



ST. ANDREW'S JUNIOR COLLEGE
PRELIMINARY EXAMINATIONS – 2017 (JC2)
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

9757/02

Paper 2

14 September 2017

Suggested Answers

2 hours 15 minutes

Section A

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

Question 1

Global sugar prices have rocketed 30% since April as supply lags further behind demand.

Source: *Rabobank Sugar Quarterly*, 2016

Using demand-supply analysis, explain the possible factors that led to the above [25] outcome and evaluate the relative importance of those factors.

Question Analysis

Command words	Explain; Evaluate
Content words	Demand & Supply factors
Context	Sugar Market

Schematic Plan

Students need to address the 2 parts of the question:

1. Explain the possible factors and using the price mechanism to show the change in price
2. Evaluate their relative importance

Suggested Answer

Intro

- Point out that market price is determined by the interaction of demand and supply forces in a market and the dramatic rise in price mentioned in the question can be explained by increase in demand and fall in supply as well as the concepts of elasticities.

Body 1: Explaining the factors

Students can use a range of possible factors, not necessarily limited to the ones suggested in the answer

Demand factors:

1. Increase in demand for sugar as a factor of production
 - Sugar is used in the production of ethanol, a form of bio-fuel.
 - With the global push towards a sustainable economy and use of green technology, the demand for bio-fuels will increase. As the derived demand for sugar also increases.
 - This in turn will increase the price of sugar, *ceteris paribus*.
2. Change in income and income elasticity
 - With incomes rising in 2016, there would be an increase in the purchasing power of households. As such, there will be an increase in demand for sugar, assuming it is a normal good. The increase in income would also increase the demand for other normal goods that require sugar as a factor of production e.g. confectionary products and sweet drinks. This will increase the derived demand for sugar.
 - This in turn will increase the price of sugar, *ceteris paribus*.
 - The magnitude of increase in demand for sugar will be less than proportionate to the increase in income ($0 < YED < 1$) as sugar is a necessity.

3. Price elasticity of demand

- Demand for sugar is likely to be price inelastic ($PED < 1$) as sugar is a necessity for households, as well as there are few viable alternatives to sugar. Aspartame is one sugar-alternative but there are increasing reports about the dangers of consuming aspartame and thus it becomes less of a substitute to sugar. PED helps to account for the sharp rise in sugar price for a change in supply of sugar.

Supply factors:

1. Weather

- As sugar is an agricultural good, it is very susceptible to changes in weather
- Drought and flood can destroy the crops such as sugar cane and sugar beets which are used to make sugar.
- As such this would lead to a fall in supply, *ceteris paribus*

2. Price of related goods

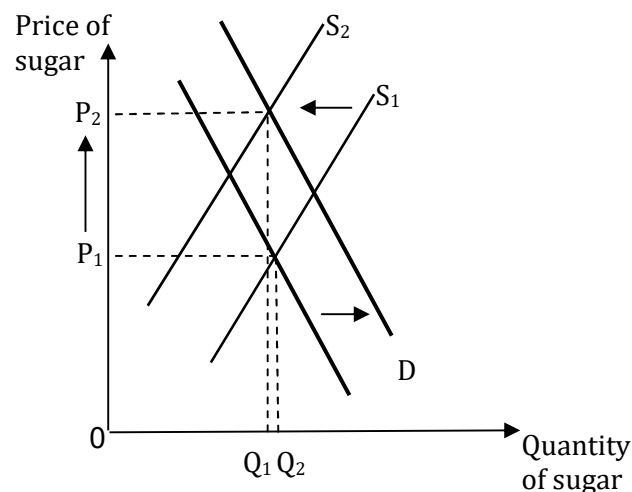
- The price of goods in competitive supply (such as coffee or corn) with sugar cane/beets will affect the supply of sugar cane/beets and thus the supply of sugar
- An increase in the price of those goods will cause farmers to dedicate more resources to the production of those goods and fewer resources to produce sugar cane/beets.
- A fall in the supply of sugar cane/beets will result in an increase in the price of sugar, *c.p.*

3. Price elasticity of supply

- Supply of sugar is likely to be price inelastic ($PES < 1$) as it has a fairly long gestation period. PES helps to account for the sharp rise in sugar price for a change in demand of sugar.

Use price mechanism to show the change in price

With the increase in the demand and the fall in supply of sugar, coupled with the respective PED and PES values, will lead to a sharp increase in the price of sugar, as seen from the diagram below.



Body 2: Evaluate the relative importance of the factors

Demand factors could be more important than supply factors

Sugar has many uses such as confectionary products and sweet drinks, as well as in the production of biofuels. Therefore with an increase in income, it would lead to an increase in both the direct and derived demand for sugar. Thus making demand factors more important in determining the price of sugar.

Supply factors could be more important than demand factors

As an agricultural product, sugar supply is very susceptible to changes in the weather. Furthermore, given the fairly long gestation period, it would cause the supply of sugar to be very price inelastic and thus makes PES very important in determining the magnitude of the change in price.

Conclusion:

- While there are many factors that can affect the price of sugar, it is likely that supply factors are more important than demand factors especially since sugar is a necessity and thus the increase in demand due to an increase in income would be less than proportionate to the change in income. Furthermore, changes in weather can have a large impact on the supply of sugar as sugar cane/beets rely heavily on suitable weather conditions for its growth.
- However, demand factors are increasing in its importance in determining the price of sugar as more governments are raising public awareness of the detriments of consuming sugar and thus are bringing about a change in the taste and preferences of consumers for goods that require sugar as a factor of production.

Level	Knowledge, Application, Understanding, Analysis
L3 (18-20)	<ul style="list-style-type: none">• Conceptually accurate and well-developed analysis of how demand and supply factors cause the dramatic rise in price of sugar, incorporating simultaneous shifts and elasticity explanations.• Referring to the nuance of 'dramatic rise' in question.• Well-substantiated with real-life examples related to sugar.
Low L3 (15-17)	<ul style="list-style-type: none">• Generally cohesive explanation, demonstrating good knowledge of both demand and supply factors that would affect the price of sugar.• Some explanation of relevant elasticity concepts.• Substantiation with real-life examples to aid explanation is limited.
L2 (9-14)	<ul style="list-style-type: none">• Good development and conceptually sound explanation of demand and supply shifts but limited in explaining the significance of elasticity measures.• Lack of real-life examples related to sugar.
High L1 (5-8)	<ul style="list-style-type: none">• Explanations have some incidental points made relevance to the context of the question.• Conceptually incompetent, but able to explain with limited scope and depth of factors affecting demand and supply shifts.
Low L1 (1-4)	<ul style="list-style-type: none">• Answers that have little relevance to the question.• Major and glaring conceptual inaccuracies or no conceptual support.
E3 (4-5)	Well-supported evaluative judgement on the relative importance of demand &/or supply factors that lead to a dramatic rise in sugar prices.
E2 (2-3)	Mainly unexplained evaluative judgment on the relative importance of demand &/or supply factors that lead to a dramatic rise in sugar prices.
E1 (1)	Evaluative judgment provided but unelaborated

Question 2

- (a) Explain how the presence of moral hazard and adverse selection in the market for healthcare insurance in Singapore can result in inefficient allocation of resources. [10]
- (b) Discuss the appropriateness of Singapore government's approach in addressing various types of market failure. [15]

Part (a)

Question Analysis

Command word	Explain, give reasons for
Content	Market failure – Moral hazard, adverse selection
Context	Market for healthcare insurance Singapore

Schematic Plan

<u>Intro</u> Define market failure Briefly describe the market for healthcare insurance in Singapore	
<u>Body</u>	
<u>Moral hazard</u> <ul style="list-style-type: none">• Define• Explain using example of the behaviour of a consumer of healthcare insurance• Link to welfare loss for society	<u>Adverse selection</u> <ul style="list-style-type: none">• Define• Explain using example of the decisions of a healthcare insurance provider• Link to welfare loss for society
<u>Conclusion/Evaluation</u> Brief summary and/or outline possible government intervention to correct the inefficient resource allocation	

Suggested Answer

Market failure is a situation in which the market does not provide the right mix of goods or optimal amount of a particular good. As a result, the market is not allocating resources efficiently and society's welfare is not maximised. In the absence of government intervention, the market for healthcare insurance in Singapore would fail to achieve an efficient allocation of resources, due to the presence of moral hazard and adverse selection. Thus, the government has intervened in various ways to correct the resource allocation in this market.

MediShield Life is a national health insurance scheme that provides lifelong protection for all Singapore Citizens and Permanent Residents against large hospital bills. The scheme was implemented with effect from 1 November 2015. This is a basic health insurance plan, administered by the Central Provident Fund (CPF) Board, which helps to pay for large hospital bills and selected costly outpatient treatments. Patients will co-pay a portion of their medical bills. Generous subsidies are provided to ensure the affordability of the premiums. Beyond this scheme implemented by the government, various private insurance companies (such as Great Eastern, AIA, etc.) also offer various types of healthcare insurance policies to meet differing needs and budgets.

Moral hazard is the situation in which the economic agents take greater risks than they normally would because the costs that would result would not be borne by the economic

agents themselves. Moral hazard occurs under a type of information asymmetry where the risk-taking party to a transaction knows more about its intentions than the party paying the consequences of the risk. More broadly, moral hazard occurs when the party with more information about its actions or intentions has a tendency or incentive to behave inappropriately from the perspective of the party with less information.

In the market for personal healthcare insurance, consumers who have bought the insurance may subsequently feel falsely protected by it and act in a way that is dangerous in general. Insurance reduces the price of care substantially. Hence, a consumer might not be as careful in watching out for his health as he was prior to obtaining insurance. There is moral hazard involved because the consumer's knowledge that he will receive a pay-out to protect against healthcare costs arising from ill health, may actually encourage risk-taking behaviours.

With the reduced price of care, consumers purchase more health care than they would have purchased at the normal market prices. This results in more claims of insurance. The value of this care to consumers is less than the market price, even though the additional care is still costly to produce. The difference between the high cost of the resources devoted to producing this care (reflected in the high market price) and its low apparent value to insured consumers (reflected in the low insurance price) represents inefficiency.

Thus, the additional health care spending generated by insurance represents a welfare loss to society. In Singapore, the extent of moral hazard could to some extent be mitigated by the co-payment required by the MediShield Life scheme.

Adverse Selection occurs when a product or service is predominantly demanded by a certain group of economic agents who could offer the lowest level of return for other economic agents. Adverse selection occurs in markets for healthcare insurance, thus the price mechanism fails to achieve an efficient allocation of resources.

Consumers of health insurance might not divulge sufficient and accurate information about their health condition to insurance companies. Insurance companies are often unable to adequately monitor the behaviour of those who seek insurance coverage, and thus risk providing insurance coverage to those with higher health risks.

In the absence of limiting conditions (commonly based on age and pre-existing medical conditions), consumers with higher risks are more likely to buy health insurance and opt for higher levels of coverage. Adverse selection thus forces insurance companies to raise their premiums, which makes buying insurance less attractive to low risk individuals.

As health insurance is beneficial to every individual, allocative efficiency is only achieved when individuals, whether high risk or low risk, are insured.

However, without government intervention, there would be under-consumption in the market for health insurance as only those individuals faced with higher risks are willing to be insured. The market experiences a deadweight loss in efficiency and thus market fails. The inclusive nature of the MediShield Life scheme could to some extent mitigate the extent of deadweight loss, in the market for healthcare insurance in Singapore.

Concluding, the presence of moral hazard and adverse selections prevents an efficient allocation of resources in the market for healthcare insurance in Singapore. There is thus reason for government to intervene to correct market failure.

Level	Knowledge, Understanding, Application, Analysis
L3 (8 – 10)	Answer demonstrates thorough knowledge of and an analytic explanation of moral hazard and adverse selection, with good application to the context of healthcare insurance in Singapore. Reasoned structure to the whole answer.
L2 (5 – 7)	Answer contains an incomplete/ undeveloped explanation of the concepts of moral hazard and adverse selection, with some attempt to apply the explanation to the context of healthcare insurance in Singapore.
L1 (1 – 4)	For a weak answer that shows limited knowledge of moral hazard and adverse selection, or is inadequately explained. The answer contains basic errors of theory, or is mostly irrelevant or inaccurate.

Part (b)

Question Analysis

Command word	Discuss Appropriateness of approach
Content	Government intervention to correct market failure <ul style="list-style-type: none">• Approaches taken to address various types of market failure• Pros and cons of the respective approaches• Possible alternatives
Context	Singapore Various types of market failure in Singapore

Schematic Plan

<u>Intro</u> Identify approaches taken by the government and state relevant examples of markets
<u>Body</u> Approach 1: E.g. A combination of market based and non-market based policies <ul style="list-style-type: none">• Identify a relevant market• Briefly explain the cause of market failure• Explain the policy/policies used as a part of the approach• Discuss the pros and cons of the approach Approach 2: E.g. Market based policies <ul style="list-style-type: none">• Identify a relevant market• Briefly explain the cause of market failure• Explain the policy/policies used as a part of the approach• Discuss the pros and cons of the approach
<u>Conclusion/Evaluation</u> Make a stand – apply criteria to determine appropriateness of the approach Make recommendations for possible adjustments to approaches

Suggested Answer

The presence of market failure in various markets necessitates government intervention to correct the inefficient resource allocation so as to improve market outcomes. In Singapore, the government intervenes in the markets for narcotics, preschool education, healthcare, national defence, etc., to improve market outcomes. Different approaches are taken in intervening in these markets.

In the market for narcotics, the government utilizes a combination of market based and non-market based policies to deal with market failure. Narcotics are considered demerit goods. These are goods and services that are deemed to be socially undesirable by the government and which the government feels that will be over-consumed if left to the free market due to consumers' failure to recognize the full costs resulting from the consumption of the good.

Consumers underestimate the full costs of consuming narcotics thus their perceived marginal private cost (MPC) is lower than the true MPC. Furthermore, consumption of narcotics also

generates significant negative externalities, resulting in a divergence between true MPC and marginal social cost (MSC). For instance, family and friends of drug users may suffer from physical or emotion abuse, and they may incur high monetary and psychological costs as they attempt to rehabilitate the drug user. Society may also be implicated by higher crime rates, should drug users resort to petty crime to feed their addictions. Left to the free market, narcotics would be overconsumed and significant deadweight loss would be generated. Society's welfare is thus compromised.

In light of the substantial deadweight loss generated, the Singapore government takes a firm and authoritarian approach in addressing this market failure with a mix of policies. The government legislated that the sale and consumption of narcotics are entirely banned; offenders face stiff penalties. For instance, drug trafficking incurs the death penalty in Singapore. These penalties also serve as a deterrence to potential offenders. The Central Narcotics Bureau was formed to enforce these legislations. To educate the public on the full cost of consuming narcotics, the CNB focuses on "Preventive Drug Education" and works closely with government schools to educate youths and to build their resilience to stay drug free.

This firm and authoritarian approach has been largely successful in making Singapore a drug-free society. Strict enforcement of laws and the intensive rehabilitation programmes for offenders have reduced the deadweight loss in this market. The approach also targets the root cause of the issue – ignorance of full costs of narcotics consumption.

However, this approach is not without its limitations. It utilizes a large amount of government's resources, given the manpower required for enforcement and its outreach efforts. In theory, successful public education efforts could, in the long run, reduce the need for government expenditure in addressing issues of narcotics consumption. However, the need for public education is ongoing, to ensure that each generation of youths choose to remain drug free. Methods of outreach needs to continually be refreshed to ensure relevance to and acceptance by the target audience. This incurs high opportunity cost, as these resources could have been allocated to areas of need – such as to national defence or healthcare.

Furthermore, neither public education nor legislation can ensure the achievement of the socially optimal outcome in the market. Although a complete ban is legislated, the socially efficient outcome could in fact be a positive but low level of consumption. The results of public education can be variable; the large amount of resources committed may not yield the desired outcome.

In the market for preschool education, the government uses market-based policies in dealing with market failure arising from information failure on the part of consumers. It encourages competition amongst private service providers, aims to level up the quality in the industry, and has also entered the industry by directly providing the service.

In considering whether to send their children for preschool education, parents consider only their private costs and benefits. Costs may include fees, transport costs, and travelling time. Perceived benefits may include acquisition of basic literacy and numeracy skills. Consumers underestimate the full benefits of consuming preschool education, which could include acquisition of social skills and readiness for formal Primary education. Thus, their perceived marginal private benefit (MPB) is lower than the true MPB. Left to the free market, preschool education would be under-consumed and deadweight loss would be generated. Society's welfare is thus compromised.

The government uses a lighter touch in dealing with market failure here, and aims to improve accessibility, affordability and quality of preschool education. Private service providers

continue to operate in this industry, and now has greater incentive to improve service standards.

To boost accessibility, the government has entered the industry to directly provide preschool education service. The Ministry of Education has built many MOE Kindergartens (MK) in neighbourhoods with young families. Subsidies and financial assistance are given to parents of Singaporean children, to offset the costs of preschool education offered by Anchor Operators (private service providers registered with MOE) and MKs. Through setting up new government bodies – Early Childhood Development Agency and the National Institute of Early Childhood Development – the government aims to audit and raise the quality of preschool centres and to provide training to equip the industry with qualified staff.

The lighter touch approach consisting a combination of policies, coupled with public education to inform citizens of its policies and efforts, has increased the consumption of preschool education in Singapore. Furthermore, the approach allows the price mechanism to still function to allocate resources in this market. A variety of preschool services, catering to different needs and budgets are available in the market. This allows consumers choice and variety, while government subsidies help ensure affordability.

However, this approach is not without its limitations. This also utilizes a large amount of government's resources, given the manpower required for the different areas of work. Similarly, opportunity cost will be incurred. It is difficult to establish, with accuracy, the socially desired level of consumption of preschool education. Information failure on the part of the government may hence result in over or under provision of resources to the market, and hence over or under consumption.

In conclusion, the appropriateness of the government's approach would depend on, amongst other things, the severity of market failure; the ability to address the root cause of market failure; and effectiveness in achieving an efficient allocation of resources.

The government needs to regularly assess the effects of its intervention on market outcomes, and review its policies to ensure relevance and suitability. For instance, the CNB needs to keep abreast with new trends in the sale or and consumption of narcotics, such that its outreach and enforcement methods can be modified.

Appropriateness of the approach also depends on the availability of government resources and the competing needs for these scarce resources. The government needs to balance the usage of resources well, to ensure that both micro and macroeconomic objectives can be attained.

Note:

The answer should discuss different approaches (at least two) that the government has taken – e.g. firm and authoritarian VS a lighter touch.

Students can draw from a range of relevant contexts of different markets, to illustrate and substantiate their analysis. Reference to the market for healthcare insurance is not mandatory.

Level	Knowledge, Understanding, Application, Analysis
L3 (8 – 10)	The answer demonstrates thorough knowledge of the Singapore government's approaches to addressing different types of market failure. Good application to Singapore context in providing balanced analysis of the pros and cons of the government's approaches.
L2 (5 – 7)	Accurate but undeveloped explanation of types of market failure in Singapore, with some ability to distinguish between approaches taken by the government. Limited analysis of the pros and cons of the government's approaches. Weak or limited application to Singapore context.
L1 (1 – 4)	Answer shows some knowledge of the types of market failure present in Singapore, but had not addressed question requirement. Inadequate explanation and analysis the government's approaches to addressing market failure.
E3 (4 – 5)	Well-reasoned judgment with a clear use of criteria and good application to context.
E2 (2 – 3)	Judgment with inadequate justification.
E1 (1)	Unsupported judgement without any substantiation.

Question 3

Singapore government has introduced TPG Telecom, which will be Singapore's fourth mobile operator, hoping that more competition will be beneficial. On the other hand, food stalls at most hawker centres continue to face high level of competition without the need for government to introduce more.

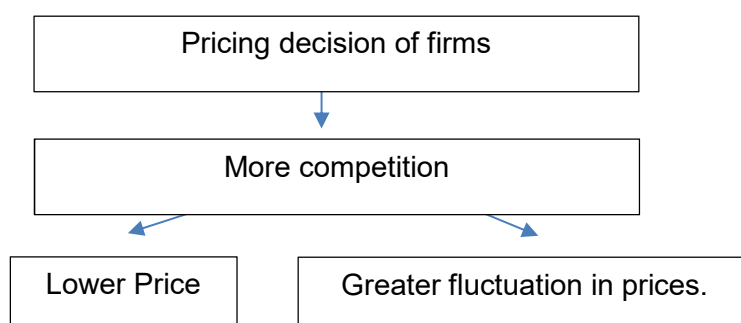
- (a) Explain why more competition might lead to lower but greater fluctuation in prices. [10]
- (b) Discuss whether government should intervene to prevent firms from gaining larger market share in various markets. [15]

Part (a)

Question Analysis

Command Word	Explain why
Content	Market structure, competition, pricing decision
Context	NA

Schematic Plan



Intro:

- Linking the concept of 'more competition' to the various market structure.
- Monopolistic competition has more competition than Oligopoly. Oligopoly has more competition than Monopoly.
- Among monopolistic competition, oligopoly and monopoly, monopolistic competition has the most competition and monopoly has the least competition. (Oligopoly inferred to be in between)
- Assumption that firms are profit driven and aims to maximise profits.
- Note: Perfect competition does not exist in real life and has no fluctuation in price.

Body 1: Explain why more competition might lead to lower prices.

- Assumption that firms are profit driven and aims to maximise profits, firms will determine its profit maximising output where $MC=MR$ and determines price using the AR which is also the demand curve.

- More competition → larger number of firms → lower demand for each firm and demand will be more price elastic
 - lower demand for each firm → lower price
 - demand will be more price elastic → less price setting ability $P > MC$ at a lesser amount → lower price

Body 2: Explain why more competition might lead to greater fluctuation in prices.

- Greater competition would mean that the market structure would have lower BTE → number of firms in the market structure are more likely to change → whenever number of firms changes, the demand or AR for each firm will change → prices will fluctuate more.
- Greater competition when market structure changes from oligopoly to monopolistic competition → no more price rigidity → prices will fluctuate more.
- Greater competition when market structure changes from Monopoly to Oligopoly → increase in number of rival firms → increase likelihood of price competition between firms → prices will fluctuate more.

Conclusion

Mark Scheme

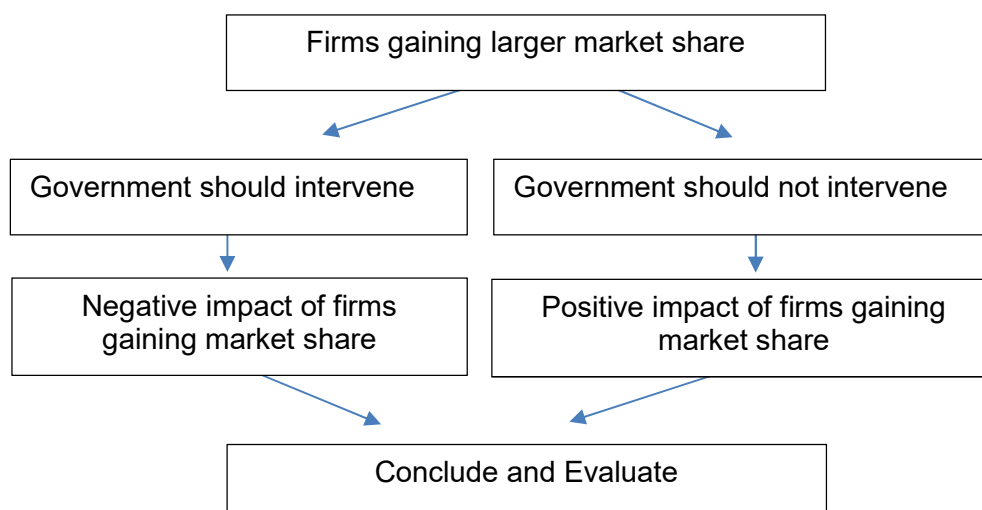
Level	Knowledge, Understanding, Application and Analysis
L3 (8-10)	Good explanation with clear use of economic analysis of why more competition might lead to lower AND greater fluctuation in prices
L2 (5-7)	Basic explanation of why more competition might lead to lower AND greater fluctuation in prices Good explanation with clear use of economic analysis of why more competition might lead to lower OR greater fluctuation in prices
L1 (1-4)	Basic explanation of why more competition might lead to lower OR greater fluctuation in prices

Part (b)

Question Analysis

Command Word	Discuss whether
Content	Market Structure, performance of firms
Context	Various markets

Schematic Plan



Intro

- Firms gaining larger market share would mean that the number of firms in the market is reducing and the market structure is evolving from monopolistic competition towards oligopoly or oligopoly towards monopoly.
- Each firm gaining more market power and market dominance.
- Government intervention would aim at increasing competition in the market with more firms.

Thesis: Government should intervene to prevent firms from gaining larger market share in various markets.

- Allocative Inefficiency: firms gaining larger market share would lead to more market power and demand becoming more price inelastic → $P > MC$ at a larger extent.
- Choices and Varieties: firms gaining larger market share would lead to lesser number of firms → decrease in the choices and varieties of goods and services available
- Productive inefficiency (society): firms gaining larger market share would cause demand to be more price inelastic → firms will produce at a point further away from MES assuming earning normal profits
- Monopoly: X-inefficiency due to the lack of competition
- Higher chances of firms colluding which can lead to exploitation of consumers
- Firms gaining larger market share would lead to more market power and demand becoming more price inelastic → higher price would mean lower consumer surpluses
- Equity: firms gaining larger market share would lead to more market power and demand becoming more price inelastic → higher chance of firms earning

supernormal profits → income distribution will shift from the poor towards rich (land owners, capital owners and entrepreneur)

Anti-Thesis: Government should NOT intervene to prevent firms from gaining larger market share in various markets.

- Dynamic Inefficiency: firms gaining larger market share → higher chances of earning supernormal profits → firms will be more willing and able to innovate
- Natural Monopoly: market might have characteristic of natural monopoly therefore firms need larger (full) market share to survive and exist
- Productive efficiency (firms)
- Choices and Varieties: firms (oligopoly) would have more willingness and ability to improve quality of goods and services which increase the availability of quality goods and services. Lesser market shares (monopolistic competition) can only have superficial production differentiation.

Conclusion and Justification

Final stand: Government **should** / **should not** intervene to prevent firms from gaining larger market share in various markets.

Evaluation:

- Depending on the nature of the market or industry and types of goods
- Long term or short term
- Depending on how the government intervene

Level	Knowledge, Understanding, Application and Analysis
L3 (8-10)	Good explanation with clear use of economic analysis on whether government should intervene to prevent firms from gaining larger market share with clear use of examples wrt to various types of market structure. Perfect completion is not required.
L2 (5-7)	Good explanation with clear use of economic analysis on whether government should intervene to prevent firms from gaining larger market share without any use of examples wrt to various types of market structure. Basic explanation with clear use of economic analysis on whether government should intervene to prevent firms from gaining larger market share with some use of examples wrt to various types of market structure. Basic explanation with clear use of economic analysis on whether government should intervene to prevent firms from gaining larger market share without any use of examples wrt to various types of market structure. (max at 5)
L1 (1-4)	One sided answer on whether government should intervene to prevent firms from gaining larger market share.
E3 (4-5)	For an evaluation with justification using economic analysis
E2 (2-3)	For an evaluation with basic justification
E1 (1)	For an unexplained evaluation

Section B

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

Question 4

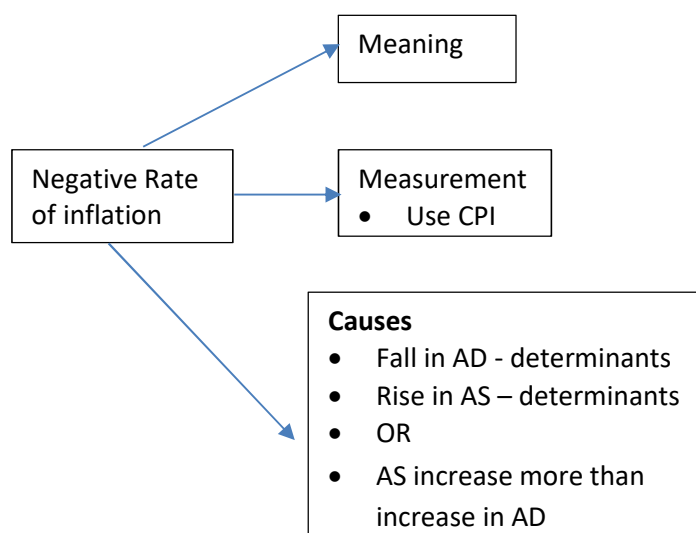
- (a) Explain the possible factors that might cause a negative rate of inflation in an economy. [10]
- (b) Discuss whether a negative inflation rate is more worrying than a positive inflation rate for a government. [15]

Part (a)

Question Analysis

Command Word	Explain
Content	Negative rate of inflation; AD/AS framework
Context	Use own examples for real world context

Schematic Plan



Note: It is important that students need to explain the meaning of negative inflation rate, ie falling general price level which can be measured using CPI. It is an indicator of changes in general price level. If it is sustained (persistent) over a period of time, it shows that the country is experiencing deflation.

Suggested Answer

Introduction:

- Explain negative inflation rate
 - An indicator of a fall in the general price level (GPL) of goods and services of an economy in a given period of time.
 - It shows that deflation has occurred if negative rate ie fall in GPL is persistent over a period of time.

- Measure of negative inflation rate

The CPI is used to measure the change in price of a fixed basket of goods and services commonly purchased by households over a specified time period. Inflation rate is usually measured using the Consumer Price Index (CPI) as shown in the formula below.

$$\text{Inflation rate}_t = \frac{\text{CPI}_t - \text{CPI}_{t-1}}{\text{CPI}_{t-1}} \times 100\% \text{ (where } t \text{ denotes the time period)}$$

- The fall in the general price level can be due to a fall in aggregate demand (AD), a rise in short-run aggregate supply (SRAS) or the long-run aggregated supply.

Body:

With reference to Figure 1, the initial GPL is at OP_1 . A decrease in AD from AD_1 to AD_2 can be caused by a decrease in any of the components of AD – consumption expenditure (C), investment expenditure (I), government expenditure (G) and/or net exports (X-M), resulting in a fall in GPL to OP_2 . This was seen during the global financial crisis where there was a fall in Singapore's exports due to weak external demand, causing a fall in Singapore's aggregate demand. This led to Singapore experiencing deflation for a period of time till AD started to grow again.

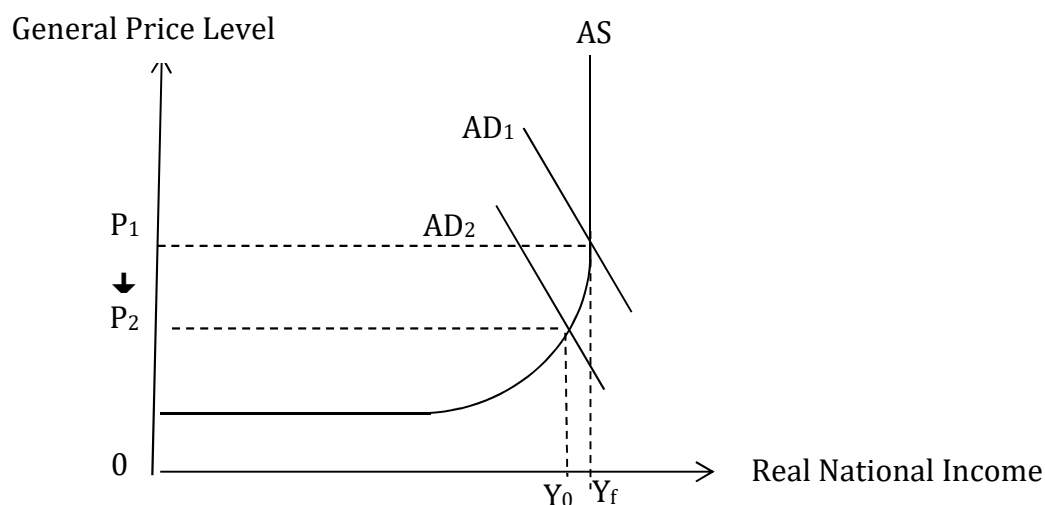


Figure 1: Negative Inflation caused by a fall in AD

With reference to Figure 2, an increase in SRAS is shown by a shift of $SRAS_1$ to $SRAS_2$ causing the GPL to fall from OP_1 to OP_2 . Increase in SRAS can be caused by a fall in cost of production. This could come in the form of technological advancement or a fall in the price of factors of production. In 2014, with the increase in oil production from the US and a falling demand for oil globally, this cause oil prices to fall. Since oil is a major factor of production, this resulted in a fall in cost of production and thus an increase in the SRAS. This led to a fall in Singapore's CPI for many months, which shows that Singapore experienced deflation.

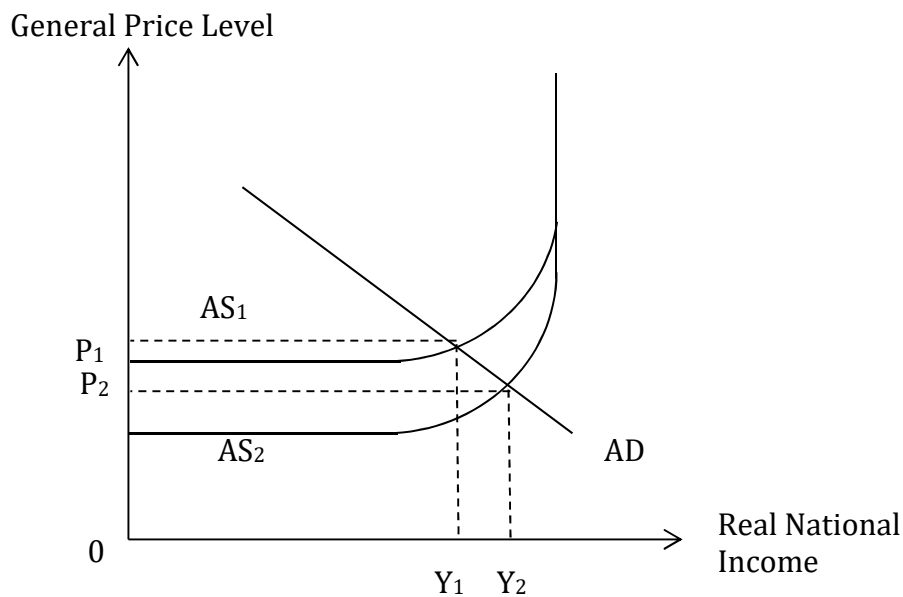


Figure 2: Negative Inflation caused by an increase in SRAS

An increase in LRAS can be caused by an increase in the quantity and/or quality of factors of production. This is exactly what happened in the late 1990s due to the opening up of China which increased the supply of low-wage workers to other countries such as Singapore. This led to falling global commodity prices in the period that followed due to lower costs as well as increased productive capacity of economies.

Conclusion

A negative inflation can be caused by a fall in AD due to a fall in its components or a rise in the SRAS or LRAS.

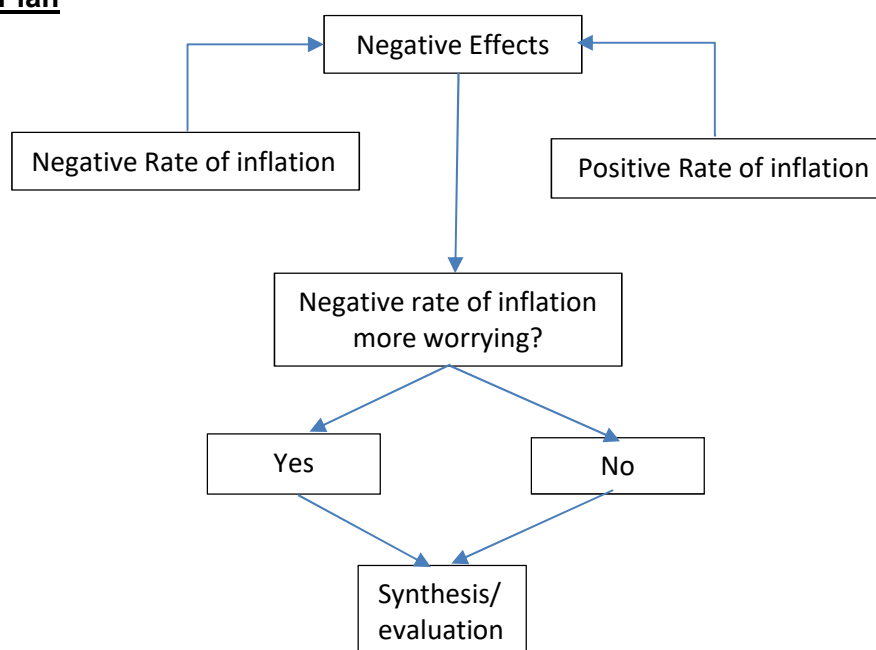
Level	Knowledge, Understanding, Application, Analysis
L3 (8-10)	<ul style="list-style-type: none"> • Thorough knowledge and excellent ability to explain AD and AS factors leading to negative inflation rate • AD/AS framework was used to show how a fall in GPL (deflation) occurs • Link was made between negative inflation rate to deflation
L2 (5-7)	<ul style="list-style-type: none"> • Factors given are relevant but inadequately explained • No real world application • Did not show a clear link between negative inflation rate to deflation
L1 (1-4)	<ul style="list-style-type: none"> • Shows some knowledge of factors leading to negative inflation rate • Factors given are brief or inaccurate.

Part (b)

Question Analysis

Command Word	Discuss whether
Content	Effects of a negative inflation rate vs positive inflation rate
Context	Use own example for real world context

Schematic Plan



Approach:

This question is to be discussed from the perspective of a government. Students need to give the basis for government to worry. Basis would be whether the macro and micro economics problems are worsened or goals that were unable to be achieved.

Introduction

- Briefly define the meaning of positive inflation rate. Factors are similar as negative rate but in the opposite direction.
- Both would result in negative effects that can worsen macro and micro economics problems or unable to achieve them.
- Whether a negative inflation rate is more worrying than a positive inflation rate will depend on their causes of the negative effect, duration and size of the rates.

Body

Thesis (1)

Negative inflation rate that has been persistent– ie deflation, is more worrying because of the negative effects due to

- Causes:

- Deflation caused by falling AD
 - ✓ This will lead to negative economic growth and increased unemployment. This can give rise to a negative economic outlook would result in lower consumer and investor confidence.
 - ✓ Due to the fears of loss of employment and income, apart from postponing their decision to consume durable goods, consumers would increase their savings. This will increase the amount of loanable funds in the banks, which should result in higher levels of investment due to lower interest rates. However, this might not take place due to the poor economic outlook.
 - ✓ Firms will be reluctant to invest. This can bring about lower local and foreign investments as the expected returns may be lower.
 - ✓ This will lead to a further reduction in AD. Over the long run, if the level of investment does not result in a net capital formation, the capital stock in the economy will decrease and will cause the productive capacity of the economy to be reduced.
 - ✓ Hence, can worsen the situation of negative growth and unemployment. Moreover, any expansionary policies to stimulate the economy may render them ineffective
 - ✓ This can cause a reduction in the BOP surplus, or worsening of a BOP deficit, via the Capital and Financial Accounts, *ceteris paribus*

Anti-thesis (1)

- If deflation is due to an increase in AS, this will bring about an increase in the real GDP and also lower unemployment. This improvement in the economic outlook may lead to greater foreign investments since there is higher expected profits with the lower costs and/or higher productivity of factors of production. Moreover, it will increase the BOP surplus or a reduction in the BOP deficit, *ceteris paribus*.
- With falling price levels, it could lead to a decrease in unemployment as the country's exports become more price competitive and thus there would be an increase in the quantity demanded for exports. An increase in demand for exports will lead to a fall in unemployment as more units of labour is required
- Regardless of the cause of the deflation, a fall in prices would increase the price competitiveness of the country's exports and thus could increase the export revenue, assuming $PED_x > 1$.

Anti-thesis (2)

Positive inflation rate that has been persistent is more worrying:

• **Causes**

- Falling SRAS due to increase in the cost of production (eg price of oil) would result in a fall in real NY.
 - ✓ In particular, if it would result in lower consumer and investor confidence
 - ✓ Use the same argument for the case where deflation has caused a fall in consumer and investor confidence.
 - ✓ Inflation affects the value of money assuming that the nominal income did not keep pace with the inflation rate. Cost of living would rise and the poor or fixed income earners would face with a lower material standard of living. This can lead to inequity and government may have to redistribute income by subsidizing the lower income group to maintain a reasonable standard of living. This would burden the government financially in its budget.

- Increase in AD without increasing the capacity to produce – ie no change in LRAS. However, this may be short term and given government SS-side policies to increase LRAS, persistent positive inflation rate may be less worrying.
- If the rate of inflation has accelerated to a hyperinflation situation, in the case of Zimbabwe where inflation was 79,600,000,000% in mid-2008 where the confidence was so low that the real value of currency was eroded and the negative effects was worrying.

Overall evaluation:

Which is more worrying for a government will depend on the causes, duration, value of both negative and positive inflation rate and the effectiveness of implemented policies to manage the two directions of inflation. A negative inflation rate or deflation is not necessarily more worrying if it is caused by a rise in AS that results in falling prices of goods due to lower costs of production or an increase in the productive capacity of the economy. A positive inflation rate would not be worrying as most economies would be targeting approximately positive 2% of inflation rate with economic growth to indicate that the economy is healthy.

In the case of Japan, however, it has been experiencing many years of stop-start economic growth, years of falling wages and deflation. While it would seem that consumers should welcome deflation, because it increases their purchasing power, Japan faces a different situation.

Japanese household have been experiencing a fall in their real household income. This is because their average earnings in Japan have fallen since the 1997 fiscal year, while a core measure of consumer prices – excluding food and energy – has fallen as well. In addition, consumers have spent so many earlier years worrying about incomes and job security that finding ways to spend less has become a habit. Consequently the AD did not rise enough to lift Japan out of recession or stimulate higher economic growth. The lower consumer confidence has dampening effect on the expansionary fiscal policy which encouraged spending.

Levels	Knowledge, Understanding, Application, Analysis
L3 (8-10)	<ul style="list-style-type: none"> • Thorough knowledge and excellent ability to explain at least 3 negative effects well of negative and positive effects (combination) of inflation • There must be a comparison made between the effects of negative and positive inflation rates • Given the time constraint, the answers demonstration of knowledge, understanding, application and analysis could not be improved significantly
L2 (5-7)	<ul style="list-style-type: none"> • Negative effects given are relevant but inadequately explained • No real world application • Did not provide sufficient comparison between the level of worrying by government of the respective inflation rates
L1 (1-4)	<ul style="list-style-type: none"> • Shows some knowledge negative effects of either positive or negative inflation rates • Answers given are brief or inaccurate. • No comparison made

E3 (4-5)	<ul style="list-style-type: none"> • Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as in a good summative conclusion that it depends on the causes of deflation and the potential damaging negative effects of both positive and negative inflation
E2 (2-3)	<ul style="list-style-type: none"> • Relevant to the question but does not explain the judgement or base it on relevant analysis
E1 (1)	<ul style="list-style-type: none"> • Make an unexplained judgement. • One that lacks judgment

Question 5

Different economists tend to recommend different macroeconomic policies to the government when tasked to address a balance of payments deficit.

Explain the possible causes of a balance of payments deficit and discuss the factors [25]
an economist would consider when deciding on his recommendation.

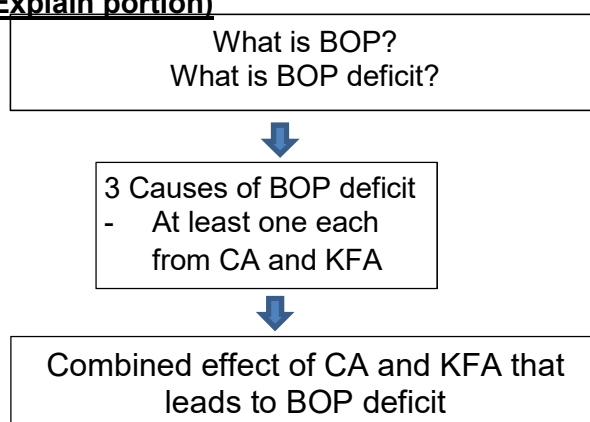
Question Analysis (Explain portion)

Command	Explain – use economic analysis to make clear the outcome expected.
Content	BOP deficit
Context	Nil

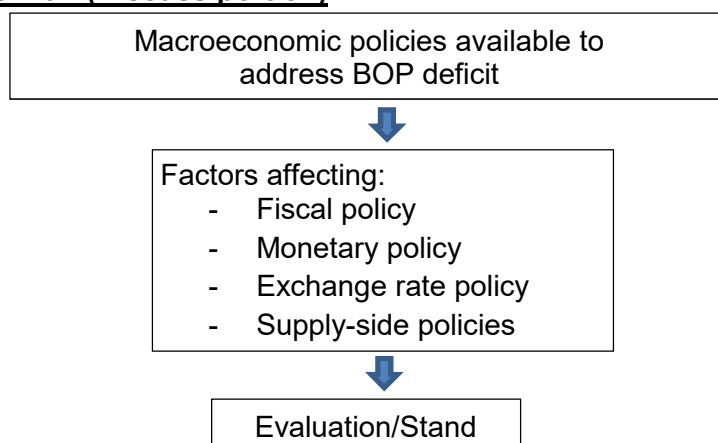
Question Analysis (Discuss portion)

Command	Discuss – present two sides, evaluate
Content	Factors affecting policy-making when addressing BOP deficit
Context	Nil

Schematic Plan (Explain portion)



Schematic Plan (Discuss portion)



Suggested Answer

Intro

- There are various causes of BOP deficit, some affecting via current account and others affecting via capital and financial account.
- When recommending policies to address the BOP deficit, an economist will need to consider various factors, such as availability of budget, reliance on imports, likelihood of negating factors, root cause of deficit, etc.
- Not all factors weigh equally in influencing the ultimate policy-making decision due to the nature and circumstances faced by each economy.

Body – Part #1

- Explain what is meant by BOP
 - o inflow and outflow of funds due to international transactions
 - o CA + KFA
- Explain what is meant by BOP deficit (total inflow < total outflow)
- Causes of CA deficit (need to specify categories of causes e.g. one internal; one external **OR** one for exports and one for imports)
 - o Appreciation of domestic currency
 - o Economic downturn experienced by trading partners (export destination economies)
 - o Loss of comparative advantage due to higher COP
- Causes of KFA deficit (need to specify categories of causes e.g. one internal; one external **OR** one for hot money and one for FDI)
 - o Fall in interest rates due to expansionary monetary policy
 - o Income tax hike due to austerity measures → deterring FDI inflows
 - o Stronger competitor for FDI inflow (e.g. China's opening up of its doors, tax competition among competing economies)

IMPORTANT:

- o Student needs to recognise it is the COMBINED balance of CA and KFA that should produce a deficit; BOP deficit does not require both CA and KFA to be in deficit.

Body – Part #2 – Discuss Factors

- State at least three policies which could address BOP deficit (combination of those that address CA and KFA).

Factor #1 – Availability of budget

- Govt attempts to use SS-side policy (subsidise R&D or retraining of workers) to improve quality of exports or to attract more FDI.
- Govt needs funds.
- Limited by availability of budget.
- Example: Greece

Factor #2 – Reliance on imports

- Govt attempts to reduce import expenditure through tariff or quota
- If economy relies heavily on imports for goods and services or factors of production, then such a policy may not be feasible → will significantly affect material SOL if imports are severely restricted due to high tariff or low quota set.
- Example: Singapore

Factor #3 – Likelihood of negating factors

- Govt attempts to depreciate domestic currency to boost X and reduce M → BOT improves → BOP improves.
- If competitors are likely to also depreciate their currency, intended effect will be very limited.
- Example: economies around the world during global financial crisis

Factor #4 – Root cause of deficit

- Govt needs to have data on the source of deficit, i.e. CA or KFA. Specifically, which components of CA and which components of KFA.
- Govt ought not to implement 'generic' policies which will expand the CA surplus so as to compensate for KFA deficit, at least not to do so in the long run.
- Such inherent extended imbalance will create unintended consequences in the long run. For example, KFA deficit widens → hollowing out of an entire industry, leading to severe loss in jobs and comparative advantage.

Evaluation/Conclusion

- Multiple factors need to be taken into consideration simultaneously – the more comprehensive set of factors considered, the less unintended consequence or the more effective the set of policies will be.
 - o E.g. if only look at availability of budget but not the root cause of deficit → may not be effective in addressing BOP deficit
- Timely and constant review of policies may be needed as such weights of factors in influencing effectiveness of policies may also change.

- E.g. previously reduced reliance on imports → now, heavier reliance on imports. Hence, import-restricting policies may become more effective in reducing BOP deficit.

Level	Knowledge, Application/understanding and Analysis
L3 (15 – 20)	<ul style="list-style-type: none"> - Strong economic analysis employed throughout (e.g. use of appropriate terminology ; proper cause-effect explanation) - Breadth/Scope provided demonstrated mastery of content - Good use of examples, where relevant, to illustrate real-world applications.
L2 (9 – 14)	<ul style="list-style-type: none"> - Answer written in a sufficiently economics fashion though minor gaps/errors may exist sporadically throughout. - Narrow scope of answers which reveal passable content/knowledge in response to the question posed.
L1 (1 – 8)	<ul style="list-style-type: none"> - Answer does not convey sufficient grasp of question requirement. - Descriptive answers (lack of technical terms used) with major errors (e.g. confused BOP with budget deficit) ought to be given lowest marks.
E3 (4 – 5)	<ul style="list-style-type: none"> - Stand provided together with strong evaluative comments such as to question assumptions, status quo of circumstances faced by economies in making policy decisions. - Evaluation clearly weighed/questioned the validity of different factors brought up in the essay.
E2 (2 – 3)	<ul style="list-style-type: none"> - Stand provided together with substantiation using weak/erroneous elaboration. Substantiation reads more like a summary of essay.
E1 (1)	<ul style="list-style-type: none"> - Mere stand provided without any substantiation.

Question 6

China signalled its intention to replace US as champion of free trade if US were to build more trade barriers.

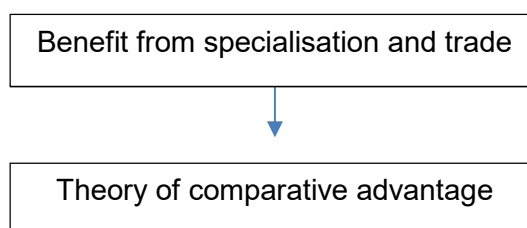
- (a) Explain how an economy can benefit from specialisation and trade. [10]
- (b) In the event that US builds more trade barriers, discuss whether other governments should follow China's footsteps in adopting a policy of greater free trade. [15]

Part (a)

Question Analysis

Command Word	Explain how
Content	Theory of comparative advantage
Context	NA

Schematic Plan



Note:

- Demand factors for patterns of trade will be ignored.
- Table is not compulsory, PPC graphs are acceptable as well

Intro:

Economy can benefit from specialisation and trade based on the Theory of Comparative Advantage

The Theory of Comparative Advantage states that, under certain conditions, countries can benefit from specialisation in the production of goods and services which they have comparative advantage in and trade them for goods and services in which they do not have comparative advantage in. Countries can benefit from specialising and exporting products in which they have a comparative advantage and importing products in which they do not have a comparative advantage.

Body 1: Assumptions

- Trade is carried out between two countries, example: China and Japan.
- Only 2 commodities are produced and traded, example: food and clothing.
- No transport cost is involved in moving goods from one country to the other.
- Constant opportunity cost in the production of both goods in both countries.

- Perfect mobility of factors of production within each country but not between countries.
- Resources of each country are fully and efficiently employed.
- No trade barriers imposed by the governments (Free Trade).

Body 2: Before specialisation and trade

In our example, assuming that before specialisation and trade, both China and Japan devoted half of its resources to the production of two goods, Clothing and Food. Table 1 will show the amount of Clothing and Food both countries can produce when resources are fully and efficiently utilised.

Table 1: Production possibilities of China and Japan before specialisation and trade

	Clothing	Food
China	100	200
Japan	200	80
Total Output	300	280

From Table 1:

- China's opportunity cost of producing 1 unit of clothing is 2 units of food.
- Japan's opportunity cost of producing 1 unit of clothing is 0.4 unit of food.
- China's opportunity cost of producing 1 unit of food is 0.5 unit of clothing.
- Japan's opportunity cost of producing 1 unit of food is 2.5 units of clothing.

We can determine that China has a lower opportunity cost in the production of food and Japan has a lower opportunity cost in the production of clothing. Therefore, China has the comparative advantage in the production of food and Japan has the comparative advantage in the production of clothing.

Body 3: Gains from specialisation

Based on the theory of comparative advantage, Japan should specialise in the production of clothing and China should specialise in the production of food production. Table 3 shows the output of the clothing and food when both countries specialised in the production of the goods they have comparative advantage in.

The immediate gains from specialisation is that total output of both clothing and food rises. Comparing to Table 1, total clothing production increased from 300 to 400 and total food production increased from 280 to 400.

Body 4: Terms of trade (exchange ratio)

For specialisation and trade to be mutually beneficial for both countries, the theory of comparative advantage states the terms of trade (exchange ratio) should be between both countries' opportunity cost to produce both goods. The terms of trade is the rate at which two goods are exchanged (how much of one good is exchanged in terms of another good).

A beneficial term of trade for 1 unit of food must be between 0.5 and 2.5 units of clothing which is the opportunity cost of producing 1 unit of food in the two countries.

On the other hand, a beneficial term of trade for 1 unit of clothing must be between 0.4 and 2 units of clothing which is the opportunity cost of producing 1 unit of food in the two countries.

Body 5: Gains from specialisation and trade

If the term of trade is 1 unit of food in exchange for 1 unit of clothing and China exchange 120 units of food for 120 units of clothing with Japan, the amount of clothing and food both countries have can be seen in Table 2.

Table 2: Consumption of China and Japan after specialisation and trade

	Clothing	Food
China	0 (+120) = 120	400 (-120) =280
Japan	400 (-120) = 280	0 (+120) = 120
Total Output	400	400

Comparing Tables 1 and 2, through specialisation and trade, China stands to gain 20 units of clothing and 80 units of food while Japan stands to gains 80 units of clothing and 40 units of food through specialisation and trade assuming free trade and beneficial terms of trade (exchange ratio) between countries.

Therefore, countries could benefit from specialisation and free trade due to differences in their opportunity costs.

Conclusion

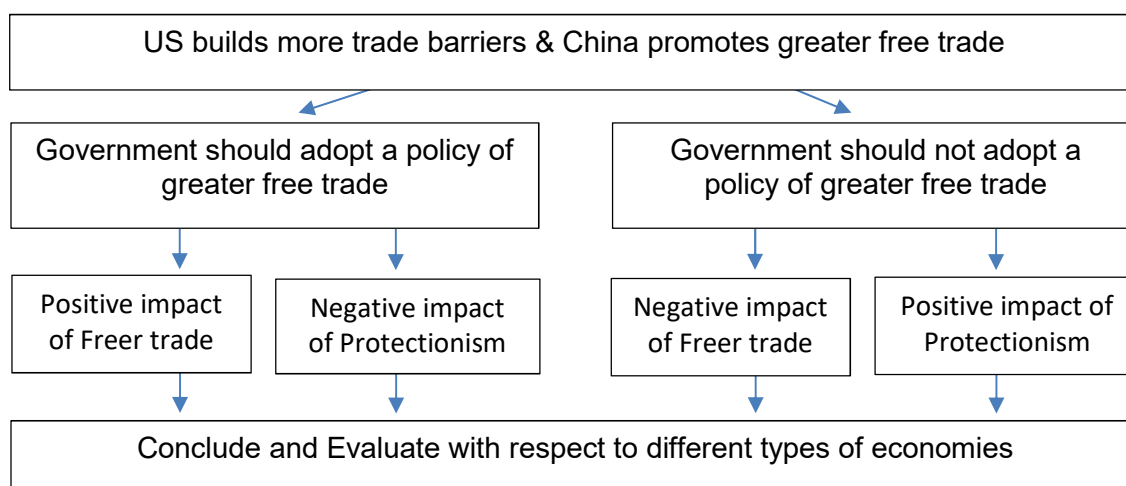
Level	Knowledge, Understanding, Application and Analysis
L3 (8-10)	Clear explanation of how an economy can benefit from specialisation and trade using theory of comparative advantage and correct numbers used. Answers with most of the assumptions listed and terms of trade mentioned. Detailed explanation of terms of trade not required.
L2 (5-7)	Basic explanation of how an economy can benefit from specialisation and trade using theory of comparative advantage with numerical errors
L1 (1-4)	Incorrect or poor explanation of how an economy can benefit from specialisation and trade using theory of comparative advantage.

Part (b)

Question Analysis

Command Word	Discuss whether
Content	Free Trade and Protectionism
Context	Any governments other than China and US

Schematic Plan



Intro

- Policy of greater free trade = remove trade barriers, may or may not be due to the signing of free trade

Thesis: Government should adopt a policy of greater free trade because of the positive impact of it

- **Cheaper exports for foreign economies**
 - Firms can compete better in foreign economies → exports increase → AD increase → RNY increase, improve BOP, reduce unemployment
- **Cheaper imports for domestic economy**
 - SRAS increases
 - reduce inflationary pressure (especially imported inflation) → improve standard of living
 - promote actual growth
- **Increased World Output**
 - Some countries are more efficient than others in the production of certain goods and services because of different factor endowments and the use of different methods of production. Total world output is increased when countries specialise in the production of goods and services that they are most efficient in producing. For example, labour-abundant countries like China and India are likely to contribute a larger amount of labour-intensive products to the world compared to countries where labour is less abundant.

- **Stimulates Economic Growth**
 - If the domestic market is small, the economy may not be able to sustain its growth. With international trade, the market is expanded globally. This can bring about larger cost savings (economies of scale) for firms in these countries as they increase their scale of production to meet the higher global demand. The higher demand for their products can also generate higher export revenue. Hence, there is an incentive for firms to invest in the country.
 - Therefore, international trade stimulates actual economic growth as exports and investments generate income and employment. Ceteris paribus, increased output and employment will lead to an increase in the standard of living as the consumption of goods and services increase.
- **Increased Competition in World Market**
 - Competition from foreign rivals forces domestic firms to be more efficient and competitive in order to survive. As a result, domestic firms will have greater incentive to innovate and to produce goods of a higher quality or at a lower unit cost. Furthermore, competition from foreign producers can prevent domestic monopolies from charging high prices as imports can weaken the power of the monopoly. Consumers can enjoy goods at lower prices or with better quality. These result in higher consumer welfare.
- **Wider Variety of Goods and Services**
 - A country may not be able to produce certain goods and services domestically due to a lack of factors of production that are essential in the production of these goods. However, with international trade, the country is able to buy these goods from other countries by selling what it has an abundance of. In the process, its people are able to consume a greater variety of goods. The result is greater consumer choice and higher satisfaction levels.
- **Facilitate transfer of technology and ideas**
 - Trade brings with it an exchange of ideas and techniques that increase the efficiency of production and hence stimulates economic growth. The transfer of technology and ideas from more advanced countries can help developing countries speed up their economic development as the latter can avoid the mistakes made by developed countries.

Thesis: Government should adopt a policy of greater free trade because of the negative impact of Protectionism

- **Costs of Protectionism for the Consumers**
 - Lower consumption of goods and services.
 - Higher price for goods and services.
 - Lower consumer surplus.
 - Complacency for firms → decrease competition → lower quality goods and services and higher prices
- **Costs of Protectionism for the Domestic Producers**
 - Potential complacency.
 - Higher cost of imported factors of production.
- **Costs of Protectionism for the Government**
 - Might lead to macroeconomic problem of inflation.
 - Might lead to trade disputes with other countries.

- **Costs of Protectionism for the Society as a Whole**
 - Deadweight loss incurred by society as societal welfare would be higher without trade barriers.

Anti-Thesis: Government should NOT adopt a policy of greater free trade because of the negative impact of it

- **Cheaper imports for domestic economy**
 - Imports increases (more than exports increase)
 - Worsening of Balance of trade (or balance of payment) deficit
 - Might lead to fall in AD and negative economic growth and higher unemployment
- Higher chances of dumping
- Faster decline for Sunset Industry

Anti-Thesis: Government should NOT adopt a policy of greater free trade because of the positive impact of Protectionism

- **Benefits of Protectionism for the Consumers**
 - Indirect impact on employment and national income
- **Benefits of Protectionism for the Domestic Producers**
 - Increase in demand for domestically produced goods and services.
 - Higher price for goods and services.
 - Higher quantity of goods and services produced and sold.
 - Higher total revenue for domestic producers
 - Higher producer surplus for domestic producers
- **Benefits of Protectionism for the Government**
 - The government receives as tariff revenue the amount paid by the consumers for the imported quantity.
 - Achieve macroeconomic goals of more favourable BOP, economic growth, reduction in unemployment

Conclusion and Justification

Final stand: Government **should / should not** follow China's footsteps in adopting a policy of greater free trade

Evaluation:

- Depending on the nature economy
 - Current state
 - Aims
 - Relationship to China and US
- Long term or short term impact of decision
- Impact on various stakeholders
- Trend of globalisation

Level	Knowledge, Understanding, Application and Analysis
L3 (8-10)	Good two-sided explanation with clear use of economic analysis on whether other governments should follow China's footsteps in adopting a policy of greater free trade with focus on at least 3 of the various government aims
L2 (5-7)	<p>Good two-sided explanation with clear use of economic analysis on whether other governments should follow China's footsteps in adopting a policy of greater free trade with focus on only 2 of the various government aims</p> <p>Basic two-sided explanation with clear use of economic analysis on whether other governments should follow China's footsteps in adopting a policy of greater free trade.</p> <p>Good one-sided explanation with clear use of economic analysis on whether other governments should follow China's footsteps in adopting a policy of greater free trade on at least 2 of the various government aims (max 5)</p>
L1 (1-4)	One sided answers.
E3 (4-5)	For an evaluation with justification using economic analysis
E2 (2-3)	For an evaluation with basic justification
E1 (1)	For an unexplained evaluation