solution.</p> <p>(a) Explain why income inequality is a source of market failure. [10]</p> <p>(b) Using economic theory, analyse whether the above view is justified. [15]</p>
10	NJC 2011	<p>(a) Explain how immobility of factors of production and income inequality may affect resource allocation. [10]</p> <p>(b) Assess the policies currently used by the Singapore government to deal with the effects of factor immobility and income inequality. [15]</p>
11	NYJC 2011	<p>(a) Explain how the presence of negative externalities and market dominance can lead to market failure. [10]</p> <p>(b) Discuss what policies a government might adopt to achieve a more efficient allocation of resources where market dominance exists. [15]</p>

12	PJC 2011	<p>Sometimes, prices fail to reflect costs fully.</p> <p>(a) Explain why the above would be of concern to a government. [10] (b) Assess the use of taxation by the Singapore government to deal with the above problem. [15]</p>
13	RI 2011	<p>Governments provide all public goods supplied but only some of the merit goods supplied.</p> <p>(a) Distinguish between public and merit goods. [10] (b) Comment on how a government might intervene in the provision of these goods? [15]</p>
14	RVH 2011	<p>Public Utilities are privately owned in some countries while publicly owned in some others.</p> <p>(a) Explain how the provider of a good can be determined from the characteristics of the good. [10] (b) Discuss whether electricity should be provided by the public or private sector. [15]</p>
15	SAJC 2011	<p>The wonders of free market often disappear when the assumptions are relaxed.</p> <p>(a) Explain how the free market could bring 'wonders' to the economy. [10] (b) Discuss the view that the government would often fare better than the free market when the assumptions are relaxed. [15]</p>
16	SRJC 2011	<p>Living in a global city comes with costs; worsening traffic congestion and income inequality.</p> <p>(a) Explain why traffic congestion and income inequality may lead to market failure. [10] (b) Assess the policies currently used by the Singapore government to deal with the above market failures. [15]</p>



17	TPJC 2011	<p>(a) Distinguish between a public good and a private good and explain under which of these classifications public libraries should be placed. [10]</p> <p>(b) Discuss if the existence of an externality implies that the good should necessarily be provided by the government. [15]</p>
18	VJC 2011	Consider different forms of market failure in Singapore and evaluate their significance for the efficient working of the economy. [25]
19	YJC 2011	<p>Carbon trading and carbon tax are market-based measures to reduce carbon emissions.</p> <p>(a) Explain the need for government intervention to reduce carbon emissions. [10]</p> <p>(b) Assess whether market-based measures such as carbon trading and carbon tax are most effective in reducing carbon emissions. [15]</p>

2011 Other JCs' Prelims - MARKET FAILURE (H1)

1	ACJC 2011	<p>(a) Explain why pollution is a source of market failure. [10]</p> <p>(b) Evaluate the impact of an anti-pollution tax to mitigate pollution in a country like China, on her economic growth and balance of payment. [15]</p>
2	AJC 2011	<p>(a) Explain why economic theory stresses the importance of efficiency in the allocation of resources. [10]</p> <p>(b) Discuss whether efficient allocation of resources is only possible with the presence of government intervention. [15]</p>
3	CJC 2011	<p>(a) Explain how the price mechanism allocates scarce resources among competing needs in a free market. [10]</p> <p>Nicholas Stern, a former chief economist of the World Bank, argues that "climate change is the greatest market failure the world has ever seen."</p> <p>(b) Discuss whether a tax is the best means to reduce market failure arising from carbon emissions. [15]</p>

4	HCI 2011	<p>(a) Car ownership necessitates using land to build a network of roads. Using the concept of scarcity, choice and opportunity cost, explain the problems the government faces in allocating resources in the case of car ownership. [10]</p> <p>COEs are quotas fixed by the government to control car ownership. The government intends to introduce a new measure to reduce the number of COEs. In view of weakening US recovery, analysts are unsure of its impact.</p> <p>(b) Using demand and supply analysis assess the impact of these events on the market for COEs and COE revenue collected by the government. [15]</p>
5	IJC 2011	<p>(a) Using appropriate examples, explain why the existence of positive externalities and public good causes market failure. [10]</p> <p>(b) Discuss the view the Singapore government currently adopts the Most appropriate policies in correcting the above sources of market failure. [15]</p>
6	MI 2011	<p>(a) Explain the factors which determine the price of housing in Singapore. [10]</p> <p>(b) Comment on the ways that the Singapore government intervenes in the market for housing to bring about a better allocation of resources. [15]</p>
7	MJC 2011	<p>(a) Explain the need for government intervention in the case of public goods and merit goods. [10]</p> <p>(b) To deal with the problem of pollution from factories, some countries have chosen to use tradable permits while others have used legislation. Discuss the relative merits of the above policies. [15]</p>
8	NJC 2011	<p>(a) Explain how the presence of externalities results in inefficiency in the markets for air travel and education. [10]</p> <p>(b) Discuss measures the government can adopt to address the inefficiency in the market for air travel. [15]</p>
9	NYJC 2011	<p>"As Singapore shifts its economic focus from industrialization to a knowledge based economy, attaining academic qualifications is becoming increasingly important. Knowledge is now recognised as a main driver for economic productivity and growth"</p> <p>Adapted from http://www.interimcareersolutions.com/onlineeducation.html</p> <p>(a) Explain the terms 'public good' and 'positive externality', making clear in each case how they cause markets to fail. [10]</p> <p>(b) Assess the extent to which a subsidy is the best policy to tackle the market failure arising from education in Singapore. [15]</p>

10	RJC 2011	<p>As Indian economist Amartya Sen has said, “The invisible hand of the market has often relied heavily on the visible hand of government.”</p> <p>(a) Explain how the invisible hand works in the allocation of resources. [10]</p> <p>(b) Evaluate the view that a government such as that of Singapore should subsidize entry to museums and tickets to watch arts performances. [15]</p>
11	SAJC 2011	<p>As economies mature, governments take on a renewed approach to the conscious retention of ‘green lungs’ in their countries. These environmentally friendly features provide a balance to the effects of industrialisation in these countries. Cities like Amsterdam and London have been successful in their efforts. Encouraged by these, there are proposals to create a ‘green corridor’ that will run through Singapore, in place of the previously Malaysia-owned railway tracks.</p> <p>(a) Explain the economic reasons behind the active provision of ‘green lungs’ by a government. [12]</p> <p>(b) Discuss the challenges that the Singapore government may face in their effort to improve the quality of their environment through the retention of ‘green lungs’ in the country. [13]</p>
12	SRJC 2011	<p>Given the central economic problem, a government has to decide how much subsidies to give to higher education.</p> <p>(a) With the aid of a production possibility curve diagram, explain the central economic problem. [10]</p> <p>(b) Discuss whether giving subsidies for higher education is the most desirable measure. [15]</p>
13	TJC	<p>(a) Explain how the price mechanism works to allocate scarce resources between competing markets. [8]</p> <p>(b) Discuss whether it is always necessary for the government to intervene when the price mechanism fails to allocate resources efficiently. [17]</p>
14	TPJC 2011	<p>(a) Distinguish between a public good and a private good and explain under which of these classifications public libraries should be placed. [10]</p> <p>(b) Discuss if the existence of an externality implies that the good should necessarily be provided by the government. [15]</p>
15	VJC 2011	<p>(a) Explain how resources are allocated via the price mechanism. [10]</p> <p>(b) To what extent will the price mechanism achieve efficient allocation of resources in Singapore? [15]</p>



PAST YEAR A LEVEL QUESTIONS (H2)

No.	Year	Question
1	2007 H2	With reference to examples, discuss whether there is a need to change the current policies adopted by the Singapore government to deal with market failures caused by externalities. [25]
2	2008 H2	(a) Explain why imperfect information and immobility of factors of production may lead to market failure. [10] (b) Evaluate the policies currently used by the Singapore government to correct these causes of market failure. [15]
3	2009 H2	Government around the world protect consumers against market failure due to market dominance. (a) Analyse, with supporting examples, how market dominance might lead to market failure. [10] (b) Assess the extent to which market dominance, rather than any other potential market failure, is the major cause of government intervention in the markets for goods and services within Singapore. [15]
4	2010 H2	(a) Explain why government intervention is advocated in the markets both for public goods and for goods where externalities are present. [12] (b) In the UK, entry to national museums and art galleries is free of charge and tickets to see the opera are heavily subsidized. In contrast, in Japan, entry to national museums and art galleries comes at a high price and a ticket to see opera is among the most expensive in the world. Assess the economic case for these two different approaches. [13]
5	2011 H2	Consumers and producers are generally assumed by economists to be motivated by self-interest. (a) Explain how, according to economists, the pursuit of self-interest can help to address the problem of limited resources and unlimited wants. [10] (b) Assess whether the price mechanism will always allocate scarce resources in the most efficient manner for all goods and services in a market economy. [15]

PAST YEAR A LEVEL QUESTIONS (H1)

No.	Year	Question
1	2007 H1	(a) Explain how monopoly power in an industry can lead to inefficiency in resource allocation. [12] (b) Discuss the view that a government should relax controls that aim to restrict domestic market dominance, in order to increase the ability of its firms to compete internationally. [13]
2	2008 H1	(a) Explain the terms 'public good' and 'merit good', making clear in each case how they cause markets to fail. [10] (b) Evaluate the view that a government such as that of Singapore should use a policy of tradable permits to try to correct the market failure resulting from the existence of a negative externality. [15]

3	2010 H1	<p>(a) Explain, using examples, what is meant by:</p> <p>(i) a public good,</p> <p>(ii) a demerit good. [10]</p> <p>(b) It is generally recognized that unlimited use of motor vehicles by private citizens generates a level of negative externalities that is unacceptable. Discuss the view that a policy of indirect taxation is the best that is available to tackle this problem in an economy such as Singapore. [15]</p>
4	2011 H1	<p>Governments frequently impose indirect taxes in order to influence the pattern of consumers' expenditure. The effectiveness of such policy measures, however, depends crucially on how consumers respond.</p> <p>(a) Explain with the help of examples the concepts of price elasticity of demand and price elasticity of supply. [10]</p> <p>(b) Discuss the view that Government efforts to interfere in the working of the free market through indirect taxation inevitably create more problems than they solve. [15]</p>

