



EUNOIA JUNIOR COLLEGE
JC2 Preliminary Examination 2024
General Certificate of Education Advanced Level
Higher 2

ECONOMICS

Paper 2 Essays

9570/02

13 September 2024

2 hours 30 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

An answer booklet will be provided with this question paper. You should follow the instructions on the front cover of the answer booklet. If you need additional answer paper ask the invigilator for a continuation booklet.

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

The number of marks is given in brackets [] at the end of each question or part question.

Please note that Paper 2 takes up 60% of the total score.

Answer **three** questions in total.

Section A

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

- 1 (a) Explain how a profit-maximising firm sets its price and output decisions and why the firm might practise price discrimination. [10]
- (b) In the e-commerce market, firms like Amazon and Alibaba are facing growing competition due to increasing ease of setting up online shops.
- Discuss the impact of the growing competition on efficiency outcomes. [15]
- 2 Between 2009 and 2023, the price of dental services in Singapore had risen by 2.9% annually. Although subsidised dental services are available at polyclinics, private dental clinics remain a viable option due to shorter waiting time.
- (a) Explain why a fall in number of dentists and a rise in incomes of many households are **each** expected to cause a rise in expenditure on dental services. [10]
- (b) Discuss whether subsidy is likely to be the most effective way the Singapore government can make dental services remain affordable for all Singaporeans. [15]
- 3 Libraries provide access to information and foster community engagement. The Singapore National Library Board opened the new Punggol Regional Library in 2023 as well as introduced a mobile app that offers digitalised version of its resources.
- (a) Explain why library services are not considered a public good and the economic case for government intervention in this market. [10]
- (b) Discuss whether the construction of new libraries or digitalisation of library resources is a better form of government intervention in the market for library services. [15]

Section B

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

- 4** Effective governance is vital for a country's economic prosperity and the well-being of its citizens.
- (a)** Explain why the same initial rise in government spending would have different effects on actual economic growth across various economies. [10]
 - (b)** Discuss the view that more inclusive but slower economic growth is preferable to growth that is at a higher rate but less inclusive. [15]
- 5** Singapore is amongst the top business hubs in the world. Amidst stiff competition, Singapore offers one of the lowest corporate tax rates at 17%.
- (a)** Explain how the constraints of a small domestic market and lack of resources make it challenging for Singapore to achieve price stability. [10]
 - (b)** Discuss whether the policy of a low corporate tax rate is most effective in allowing Singapore to overcome price instability. [15]
- 6**
- (a)** Explain how weaker global economic outlook and loss of comparative advantage might impact unemployment rates in an economy. [10]
 - (b)** Discuss whether the use of monetary policy centred on interest rate is sufficient to reduce unemployment in an economy. [15]

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Mark out of 10	
8 - 10	<p>L3</p> <ul style="list-style-type: none"> Comprises 2 policies that provide a spread of economic analysis How the policy works + Limitations
5 - 7	<p>L2</p> <ul style="list-style-type: none"> Accurate but under-developed explanation eg lacking in limitations Lacks scope ie both policies are similar in DD SS analysis
1 - 4	<p>L1</p> <ul style="list-style-type: none"> Answer is mostly irrelevant Serious conceptual errors

EV	5	E3 - Judgements with insightful contexts
	3-4	E2 - Judgement with some contexts
	1-2	E1 - Judgement without justification need to at least link back to answering the question which is 'affordability'

3 Libraries provide access to information and foster community engagement. The Singapore National Library Board opened the new Punggol Regional Library in 2023 as well as introduced a mobile app that offers digitalised version of its resources.

(a) Explain why library services are not considered a public good and the economic case for government intervention in this market.

[10]

(b) Discuss whether the construction of new libraries or digitalisation of library resources is a better form of government intervention in the market for library services. [15]

Suggested answers (a)

Question Analysis Framework		Details
Approach	Command word	Explain why
	Start point	<p>R1: Define public good and explain how library services are not considered a public good as it does not satisfy the 2 characteristics of public good</p> <p>R2: Explain the economic case for government intervention (accept both positive externalities and imperfect information)</p>
	End point	Why library services are not a public good and sources of market failure
Content & Context	Content (Scope of coverage)	<ul style="list-style-type: none"> Characteristics of a public good

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		• Positive externalities/ imperfect information
	Context	Library services

Introduction

- Market failure refers to a situation where the free market, in the absence of government intervention, fails to achieve economic efficiency. In the area of public goods and goods with externalities, they cause the market to fail because the free market fails to achieve allocative efficiency in the provision of such goods and services. Allocative efficiency occurs when marginal social costs (MSC) is equal to the marginal social benefits (MSB) in production or consumption. Government intervention is advocated to improve efficiency in these markets.
- Library services are not considered a public good as it does not satisfy the characteristics of a public good.
- However, there is still an economic case for intervention as it is a good with positive externalities.

R1: Define public good and explain how library services are not considered a public good as it does not satisfy the 2 characteristics of public good

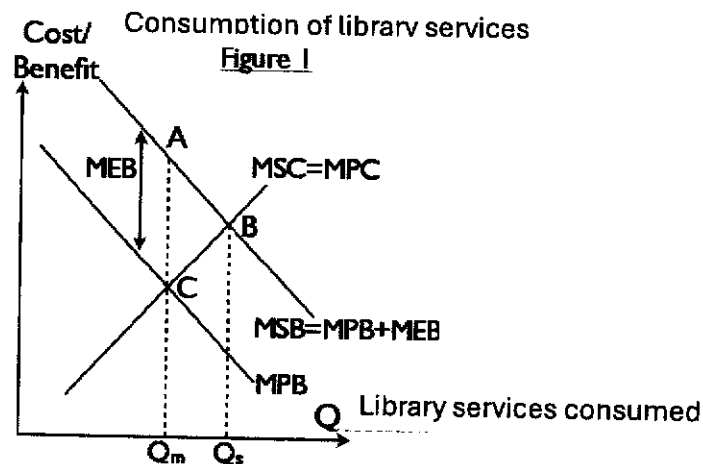
- A public good is a good that possess the characteristics of non-excludable, non-rivalrous and non-rejectable in consumption.
- A good is non-rivalry in consumption if one person's consumption of the good does not reduce the quantity available to another person.
- In the case of library services, it is rivalry in consumption as the consumption of library services by one additional user will diminish the amount available for the next user. This is because there is a limited number of library staff as well as finite amount of books.
- A good is non-excludable in consumption if it is difficult to exclude non-payers from enjoying the good.
- Library services are excludable as university libraries are able to set up gantries and security positions to exclude non-university students (non-payers) from entering and enjoying the library services.
- A good is non-rejectable in consumption when individuals cannot opt out of consuming/enjoying the benefit of the good even if they do not wish to do so. Once the good is provided, everyone is affected by it.
- In the case of library services, it is rejectable in consumption as individuals can choose not to go to the library and enjoy the library services.
- Thus, library services are not considered to be a public good.

R2: Explain the economic case for government intervention (accept both positive externalities and imperfect information)

- There is still an economic case for intervention as library services are goods with positive externalities.

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- Positive externalities refer to uncompensated 3rd party benefits arising from the production or consumption of goods and services. Since the consumers and producers do not take into account these external costs or benefits in their decisions, the free market outcome is under producing or consuming.
- When library services are consumed, people consider only their marginal private costs (MPC) (membership fees / cost of borrowing) and marginal private benefits (MPB) (satisfaction of reading a book as a pastime / greater knowledge gained).
- They do not consider marginal external benefits (MEB) of fostering community engagement as library services as accessible and inclusive spaces that encourage social interaction, learning and civic participation. Additionally, by providing resources and opportunities for education at all life stages, libraries help foster a culture of lifelong learning.
- Government will enjoy the benefits of having higher tax revenue from having a skilled and educated workforce as well as having lower policing force as there is less conflicts in the community. This will also further attract FDI, boosting economic growth and increasing job opportunities and incomes for others.
- The market equilibrium of library services consumed is where $MPB=MSC$ at Q_m . The socially optimal level occurs where $MSB=MSC$ at Q_s where society values the additional unit of library services the same as the additional cost to society of producing it. Since $Q_m < Q_s$, there is underconsumption of library services. Between Q_m and Q_s , for every additional unit of library services consumed, it adds more to social benefit than to social cost. Hence, there is a net benefit that is not enjoyed by society since only Q_m level of library services consumed. The loss of net benefit (deadweight loss) is denoted by area ABC.
- Diagram



Mark out of 10

Level / Descriptors

8 – 10	L3 <ul style="list-style-type: none"> • Both points are clearly stated and explained using: <ul style="list-style-type: none"> ○ Characteristics of public good ○ Why would the market for library services fail ○ Diagram(s) for positive externalities/imperfect information
5 - 7	L2 <ul style="list-style-type: none"> • Accurate but under-developed explanation of the above.
1 – 4	L1 <ul style="list-style-type: none"> • Answer is mostly irrelevant, with wrong/missing application of public good and other source of market failure.

- (b) Discuss whether the construction of new libraries or digitalisation of library resources is a better form of government intervention in the market for library services. [15]

Suggested answers (b)

Question Analysis Framework		Details
Approach	Command word	Discuss
	Start point	R1: Construction of new libraries is a better form of government intervention R2: digitalisation of library resources is a better form of government intervention
	End point	Which approach is more effective
Content & Context	Content (Scope of coverage)	Government policies
	Context	Library services

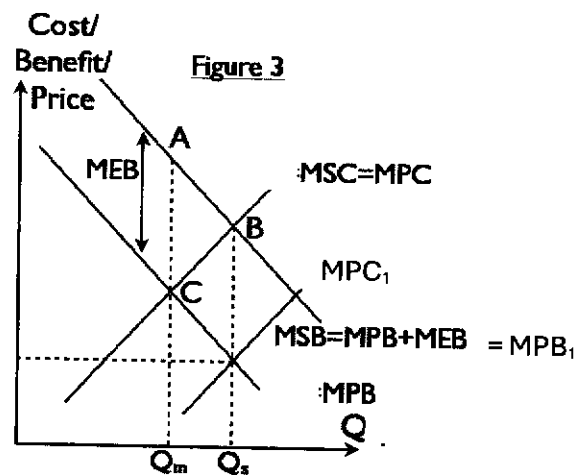
Introduction

- Government aims to achieve the microeconomic goals on economic efficiency and equity.
- As explained before, the market for library services fails due to the presence of positive externalities.
- Thus, the government can choose to intervene through either construction of new library or digitalization of library services.

R1: Construction of new libraries is an effective way to correct market failure

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- Construction of new libraries such as the Punggol regional library mentioned in the preamble is an effective way to correct market failure due to the presence of positive externalities by increasing consumption.
- This would reduce the MPC of consumers of using library services as with more libraries, it would be more convenient, and consumers will incur lower costs such as travelling cost. As previously, libraries may not be easily accessible due to their location, lack of transportation, people may find it inconvenient to visit.
- Thus, the new market equilibrium ($MPC_1 = MPB$) will be closer/at to the socially optimal level of consumption, Q_s .



Intermediate Evaluation

However, construction of new libraries are very costly for the government and governments who are facing budget constraints would be unable to do so. Even with the construction of new libraries, residents may choose not to visit the library and using the library services as they do not have the habit of doing so. It takes time for the residents to adjust their lifestyles and be attuned to visiting the library. There could also be a lack of awareness of the full range of services that libraries offer. Thus, the Singapore Library Board should also advertise and communicate their offerings to the community, people may not realise the value or relevance of what the library provides.

R2: Digitalisation library services is another effective way to correct market failure

- **H-A:** Digitalisation of library services include incorporating digital tools, technologies, and resources to enhance and expand the services libraries offer. This transition enables libraries to provide more accessible, efficient, and relevant services to their communities. Systems like OverDrive or Libby enable users to

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borrow e-books, audiobooks, and other digital content with just a library card, directly from their devices. Digital catalogs enable users to search for, reserve, and manage both physical and digital resources online from home or on their mobile devices.

- This would attract more residents such as the younger generation who prefers using the mobile applications to borrow e-books to make use of the library services.
- This will thus increase the marginal private benefit from MPB to MPB_1 . This would cause consumers to internalize the negative externalities and MPB_1 will be closer/at MSB.
- The socially optimal level of consumption is achieved correcting the market failure.

Intermediate Evaluation

- Digitalisation of library services may not increase the MPB significantly as some people may perceive libraries primary as for borrowing physical books, not realizing how much they have evolved to include digital resources, online learning, and multimedia content. They may prefer other popular online platforms (like Amazon, Google, YouTube, or Wikipedia) for information, books, or media, perceiving them as more convenient or up-to-date than library resources.
- The older generation may lack the digital skills needed to navigate online catalogs, use digital lending platforms, or access virtual programs, which can prevent them from using library services.
- This could also boil down to simply the lack of need or interest for library services.

Summative Evaluation

- Both construction of new libraries and digitalisation of library resources are forms of government intervention in the market for library services that reduces the market failure.
- Whether construction of new libraries or digitalization of library resources depends on the root of the problem whether people are not going to libraries because of locations of libraries or whether the lack of relevance due to the availability of online platforms.
- It also depends on whether the government has the resources to carry out the costly interventions of construction of new libraries and the technology know-how to digitalise library resources such that it stays relevant for the younger generation.

Mark out of 10	Level / Descriptors
8 – 10	L3 <ul style="list-style-type: none"> • Both R1 & R2 clearly stated and explained using: <ul style="list-style-type: none"> ○ Market failure diagram ○ Explain how market failure is corrected ○ Considered how policy would affect MPB/MPC

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5–7	L2 <ul style="list-style-type: none"> Accurate but under-developed explanation of the above.
1–4	L1 <ul style="list-style-type: none"> Answer is mostly irrelevant, with wrong/missing application of market failure diagram.

- 4 Effective governance is vital for a country's economic prosperity and the well-being of its citizens.
- (a) Explain why the same initial rise in government spending would have different effects on actual economic growth across various economies. [10]
- (b) Discuss the view that more inclusive but slower economic growth is preferable to growth that is at a higher rate but less inclusive. [15]

Suggested answers

(a)

Question Analysis Framework		Details
Approach	Command word	Explain
	Start point	R1: Explain detailed multiplier process with one clear reason why size of k can differ for different economies R2: Explain second reason why size of k can differ for different economies or other factors like crowding out effect OR depending on which part of the AS curve
	End point	Different effects on actual growth for different economies
Content & Context	Content	Multiplier process
	(Scope of coverage)	Determinants of multiplier size, k
	Context	Candidate to choose different contexts

R1: The same rise in G can have different impact on actual growth in different countries due to different multiplier size.

With a increase in government spending, the economy faces an unplanned running down of stocks of capital goods.

To maintain the level of stocks in the inventories, firms will step up their production of capital goods by hiring more resources (i.e., purchasing more capital, using more land space and hiring more labour). This in turn leads to these factor owners (of the capital, land and labour), as well as the entrepreneurs running these firms to receive an extra income, raising the national income in the first round.

As national income starts to rise, it will induce more consumption in the economy.

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Since one person's spending becomes another person's income, the additional consumption by the first group of factor owners will now create additional income for another group of factor owners in the economy. National income will now rise by another round, albeit by a smaller amount.

This rise in income will once again generate another round of consumption in the economy. As consumption rises for another round, so too will production, output and income.

This process will then continue, with each round of increase becoming smaller; until the rise in income is too small to generate any further consumption.

Through this multiplier process, the initial increase in investment expenditure would lead to an eventual increase in national income.

Graphically, this increase in investment expenditure leads to a multiplied increase of national income from Y_1 to Y_2 .

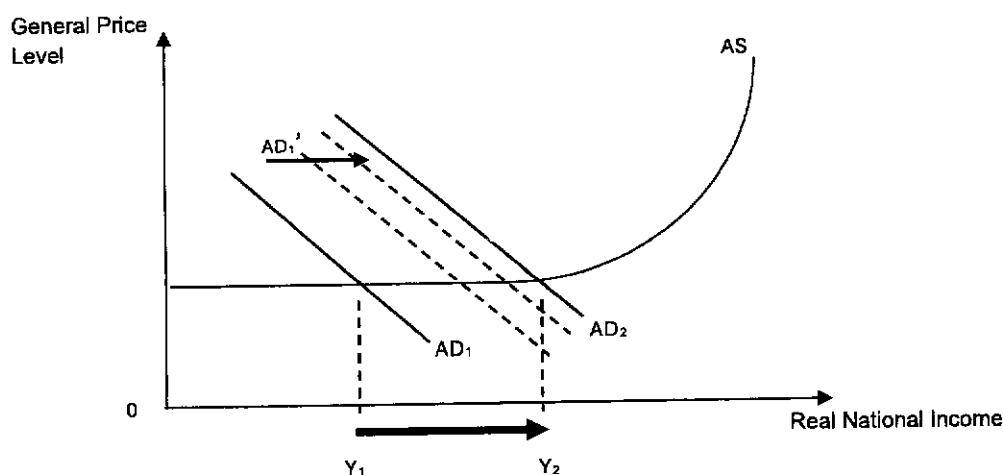


Figure 1

The extent of rise in RNY depends on the size of $k = 1 / [MPS + MPT + MPM]$.

A small and open economy like Singapore relies heavily on imports for its survival. Hence its large MPM makes its k factor smaller than other economies.

The same rise in G will lead to a smaller multiplied increase in RNY for Singapore.

R2: It depends on how close the economy is to full employment level of national income ie stage of development (developed vs developing economy).

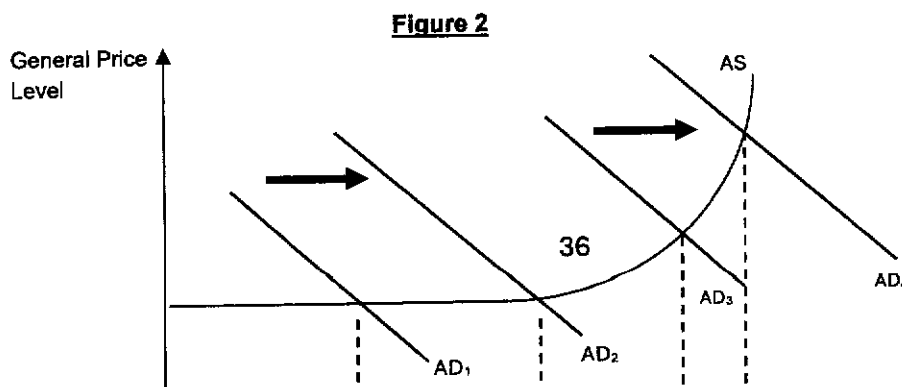


Figure 2

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The diagram shows the same rise in G and hence AD.
Rise in AD from AD1 to AD2 = AD3 to AD4

However, the rise in RNY is less for AD3 to AD4. Why?
Given that the economy is operating much nearer to Y i.e. the case of a developed economy where most FOPs are already employed, the same rise in AD will lead to a limited rise in RNY since unemployed FOPs are increasingly scarce. With limited spare capacity, the rise in AD translates to higher GPL instead i.e. demand-pull inflation.

This is in contrast to a developing economy where much of the AD rise translates into a rise in RNY through the multiplier effect.

Alternative R2: Crowding out effect

For a country that requires government borrowing from banks to fund G spending, the resulting rise in interest rates leads to the unintended effect of increasing cost of borrowing for households and firms, leading to C and I to fall respectively.

Hence while G rises, C and I both fall to mitigate the rise in overall AD. With reference to Figure 1, the eventual rise in AD will be less than AD2. This limits the rise in RNY (less than Y2 shown) compared to the case of a country where the government did not engage in borrowing.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> Well elaborated and accurate explanation of the workings of the multiplier process + k size, as well as one other reason that explains the different effects of rise in G on RNY. Sound AD-AS analysis 	8-10
L2	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> Accurate but under-developed explanation of the above. One sided, imbalanced response with no detailed explanation of multiplier process. 	5-7
L1	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> Answer is mostly irrelevant, with wrong/missing application of AD-AS analysis. Shows some knowledge of the multiplier effect but lacks elaboration. 	1-4

- (b) Discuss the view that more inclusive but slower economic growth is preferable to growth that is at a higher rate but less inclusive. [15]

Question Analysis Framework		Details
Approach	Command word	Discuss
	Start point	R1: More inclusive but slower economic growth R2: Growth that is at a higher rate but less inclusive is good
	End point	Which approach is more preferable
Content & Context	Content (Scope of coverage)	Actual growth Potential growth Sustained growth Inclusive growth
	Context	Candidate to anchor on contexts of choice

R1: More inclusive but slower economic growth is good

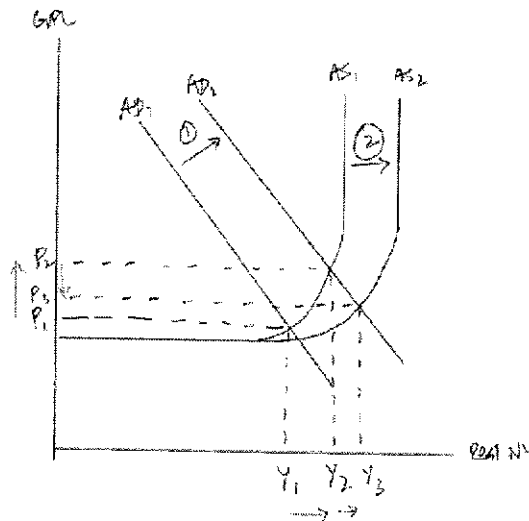
Through inclusive growth policies like upskilling of workers especially for lower-skilled, enable different groups of workers to contribute to economic growth while ensuring income inequity is not worsened.

Explain AG (small AD rise) + PG (small LRAS rise) + more inclusive.

1. With slower growth, slower transitioning from sunset industries to sunrise industries → issue of structural unemployment is of a smaller extent.

A country could grow by reallocating resources to produce more of the good in which it has a comparative advantage ie with lowest opportunity cost of production. For example, a country like Malaysia could reallocate resources from its ailing car industry to producing agricultural crops instead. In so doing, the government could do so by spending more on technology and innovations in the agricultural sector to boost AD and promote actual growth. In the long run, such spending also seeks to improve productivity and hence expand its productive capacity.

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The diagram shows how Actual Growth (AD1 to AD2) and Potential Growth (AS1 to AS2) leads to Sustained Growth.

The approach of doing so can be to pace out the transitioning such that the layoff of workers is done in a controlled manner, in line with implementation of reskilling plans such that they are able to better acquire the necessary skills and competencies (food sciences to produce plant-based meats, etc) to more easily transit over to the agricultural sector. In so doing, the extent of structural unemployment is minimised although this will necessarily mean that there is a smaller rate of growth.

IEV:

- While such an approach takes greater consideration of more inclusive growth, the consequential slow rate at which the country transits to the emerging sunrise sector may lead to another country adapting faster and seizing the economic opportunity at the expense of the home domestic country in question. This will seriously derail the government's initial plan of achieving greater inclusivity when the growth opportunity may no longer be there.
- The above illustrates a tradeoff – for a government that wants to keep an eye on the structural unemployment issue (especially for sunrise industries that require a very different skillset from the sunset industry and with little transferable skills), the growth rate necessarily needs to be lower. This is especially a pressing issue for a country that is still largely entrenched in its sunset industry where significant number of workers are employed. Examples include the US where many primary sectors have declined due to the ability of developing countries produce at lower cost, resulting in US workers to be structurally unemployed.
- This issue is also significant for governments with fiscal deficits and hence less ability to spend on supply-side policies. Also for countries where income inequity is significant and is of high priority. A faster rate of growth would lead to significant short term pains of structural unemployment.

Other acceptable points:

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2. A smaller rate of growth while being inclusive as explained above, also mitigates demand-pull inflation that would have eroded the domestic value of money, especially if it was nearing Y_f . A more gradual rate of AD rise would moderate the extent of rise in competition for its scarce factors of production, mitigating the rate of demand-pull inflation. In so doing, the internal value of money would not decline as quickly and as much, especially useful for lower income households.
3. With improvement in equity, low income households can have increased access to essential goods and necessities. In addition, with higher MPC than the rich, low income households can spend more on Consumption, leading to increase in overall C in the economy. This could then help to increase AD, leading to actual growth subsequently.

R2: Growth that is at a higher rate but less inclusive is good

Can make reference to R1's diagram that showed the explanation of AG (AD rise) + PG (LRAS rise) + inclusive [Don't need to redraw]

1. Faster rise in incomes earned and hence improvement in material SOL as a whole.
With economic growth, more workers are employed over subsequent rounds and with higher incomes (also assuming same population size, real GDP per capita rises). Households increase their purchasing power to increase the quantity and quality of goods and services consumed eg. consume more luxury goods like restaurant meals rather than basic necessities like hawker meals. Hence generally, material standard of living rises faster and more significantly.

However this may be less inclusive:

Given that this real GDP per capita is an average concept, it does not mean that every person would have experienced a rise in material SOL and at equal extents. Workers who are structurally unemployed would in fact experience job loss and a fall in purchasing power and material SOL.

Intermediate EV: Challenge assumption that it is a trade-off between growth and inclusiveness
Although less inclusive initially, higher income tax collected by government as the economy grows at a faster rate can be used for redistributive efforts to provide more support for low income households eg through the use of tiered subsidies for healthcare, education, GST vouchers, etc, improving inclusiveness eventually.

2. Higher income growth increase optimism for the future.
Profit-maximising firms now assess projects to have a higher rate of returns (i.e. profits) than previously thought, hence increase their investments. This leads to rise in domestic investments as well as more FDIs inflow, fueling further actual growth + potential growth = sustained growth in future.
[Similarly, households have more optimistic expectations of the future and undertake more purchase of big ticket items → increase Consumption, AD and hence actual growth.]

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In so doing, it helps to create more and higher value jobs for lower income workers to potentially take on and hence increase their job prospects and future incomes, achieving more inclusive growth.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> • A balanced and well-developed answer analysing the two different approaches to growth and their implications 	8-10
L2	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> • An under-developed but balanced answer (eg ability to analyse and compare between high vs low growth rate but impact on more or less inclusive growth is unclear/unexplained) • Imbalanced response that analyses either approach only 	5-7
L1	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> • An under-developed answer that has a limited scope • Many conceptual errors • No economic framework in analysis (eg inclusive growth explained in descriptive manner without anchoring on AD-AS analysis) • Question requirement is not addressed 	1-4
	Evaluation	Marks
E3	Well-reasoned judgement <ul style="list-style-type: none"> • A well-reasoned judgement about the respective approaches in context and how they compare. 	4-5
E2	Largely unexplained judgement <ul style="list-style-type: none"> • Some attempt to explain judgement 	2-3
E1	An unsupported judgement <ul style="list-style-type: none"> • Most evaluative statements or judgements that are neither supported nor relevant to the specific context of the question 	1

Intermediate EV: While more and higher value jobs can be created, it depends very much on whether the lower income workers have the necessary skills to pivot to these jobs. Hence, the government has to play a big part to put in place supply-side policy of continuous upskilling of workers. Sufficient incentives will have to be built in to encourage workers/unemployed to undergo such training and for employers to invest in the upskilling of its workers.

Summative EV:

Each country adopts a different approach, depending on its current state of infrastructure, technology, level of worker competencies and readiness, availability of fiscal surplus.

Specifically, developing countries will have to adopt an outward orientation in order to attract FDIs, technology and talents, as it prioritises high growth rate over inclusiveness. High growth rate can grow the amount of tax revenue collected, enlarging the ability of the government to meet several competing demands, with greater ability for redistributive schemes to reduce income inequity.

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Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> A balanced and well-developed answer analysing the two different efficiencies (R1: allocative efficiency; R2: Dynamic inefficiency / Productive efficiency) 	8-10
L2	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> An under-developed but balanced answer (eg ability to analyse allocative efficiency but is unclear/unexplained) Imbalanced response that analyses either efficiency only, especially allocative inefficiency is weak 	5-7
L1	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> An under-developed answer that has a limited scope Many conceptual errors No economic framework in analysis Question requirement is not addressed 	1-4
	Evaluation	Marks
E3	Well-reasoned judgement <ul style="list-style-type: none"> A well-reasoned judgement about the respective approaches in context and how they compare. 	4-5
E2	Largely unexplained judgement <ul style="list-style-type: none"> Some attempt to explain judgement 	2-3
E1	An unsupported judgement <ul style="list-style-type: none"> Most evaluative statements or judgements that are neither supported nor relevant to the specific context of the question 	1

5 Singapore is amongst the top business hubs in the world. Amidst stiff competition, Singapore offers one of the lowest corporate tax rates at 17%.

- (a) Explain how the constraints of a small domestic market and lack of resources make it challenging for Singapore to achieve price stability. [10]
- (b) Discuss whether the policy of a low corporate tax rate is most effective in allowing Singapore to overcome price instability. [15]

Suggested answers

(a)

Question Analysis Framework		Details
Approach	Command word	Explain
	Start point	R1: Explain how small domestic market makes Singapore vulnerable to demand-pull inflation

		R2: Explain how lack of resources makes Singapore vulnerable to cost-push inflation
	End point	How inflation results from Singapore's unique context
Content & Context	Content (Scope of coverage)	Demand-pull inflation Cost-push inflation
	Context	Singapore

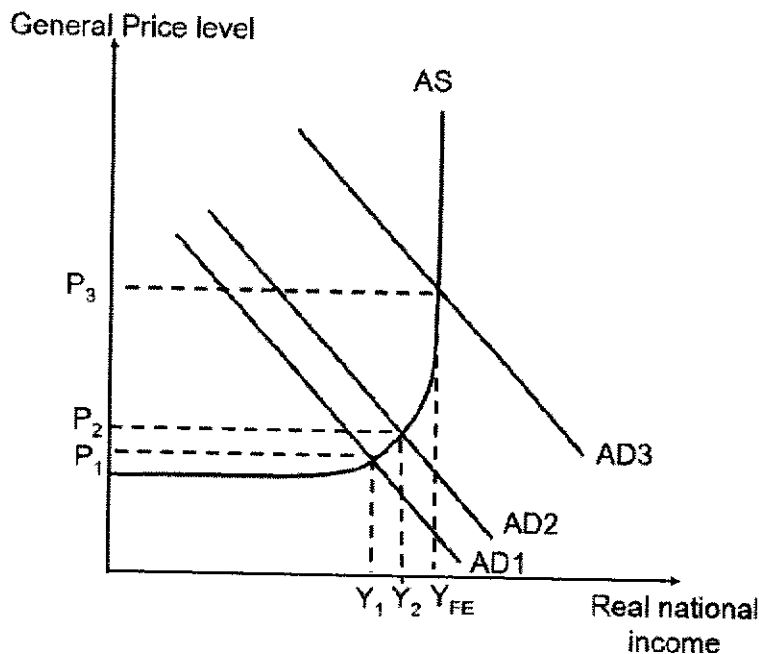
R1: Small domestic market means that Singapore has to be an open economy, being highly dependent on exports for its growth.

Singapore has a population size of only about 6 million, meaning that domestic Consumption by Households and Investment by local firms is very small as part of overall AD. Singapore has to adopt an outward orientation as an open economy to fuel economic growth.

In times of strong economic growth as experienced by a significant trade partner like China, their demand for Singapore exports (normal goods) rise as YED for Singapore exports is more than 0. The rise in demand will be even more significant for Singapore luxury goods where $YED > 1$.

Since export revenue is $P \times Q$, Singapore's export revenue will rise.

Assuming ceteris paribus, AD rises => extent of rise depends on extent of economic growth by China and proportion of Singapore exports being luxury goods.



When AD rises, there is increasingly competition for the increasingly scarce factors of production. Firms compete among themselves to offer higher wages and rents for labour and land respectively.

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This translates to higher final prices of goods and services in the economy, leading to demand-pull inflation.

Given that the source of demand-pull inflation is beyond Singapore's control, a rise from AD1 to AD3 leads to demand-pull inflation in Singapore, making Singapore vulnerable to price instability.

R2: Lack of resources means that Singapore is highly dependent on imported resources, making it vulnerable to cost-push inflation.

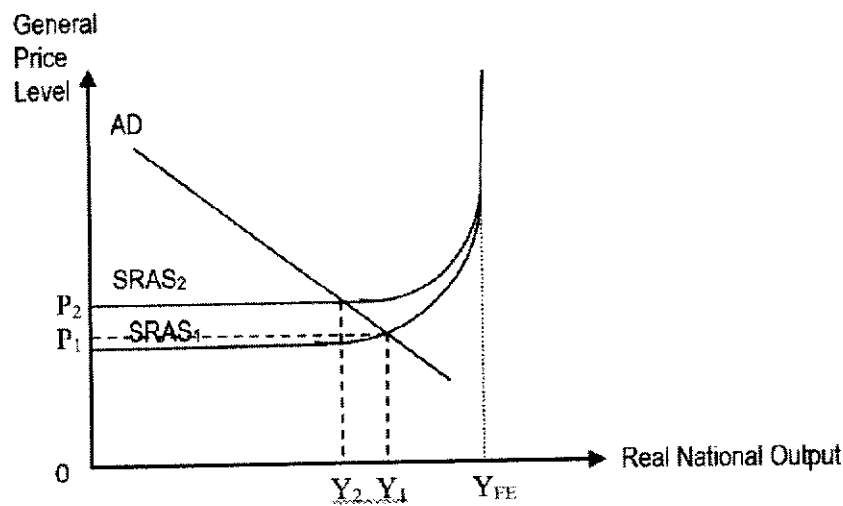
Singapore relies heavily on the world for imports like oil, agriculture, intermediate goods like semi-conductors, technology, etc.

- When foreign countries experience inflation and Singapore imports heavily from these countries, Singapore is vulnerable to imported inflation.
- When price of such commodities increase due to rise in demand and/or fall in supply, Singapore also experiences higher cost of imports. For example, the ongoing Russia-Ukraine war led to supply crunch in food and energy globally.

For countries like Singapore that does not produce sufficient energy and food and is a net importer, the rise in COP is experienced through many sectors of the economy, SRAS1 falls to SRAS2.

With higher COP, profit-maximising Singapore firms have to charge higher prices for its final goods and services.

This translates to overall rise in GPL in Singapore from P1 to P2 as shown by the Figure below.



Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> • Well elaborated and accurate explanation of how Singapore's context makes its vulnerable to demand-pull and cost-push inflation. • Clear explanation using AD-AS analysis. 	8-10
L2	Displays AO1 and AO2 skills:	5-7

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	<ul style="list-style-type: none"> • Accurate but under-developed explanation of the above. • Low L2: One-sided response of either demand-pull or cost-push inflation. 	
L1	<p>Uneven display of AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • Answer is mostly irrelevant such as focusing on other macro goals instead. • Shows some knowledge of the AD-AS analysis but lacking accuracy and with confusion. 	1-4

- (b) Discuss whether the policy of a low corporate tax rate is most effective in allowing Singapore to overcome price instability. [15]

Question Analysis Framework		Details
Approach	Command word	Discuss whether
	Start point	<p>R1: Low corporate tax enables Singapore to mitigate demand-pull inflation</p> <p>R2: Gradual and modest appreciation of currency enables Singapore to mitigate cost-push inflation</p>
	End point	Which policy better enables Singapore to achieve price stability
Content & Context	Content (Scope of coverage)	Macroeconomic policy workings as analysed by AD-AS framework
	Context	Singapore

R1: Low corporate tax rate can allow Singapore to overcome price instability.

Corporate tax policy is a supply side policy, aimed at increasing productive capacity and hence LRAS.

A relatively low corporate tax rate of 17% attracts FDI into Singapore since this increases their post-tax profits compared to if they were to invest in another country.

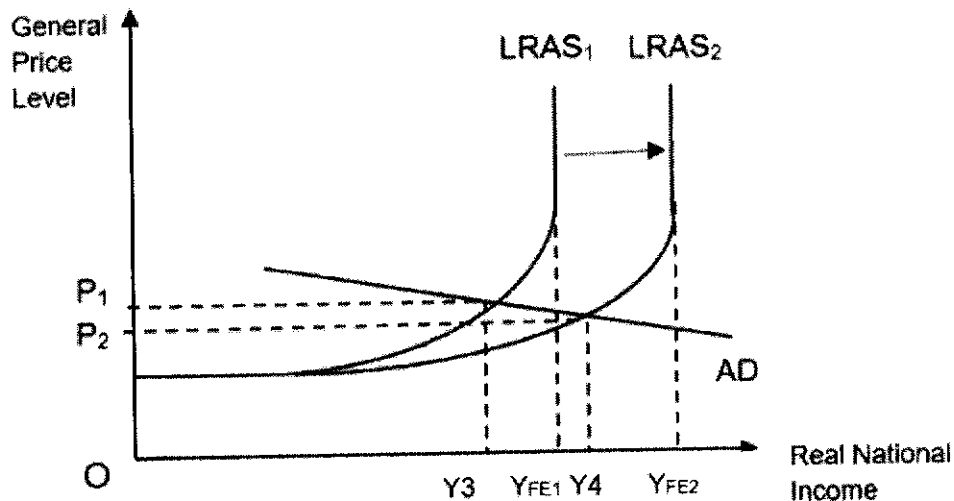
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With higher inflow of FDI into Singapore, the quantity and quality of factors of production rise, augmenting Singapore's current resources. FDIs usually bring along new technology as well.

With rise in quality of FOPs and technology, even with the same amount of resources, the productivity of resources rise as more output can be produced per man hour. This increases Singapore's productive capacity ie the maximum output that can be produced when all FOPs are fully employed. LRAS rises from LRAS₁ to LRAS₂.

This reduces the competition for scarce factors of production, reducing GPL from P₁ to P₂.

[Students can explain how this relieves demand-pull or cost-push inflation]



IEV:

- Low corporate tax in the short run raises I and AD. Hence, it may lead to demand-pull inflation initially. However, this is not a significant concern as LRAS will eventually rise, alleviating price pressures.
- Maintaining low corporate tax rates may not be easy as other countries would also consider lowering theirs and hence compete with Singapore for FDIs. Singapore may need to lower corporate tax rate further. However, need to be mindful of competitive lowering of tax rates which will not benefit the countries involved. Singapore will thus also need to look into other factors to attract FDIs such as improving workforce productivity, upgrade infrastructure such as readiness for AI, etc.
- Global minimum tax law, led by OECD, prevents countries from engaging in competitive lowering of corporate tax rates. In the longer term, Singapore may need to look into other factors to attract FDIs such as improving workforce productivity, upgrade infrastructure such as readiness for AI, etc.

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R2: Low corporate tax rate is insufficient in allowing Singapore to overcome price instability. Another policy is needed ie gradual and modest appreciation of the Singapore dollar.

Singapore's exchange rate policy can reduce demand-pull inflation

When S\$ appreciates,

- Price of exports rise in terms of foreign currency, Q_x falls (Law of Demand)
- Price of imports fall in terms of domestic currency, Q_m rises (Law of Demand)

Apply Marshall-Lerner condition:

- Singapore's exports have many close substitutes in the global market. Hence $PED_x > 1$.
- Since $PED_x + PED_m > 1$, MLC condition holds.
- An exchange rate appreciation thus leads to $(X-M)$ and hence AD to fall.
- With a fall in competition for FOPs, demand-pull inflation is mitigated.

Intermediate EV:

- However, with cheaper P_m , this reduces COP for exports. Eventually, P_x will fall, increasing export price competitiveness. This will mitigate the fall in AD and minimise impact of reducing demand-pull inflation.
- In the short run, PED_x may be less than 1 as foreign consumers are not easily able to switch their preferences away from Singapore exports ie they consider Singapore exports to have little close substitutes. Hence MLC may not hold and hence AD may rise instead, worsening demand-pull inflation.

OR

Singapore's exchange rate policy can reduce cost-push inflation

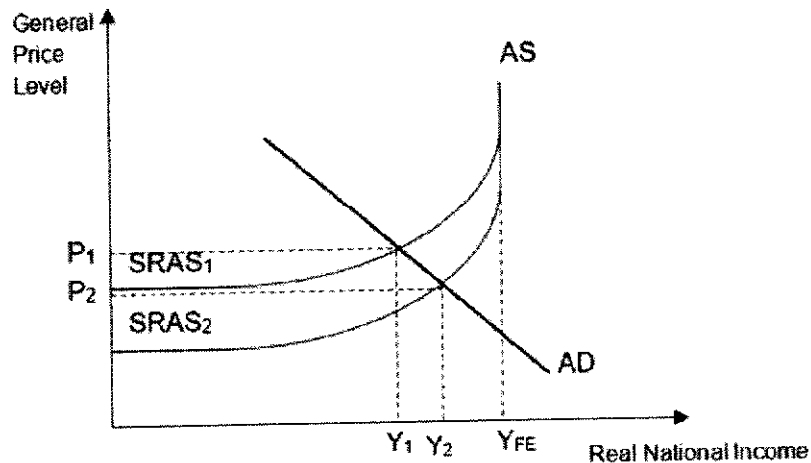
With appreciation of S\$, price of imports in terms of domestic currency falls.

This lowers the cost of imported factors of production.

Lower COP translates into lower price of final goods and services, GPL falls.

Cost-push inflation is mitigated.

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Intermediate EV:

There is a limit to how much currency appreciation can mitigate cost-push inflation.

- If the cost of raw materials rises sharply due to global shortage, then the mitigation will be insignificant.
- Depends on availability of forex reserves that Singapore government has. To appreciate S\$, the government needs to sell foreign currency in exchange for S\$. While Singapore currently has sufficient foreign reserves, it is not perpetual.

Summative Evaluation:

- Gradual & Modest appreciation exchange rate policy would be more appropriate since it mitigates both demand-pull and cost-push inflation. This is also as there is a limit to how much more corporate tax rate can be lowered from the currently low 17%.
- Maintaining a low corporate tax could be more feasible as a long term policy as currency appreciation requires the availability of foreign reserves.

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- 6 (a) Explain how weaker global economic outlook and loss of comparative advantage might impact unemployment rates in an economy. [10]
- (b) Discuss whether the use of monetary policy centred on interest rate is sufficient to reduce unemployment in an economy. [15]

Suggested answers

(a)

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> A well-balanced answer comprising analysis of corporate tax policy and 1 other policy to address cost-push and demand-pull inflation in context 	8-10
L2	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> An under-developed but balanced answer comprising analysis of corporate tax policy and 1 other policy to address cost-push and demand-pull inflation. Imbalanced response of only 1 policy or only address cost-push or demand-pull inflation 	5-7
L1	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> An under-developed answer that has a limited scope Many conceptual errors No economic framework in analysis Question requirement is not addressed 	1-4
Evaluation		Marks
E3	Well-reasoned judgement <ul style="list-style-type: none"> A well-reasoned judgement about the respective usefulness of policies that can address inflation in Singapore. 	4-5
E2	Largely unexplained judgement <ul style="list-style-type: none"> Some attempt to explain judgement 	2-3
E1	An unsupported judgement <ul style="list-style-type: none"> Most evaluative statements or judgements that are neither supported nor relevant to the specific context of the question 	1
Question Analysis Framework		Details
Approach	Command word	Explain
	Start point	R1: Explain how weaker global economic outlook impact unemployment rates

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		R2: Explain how loss of comparative advantage impact unemployment rates
	End point	How unemployment rates are raised
Content & Context	Content (Scope of coverage)	Demand-deficient unemployment Structural unemployment
	Context	An economy

Unemployment refers to the situation in which individuals who are capable of working, are actively seeking work at the current wage rate, but are unable to find a job. Both weaker global economic outlook as well as a loss in comparative advantage will impact unemployment rates by raising demand deficient unemployment and structural unemployment respectively.

R1: Explain how weaker global economic outlook impact unemployment rates

- Weaker global economic outlook is due to slowdown in major economies as well as geopolitical tensions and conflicts. This causes consumers and producers to reduce consumption and investment due to a lowered confidence as they fear loss of jobs or expect a lower rate of return for investments. This causes a fall in consumption and investment expenditure causing a fall in AD.
 - Multiplier effect causing greater fall in AD (diagram)
 - As firms experience a fall in demand due to falling income and hence cut back on their production, demand for labour would be reduced and excess workers would be retrenched. This would result in an increase in demand deficient unemployment due to a fall in AD.
- Optional: Explain how at the current existing wage rate, there is a surplus causing demand-deficient unemployment

R2: Explain how loss of comparative advantage impact unemployment rates

- Comparative advantage refers to an economy's ability to produce a particular good or service at a lower opportunity cost than its trading partners.
- With the increasing globalization of the world economy which has resulted in an increase in trade and encouraged the flow of capital and investment across countries. This has resulted in the changing and loss of comparative advantage in the production of goods and services for some countries which has resulted in structural unemployment in the countries.
- As countries open up for trade and investment, firms would be encouraged by the desire to maximize their profits by increasing their total revenue and / or lowering their cost of production. This has resulted in the shift of the production of labour-intensive, lower value goods to countries with a comparative advantage in the production of these goods such as China and Vietnam.

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- As a result, workers from countries with a higher labour cost may be retrenched and these workers may not have the necessary skills to work in the higher value, capital intensive industries as the countries undergo economic changes and shift to the production of the higher value goods and services.
- This has resulted in an increase in structural unemployment in the more developed economies with higher labour costs.
- Hence, one of the causes of unemployment in today's highly globalized world would be a flow of trade, capital and investment across the different countries which has caused a change in the comparative advantage for the production of goods and services in some countries.

Level	Knowledge, Understanding, Application, Analysis	Marks
L3	Displays full slew of skills across AO1, AO2 and AO3: <ul style="list-style-type: none"> • Well elaborated and accurate explanation of how weaker global economic outlook and loss of comparative advantage might impact unemployment rates in an economy with demand deficient and structural unemployment . • Clear explanation using AD-AS analysis. 	8-10
L2	Displays AO1 and AO2 skills: <ul style="list-style-type: none"> • Accurate but under-developed explanation of the above. • Low L2: One-sided response of either demand-deficient or structural unemployment 	5-7
L1	Uneven display of AO1 and AO2 skills: <ul style="list-style-type: none"> • Answer is mostly irrelevant such as focusing on other macro goals instead. • Shows some knowledge of the AD-AS analysis but lacking accuracy and with confusion. 	1-4

(b)	Discuss whether the use of monetary policy centred on interest rate is sufficient to reduce unemployment in an economy.	[15]
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Question Analysis Framework		Details
Approach	Command word	Discuss whether
	Start point	R1: Use of monetary policy centred on interest rate is sufficient to reduce unemployment R2: Use of supply side policy to reduce unemployment
	End point	Which policy better enables Singapore to achieve lower unemployment
Content & Context	Content (Scope of coverage)	Macroeconomic policy workings as analysed by AD-AS framework

	Context	An economy.
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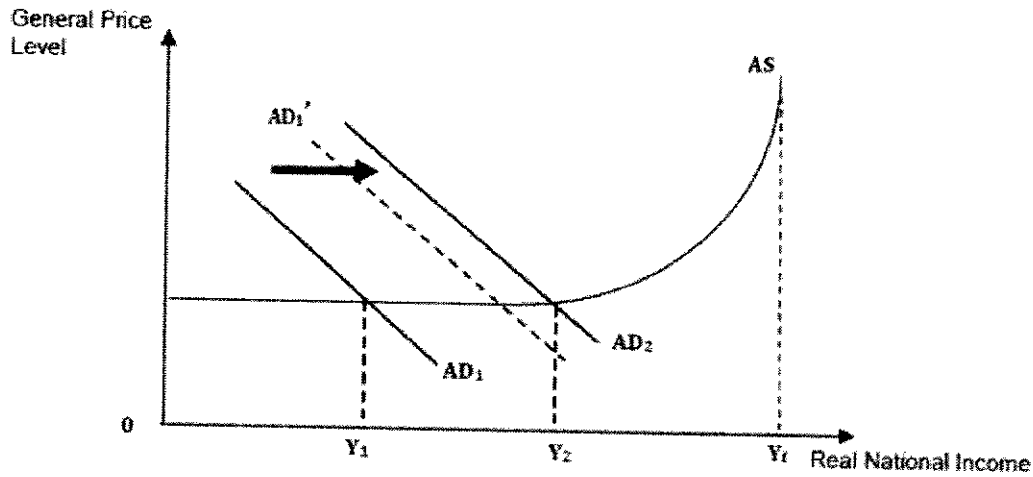
Introduction

The use of monetary policy centred on interest rate would reduce the unemployment in an economy specifically the demand-deficient unemployment. However, it is insufficient alone and should be accompanied by supply side policies to address structural unemployment.

R1: Use of monetary policy centred on interest rate to reduce unemployment

- The use of an expansionary monetary policy centred on interest rate can be used to reduce unemployment. A decrease in interest rates would lead to an expansionary effect on the economy. This is because a fall in interest rates would decrease the cost of borrowing for households and firms. It would also decrease the incentive to save for consumers while increasing the rates of returns for firms. This would raise consumption (C) & investment (I) respectively. Lower interest rates and cost of borrowing could also increase firm's profits and subsequently the amount of taxable revenue that the government collects which could increase subsequent government expenditure (G) as well.
 - Thus, there would be an increase in aggregate demand (AD).
 - The economy then faces an unplanned running down of stocks of capital goods, with firms stepping up production of capital goods by hiring more resources such as labour (ie. derived demand), leading to factor owners receiving extra income, raising national income in the first round. This induces more consumption in the economy. The additional consumption by the first group of factor owners will now create additional income for another group of factor owners in the economy. National income will now rise by another round, albeit by a smaller amount. This process will then continue, with each round of increase becoming smaller; until the rise in income is too small to generate any further consumption. The magnitude of the subsequent increase in induced consumption will depend on the rate at which income leaks out (i.e. MPW) or is spent (MPCd).
- As shown in Figure 3, there would be a rightward shift of AD from AD1 to AD2.

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- As more output of goods and services is produced, firms will use more of their resources to increase production. Hence, the derived demand for labour to produce these goods also increases, decreasing demand deficient unemployment.

IEV:

- However, **expected rates of returns is impacted by other factors as well, such as business confidence, and is thus interest rate insensitive.** However, with poor economic outlook, **investments may not rise significantly** despite a decrease in interest rates. Hence, investment in Singapore may continue to be negatively impacted despite the decrease in interest rates as there are other mitigating factors which would cause investment to rise only by a limited extent, and unemployment may not fall significantly.
- The change in world interest rates might not impact an economy economy significantly such as Singapore. This is due to Singapore's small multiplier size. Due to our resource constraints and heavy reliance on imports, Singapore has a high marginal propensity to import (MPM). We also have a high MPS, due to our strong saving culture, and mandatory savings scheme via Central Provident Fund (CPF). With a small multiplier size, the increase in AD will bring about a smaller intended benefit in terms of increase in real national income, limiting the effectiveness of expansionary monetary policy to stimulate its economy.

R2: Use of supply side policy to reduce unemployment

- Due to reasons such as loss of CA when the economy undergoes economic structural changes, there would be a rise in structural unemployment. These workers may not have the necessary skills to work in the new industries which require a different set or higher level of skills. It is therefore necessary for the government to adopt appropriate supply side policies to increase the occupational mobility of the workers and at the same time help the firms to lower their costs of production and increase productivity.
- In the case of Singapore, to encourage the development of new comparative advantages based on a capital intensive, knowledge-based economy, a host of incentive packages have been implemented to help firms to increase productivity through automation and innovation in the production process as well as upgrading the skills of workers to meet the

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demand of labour for these new industries. One example is SkillsFuture, where every Singaporean above the age of 21 years old is entitled to a credit of S\$500 for training purposes. For firms, there is the Automation Support Package and National Robotics Programmes to help them upgrade and increase their productivity and hence competitiveness.

Intermediate EV:

- Supply side policies requires a heavy and long-term commitment of the government. Effectiveness of this strategy would depend on the availability of resources to the government and the government's ability in correctly identifying and helping to develop the new comparative advantage of the economy and the workers acquiring the necessary skills that are required by the economy.

Summative Evaluation:

- Whether use of monetary policy alone is sufficient to address unemployment would depend on the root cause of unemployment and the time period. If a government faces demand-deficient unemployment, short-term policies such as MP would be preferred. On the other hand, if a government's aim is to tackle structural unemployment, supply side policies, which take a longer time to be effective, might be preferred.
- In the real world, it is more often than not a combination of root causes, thus, it would be better to make use of a mix of both policies to address both structural and demand deficient unemployment.

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Level	Knowledge, Understanding, Application, Analysis	Marks
L3	<p>Displays full slew of skills across AO1, AO2 and AO3:</p> <ul style="list-style-type: none"> • A well-balanced answer comprising analysis of interest rate policy and 1 other policy to address demand deficient and structural unemployment. 	8-10
L2	<p>Displays AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • An under-developed but balanced answer comprising analysis of interest rate policy and 1 other policy to demand deficient and structural unemployment. • Imbalanced response of only 1 policy or only address one type of unemployment 	5-7
L1	<p>Uneven display of AO1 and AO2 skills:</p> <ul style="list-style-type: none"> • An under-developed answer that has a limited scope • Many conceptual errors • No economic framework in analysis • Question requirement is not addressed 	1-4
	Evaluation	Marks
E3	<p>Well-reasoned judgement</p> <ul style="list-style-type: none"> • A well-reasoned judgement about the respective usefulness of policies that can address unemployment in an economy. 	4-5
E2	<p>Largely unexplained judgement</p> <ul style="list-style-type: none"> • Some attempt to explain judgement 	2-3
E1	<p>An unsupported judgement</p> <ul style="list-style-type: none"> • Most evaluative statements or judgements that are neither supported nor relevant to the specific context of the question 	1

