	NANYANG JUNIOR COLLEGE
	2022 JC2 Preliminary Examination H1 ECONOMICS

Paper No: 8823/01

31st August 2022
Wednesday

Time : 0800 – 1100 hrs
Duration : 3 hours

INSTRUCTIONS TO CANDIDATES

Do not flip the pages of this paper until you are told to do so.

Write your name, class and name of your economics tutor in the space provided on the answer booklet.

You are required to answer ALL questions.

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

Write your answers on the answer booklet provided. If you use more than one answer booklet, slot the additional booklets into the first booklet.

Please start each case study on a fresh page.

You are advised to spend several minutes reading through the questions and data before you begin writing your answers.

There are 7 printed pages including this cover page.

Question 1: Education for All**Table 1: Singapore government's expenditure per student (Singapore Dollars)**

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Source: SingStat, accessed 9 July, 2022

Extract 1: Fees hike for preschools

To cope with the rising need of preschool services due to the prevalence of dual-income families, and more grandparents working, the Singapore government has been expanding the number of government-supported preschool places. Despite its efforts, preschool fees continue to increase.

About 330 childcare centres in Singapore will be raising their fees for full-day childcare for Singapore citizens next year, said the Early Childhood Development Agency (ECDA). From time to time, preschools adjust their fees to keep up with the rising operational costs.

It is estimated that by 2020, 3,000 more teachers are needed to be in place. That is an 18 per cent increase in the current number of 17,000 teachers. Despite recruitment drives for the sector and steps to make the profession more attractive, it is still hard to recruit and retain preschool teachers. There are now calls for salaries of preschool teachers to be raised to address the challenges in recruitment.

Source: Channel News Asia, 17 Sep 2019

Extract 2: More preschool subsidies as Singapore set to spend more on preschool education

The early years are important for a child's development. Quality preschool education will provide developmentally appropriate learning experiences for young children to develop holistically and nurture positive attitudes towards learning. It will also help the children develop foundational literacy and numeracy skills and build up confidence as well as self-management and social skills. This foundational development will enable children to have a smoother transition from preschool to formal education in primary schools, a fact that many parents are unaware of.

Preschool education also benefits the society as it propels them to move towards early academic standards. Pre-kindergarten programmes pay off in the long run by reducing the teen incarceration rate, lowering the crime rate, lessening welfare reliance and unemployment, and creating potential solutions for the future workforce.

Furthermore, as inequality remains one of the most serious issues now facing Singapore, the government wants to tackle it early and believes that the best chance of addressing it is during a child's preschool years. Singapore's annual spending of about S\$1 billion on early childhood education will "more than double" over the next few years, as the Government looks to make preschools more affordable for parents here, said Prime Minister Lee Hsien Loong on Sunday (Aug 18). This includes plans to increase the number of government-supported preschools to 80 per cent over time. At the moment, just over half of all preschool places are government-supported.

Citing a recent survey by the People's Action Party Women's Wing, Mr Lee said young parents remained concerned about the affordability of preschools. He added that he agreed with a point made by the MPs involved in the survey, in that "preschools should be like housing and healthcare" where there are good and affordable government-funded options for all Singaporeans. Preschool subsidies will also be enhanced, announced Mr Lee in his National Day Rally speech.

At the moment, families are only eligible for additional means-tested subsidies if their monthly household incomes do not exceed S\$7,500. To offer more help to those from the middle-income, this income ceiling will be raised to S\$12,000 per month. This will extend the means-tested subsidies to 30,000 more households. There will also be an increase in the quantum of preschool subsidies across the board, said Mr Lee.

In recent years, Mr Lee noted that a "major shift" has been made to improve preschool education here. "We want to start earlier in a child's life because these years make a big difference to his development. A good preschool education can make a crucial difference" he explained.

Source: Adapted from Channel News Asia, 18 Aug 2019

Extract 3: What can be learned from Ireland's move to free tuition?

Beginning in 1995, Ireland eliminated tuition fees for full-time university undergraduates with improving access for disadvantaged students as the principal motivation.

Enrolments in Irish higher education have doubled since free tuition was introduced, fuelled both by one of the fastest growing populations in Europe and an increase in the college-going rate from one-third in the 1990s to more than one-half in recent years.

The most remarkable Irish achievement since tuition fees were eliminated was the tripling in the attainment rate – the share of workers who hold a college degree. As a result, Ireland now has one of the highest attainment rates in the world and, so, is viewed as one of the great success stories in international higher education over the past quarter century.

The Irish experience with free tuition has a number of lessons for the various countries that are actively exploring free college options.

To be successful, tuition-free college demands sustained high levels of government investment to replace the tuition fees that students would have paid and to increase resources beyond that. Without such a sustained financial commitment, quality will suffer, especially if enrolments grow rapidly.

It is also clear from the Irish experience that eliminating tuition fees does not guarantee greater equity of access to college. Without additional measures, such as help with living expenses for impoverished students and more counselling services, stratification will continue as students from wealthier families will enrol in larger proportions in the most selective institutions.

Not charging tuition fees does not mean that students will not have to pay anything to go to college. When tuition fees were eliminated in the 1990s, Ireland's modest registration fee seemed a reasonable way to ensure that some costs would still be paid by students. But the rapid growth in registration fees over time means that they have replaced a large chunk of what would have been tuition fees.

Source: University World News, 25 Oct 2021

Extract 4: More government intervention risks being counterproductive

How much should a government intervene in the economy? This is one of the main issues in economics and free market economists argue that government intervention should be strictly limited as government intervention tends to cause an inefficient allocation of resources. However, others argue there is a strong case for government intervention in different fields, such as externalities and public goods.

In a free market, provision tends to be patchy and unequal. For example, universal education provided by the government ensures that, in theory, everyone can gain an education, which has a strong social benefit. However, too much government intervention may create excess bureaucracy and inefficiency.

Source: Adapted from The Economist, 10 Jan 2022

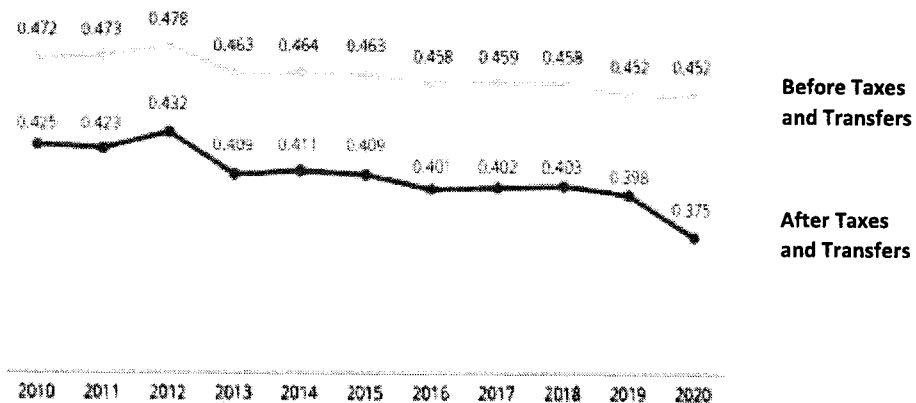
Questions

- (a) With reference to Table 1, compare the government expenditure per student for primary and university education from 2017 to 2020. [2]
- (b) Extract 1 states that 'To cope with the rising need of preschool services due to the prevalence of dual-income families, and more grandparents working, the Singapore government has been expanding the number of government-supported preschool places.'
- Using a supply and demand diagram, explain the impact of these changes on the market for preschool education. [6]
- (c) Discuss the extent to which the presence of positive externalities should be the main reason for government intervention in the market for preschool education. [10]
- (d) Explain how the concept of price elasticity of demand can be used to estimate the possible effects of rising salaries of preschool teachers on the revenue of preschools in Singapore and comment on whether raising salaries can be justified. [8]
- (e) Explain whether higher education in Ireland is considered a public good. [4]
- (f) With reference to Extract 3,
- (i) State a constraint faced by the Irish government in providing free tuition for higher education. [1]
- (ii) Using the concept of opportunity cost, explain one possible effect on the Irish government arising from the provision of free tuition for higher education. [2]
- (g) Governments, having the most significant influence on the markets today, can create some consequences which leads to greater inefficiency.
- Using that data provided and your own knowledge, discuss the extent to which this is a valid assertion in the market for education. [12]

[Total: 45]

Question 2: Impacts of Covid-19 on Singapore and UK

Figure 1: Singapore's Gini Coefficient



Source: Ministry of Finance, Singapore

Table 2: Selected Indicators of Singapore

Indicator	2020	2010
GDP Per Capita at Current Prices (Dollars)	83,789	64,408
Total Population Growth	-0.3%	1.8%
Unemployment Rate	4.1%	3.1%
Total Greenhouse Gas Emissions (Gigagram)	52,178	46,142
Life Expectancy at Birth (Years)	83.7	81.7

Source: Singstat, accessed 15 June 2022

Extract 5: Singapore Sinks into Recession Due to Covid-19

Singapore's GDP shrank 41.2 per cent in the April to June period, deepening the 3.3 per cent contraction in the preceding three months, said the Ministry of Trade and Industry (MTI). This means that Singapore has entered a technical recession, defined by economists as two consecutive quarter-on-quarter contractions. Several months of COVID-19 restrictions, including stay-at-home orders, movement controls and workplace closures have battered Singapore's retail and tourism sectors, with little sign of the pain abating.

The services sector shrank 37.7 per cent compared to the last quarter. Global and domestic travel curbs had "severely" affected tourism-related sectors, while outward-oriented services sectors such as wholesale trade were adversely hit by falling external demand, said MTI. Meanwhile, domestically oriented services sectors such as food services, retail and business services were also "significantly affected" by the circuit breaker rules, it said.

Source: ChannelNewsAsia, 14 July 2020

Extract 6: Singapore's Response to Covid-19

The COVID-19 pandemic was a great shock to the global economy. As a small, open economy, Singapore was not spared from its effects and fell into recession. The Government responded decisively and continued to adapt its responses as the crisis evolved. Five Budgets were delivered over a span of nine months to avert a deeper recession and prevent the unemployment rate from rising.

Key initiatives include:

- To provide broad-based emergency relief for workers and businesses, the Government subsidised up to 75% of wages for all resident workers through the Jobs Support Scheme, to which the Government devoted \$26.9 billion. In addition, the Government also rolled out various tax and rental relief measures to help businesses.
- To facilitate resource reallocation, measures such as SG United Jobs and Skills Package (SGUJS) helped individuals get into jobs in demand. Opportunities remained available for locals prepared to consider a wider range of options. There were close to 130,000 available jobs and skills opportunities for jobseekers as at end December 2020, with most of the available opportunities being jobs of a long-term nature. SGUJS provided traineeships to ensure fresh graduates had meaningful roles to build their skills for these jobs.

Source: Ministry of Finance, Singapore, accessed 5 May 2022

Extract 7: Singapore in Deflation, First Time in a Decade

Singapore's main price gauge slipped into deflation for the first time in more than a decade in February, data showed on Monday (Mar 23). Core inflation fell 0.1 per cent from a year earlier into the negative range, according to a joint release by the Monetary Authority of Singapore (MAS) and Ministry of Trade and Industry (MTI).

"In the quarters ahead, external sources of inflation are likely to remain benign, amid weak demand conditions and generally well-supplied food and oil commodity markets," MTI and MAS said. They added that oil prices declined sharply in March and could stay depressed for an extended period amid the global economic slowdown and an anticipated rise in oil supply.

"The COVID-19 outbreak has weighed heavily on the aviation and tourism industries, which could in turn lower the prices of travel-related items and cause the Consumer Price Index to fall marginally. In addition, the implementation of safe distancing measures and fall in tourist arrivals have dampened consumer demand and will cap any price increases for discretionary goods and services," the authorities said.

Labour market conditions are expected to continue to soften and dampen wage growth in 2020. The economic uncertainty is also likely to discourage firms from passing any cost increases to consumers, they added. "Inflationary pressures are thus expected to remain subdued in the near term," the joint statement said.

The authorities added that they will closely monitor the falling price trends and assess the impact of the Covid-19 outbreak on price levels.

Source: ChannelNewsAsia, 23 March 2020

Extract 8: Bank of England Cuts Rates in Emergency Move

The Bank of England (BOE) announced Wednesday an emergency cut to interest rates in an attempt to limit the economic impact from the new coronavirus. "At its special meeting ending on 10 March 2020, the Monetary Policy Committee (MPC) voted unanimously to reduce Bank Rate to 0.25%," the Bank of England said in a statement on Wednesday.

The announcement follows a similar decision by the U.S. Federal Reserve last week. The virus that began in China late last year has spread worldwide and is impacting all major economies, with flight cancellations and strict quarantine measures in some cases. Data released last month showed that the UK economy stagnated in the last part of 2019. The country has been embroiled in economic uncertainty since its decision to leave the European Union in 2016.


"If we are now trying to encourage people to stay at home and not travel, what on earth is a rate cut supposed to do?" Jim O'Neill, chair at UK thinktank Chatham House, told CNBC. "The rate cut part strikes me as a mistake and too soon because they might need these bullets if demand does get a lot weaker". Karen Ward, chief market strategist at JPMorgan Asset Management, said in an email: "We believe altering the value of the pound sterling could prove more effective than rate cuts".

Source: Adapted from CNBC, 7 May 2020

Questions

- (a) With reference to Figure 1, explain why Singapore's Gini coefficient after taxes and transfers is always lower than before taxes and transfers. [4]
- (b) With reference to Table 2, discuss whether the standard of living in Singapore has improved from 2010 to 2020. [7]
- (c) Using a production possibility curve diagram, explain the macroeconomic impact of Covid-19 restrictions on the Singapore economy. [3]
- (d) With the aid of diagram(s), explain how the policies implemented by the Singapore government have "prevented the unemployment from rising" (Extract 6) and comment on its effectiveness. [7]
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- (iii) Explain two possible reasons why the authorities will "closely monitor the falling price trends". [4]
- (f) "We believe altering the value of the pound sterling could prove more effective than rate cuts" (Extract 8).
To what extent do you agree with this statement? [12]

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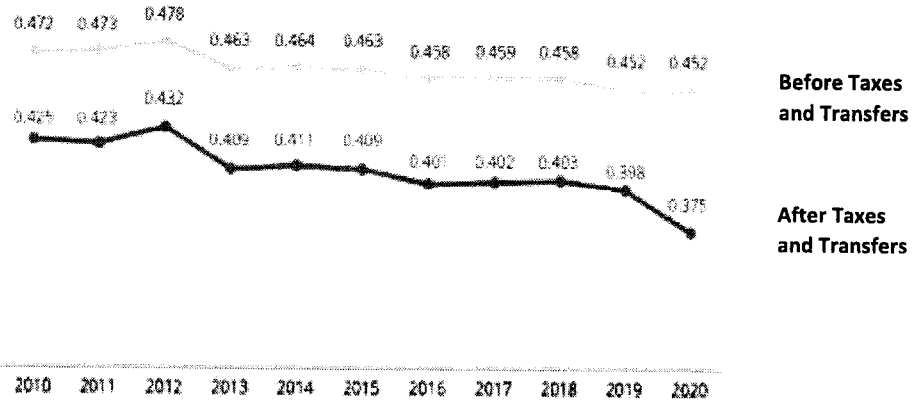
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To what extent do you agree with this statement?

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Suggested Answers for Question 1:

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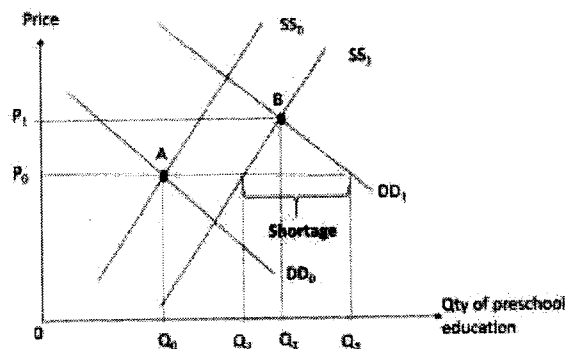
- Both government expenditure per student for primary level and university have generally fallen from 2017 to 2020. [1m]
- Government expenditure per primary school student is always lower than university expenditure per student. [1m]

(b) Extract 1 states that 'To cope with the rising need of preschool services due to the prevalence of dual-income families, and more grandparents working, the Singapore government has been expanding the number of government-supported preschool places.'

Using a supply and demand diagram, explain the impact of these changes on the market for preschool education. [6]

Extract 1:

- Govt expand the number of government-supported preschool places → Rising SS [1m]
- With more dual-income families and working grandparents → No one is available to take care of the child at home as both parents and grandparents are working → rising DD for preschool services [1m]
- Increase in DD > Increase in SS as "Despite Singapore's government effort to expand the number of government-supported preschool places, preschools fees continue to increase" [1m]
- Shortage of Q_2Q_3 drives up prices and qty rises from Q_0 to Q_1 [1m]
- With both price and qty rising → TR will increase from area P_0AQ_0O to area P_1BQ_1O [1m]
- Diagram to show the fees hike [1m]



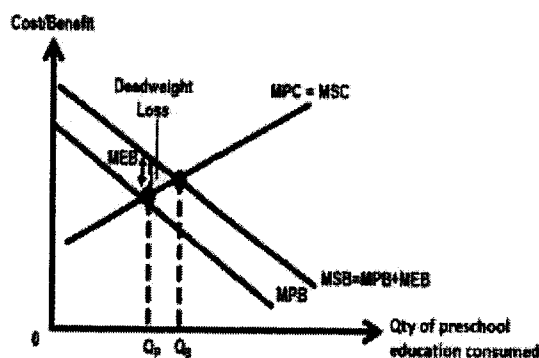
- (c) Discuss the extent to which the presence of positive externalities should be the main reason for government intervention in the market for preschool education in Singapore. [10]

Intro:

Government intervention is required in the market for preschool education to achieve allocative efficiency to maximise society's welfare.

Body 1: Positive externalities should be the main reason for government intervention in the market for preschool education.

- Private Benefit: Ext 2 → The child will “develop foundational literacy and numeracy skills and build up confidence as well as self-management and social skills”.
- Private Cost: Preschool education fee
- Consumers will consume till Q_p where $MPB = MPC$ so as to max net private benefit
- Consumption of preschool education generates positive externality.
- A positive externality gives rise to external benefit which arises when individual actions generate benefits to a third party without the latter having to pay for them.
- External Benefit: Ext 2 → Pre-kindergarten programmes pay off in the long run by reducing the teen incarceration rate, lowering the crime rate, lessening welfare reliance and unemployment, and creating potential solutions for the future workforce.
- 3rd Party: Future workforce, Govt
- Existence of MEB diverges MSB away from MPB
- Society should consume till Q_s where $MSB = MSC$ so as to maximise net social benefit
- Issue: Underconsumption as $Q_p < Q_s$
- Deadweight loss → allocative inefficiency → market fails thus government intervention is advocated

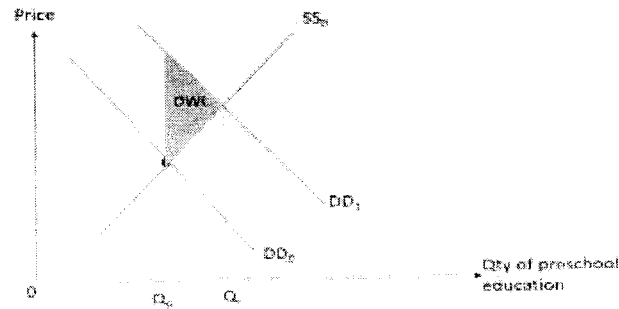


Body 2: There are other sources of market failure associated with preschool education which should be the main reason for government intervention. (*Students to choose either inequity or imperfect information to explain.)

i) Inequity

- Ext 2: inequality remains one of the most serious issues now facing Singapore
- Without government intervention, the consumption level of preschool education will be at Q_p instead of the socially optimal output at Q_s as some parents are unable to afford.
- Issue: Underconsumption as $Q_p < Q_s$

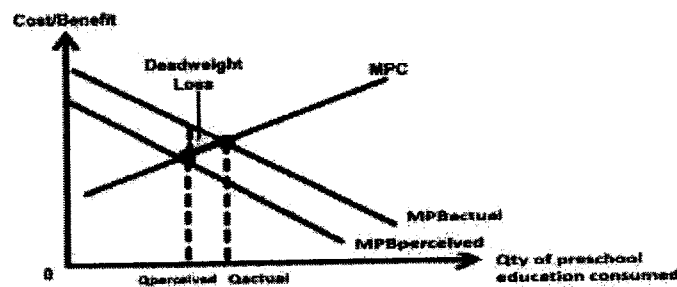
- Deadweight loss → allocative inefficiency → market fails thus government intervention is advocated



OR

(ii) Imperfect Information

- Perceived Private Benefit: Ext 2 → The child will “develop foundational literacy and numeracy skills and build up confidence as well as self-management and social skills”.
- Private Cost: Preschool education fee
- To maximise net private benefit, consumers will consume at $Q_{perceived}$: where $MPB_{perceived} = MPC$
- Actual private benefit: This foundational development will enable children to have a smoother transition from preschool to formal education in primary schools (*Imperfect Information: a fact that many parents are unaware of*). As children who attended preschool will have developed a basic level of literacy and numeracy skills, they would be able to learn better when they are in primary school. They will adapt better as well as they would have acquired the basic social skills to interact with their classmates.
- Since parents are not aware of true benefits of preschool education → $MPB_{actual} > MPB_{perceived}$
- Q_{actual} : Where consumption of preschool education max net private benefit where $MPB_{actual} = MPC$
- Issue: underconsumption as $Q_{perceived} < Q_{actual}$
- Deadweight loss → allocative inefficiency → market fails thus government intervention is advocated



Conclusion:

Stand: Positive externalities is not the main reason for government intervention in the market for preschool education.

Judgment: As Singapore government is spending more on early childhood education so to make preschools more affordable for parents here, it seems to point clearly that the main reason for intervention is due to inequity in distribution. This is because as mentioned in Ext 2 “as inequality remains one of the most serious issues now facing Singapore, the government wants to tackle it early and believes that the best chance of addressing it is during a child’s preschool years”.

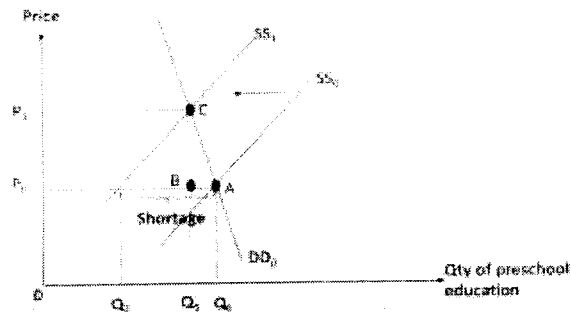
Mark Scheme

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> Question requirements are interpreted accurately such as explained sources of market failure associated with the consumption of preschool education. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. Appropriate diagrams are used to support economic analysis, where relevant. 	5 - 7
L2	<ul style="list-style-type: none"> Addresses some question requirements accurately. Only explained positive externality as the source of market failure. Some appropriate economic concepts, theories and principles are used. Economic analysis is accurate but incomplete. Attempts to address the context of the question but is incomplete. Appropriate diagrams are used but might not be explained or used to support economic analysis. 	3 - 4
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 - 2
Evaluation		
E2	Evaluative comments are well-explained and supported by economic analysis.	2-3
E1	Unexplained evaluative comments.	1

(d) Explain how the concept of price elasticity of demand can be used to estimate the possible effects of rising salaries of preschool teachers on the revenue of preschools in Singapore and comment on whether raising salaries can be justified. [8]

- Price elasticity of demand measures the responsiveness of quantity demanded of a good due to a change in its price, ceteris paribus. [1m]
- Extract 1: “rising need of preschool services due to the prevalence of dual-income families, and more grandparents working” → This suggests that there are very few substitutes for preschool as a form of childcare. Hence, demand for preschool services is likely to be price inelastic. [1m]
- Rising salaries of preschool teachers → Increase cost of production → Reduce SS [1m]
- SS falls from SS_0 to SS_1 , ceteris paribus → Shortage drives up prices from P_0 to P_1 and Qty falls from Q_0 to Q_1 . [1m]

- As PED is less than 1, when price increases, quantity demanded will fall less than proportionately. [1m]
- As shown in the figure below, the gain in TR (Area P_1CBP_0) due to the increase in price will outweigh the fall in TR (Area Q_1BAQ_0) due to the fall in quantity demanded. Thus, this will lead to a net rise in revenue of preschools in Singapore. [1m]



Comment [2m]

- Ext 1: "Despite recruitment drives for the sector and steps to make the profession more attractive, it is still hard to recruit and retain preschool teachers." → This suggests shortage of preschool teachers. [1m] Thus, it would be justified for raising salaries of preschool teachers to attract more people to join the industry and/or incentivise current preschool teachers to continue working. [1m]

(e) Explain whether higher education in Ireland is considered a public good. [4]

To assess whether higher education in Ireland can be classified as a public good, we need to determine if it fits the criteria of non-excludability and non-rivalry.

Non-rivalry: Non-rivalry in consumption means that the consumption of the good does not reduce the total supply available to others. [1m] Higher education in Ireland is rivalrous as there are limited vacancies. [1m]

Non-excludability: Non-excludability in consumption means that once the good is made available, it is difficult or costly to exclude non-payers from consuming it. [1m] Higher education in Ireland is excludable. It is easy to deny entry of the non-payer into the school as all students must be registered. Therefore, higher education in Ireland is not considered a public good. [1m]

**Free provision is a form of government intervention and is not a reason to justify why higher education in Ireland is non-excludable.*

(f) With reference to Extract 3,

(i) State a constraint faced by the Irish government in providing free tuition for higher education. [1]

One constraint faced by the Irish government is the budget available to replace the tuition fees that students would have paid.

- (ii) Using the concept of opportunity cost, explain one possible effect on the Irish government arising from the provision of free tuition for higher education. [2]

The opportunity cost of a choice is the value of the next best alternative forgone. [1]

If the Irish government provide free tuition for higher education, the opportunity cost would be the cut in spending that would have to be sacrificed such as healthcare/defence. [1]

- (g) Governments, having the most significant influence on the markets today, can create some consequences which leads to greater inefficiency.

Using that data provided and your own knowledge, discuss the extent to which this is a valid assertion in the market for education. [12]

Intro:

In the market for education, resources may not be allocated efficiently due to the presence of market failure such as positive externality and inequity in distribution. Hence, government intervention is required to ensure greater efficiency.

Body 1: Government intervention in the market for education results in greater efficiency.

Preschool education:

- Source of market failure → Positive externality & Inequity in distribution
- Issue → Underconsumption leading to DWL
- Thus, government intervention is required and will result in greater efficiency.
- Government intervenes by providing subsidy (Ext 2: Singapore's annual spending of about S\$1 billion on early childhood education will "more than double" over the next few years)
- Subsidy → Reduce cost of production → Increase SS of preschool education services → Surplus creates a downward pressure on price → Price fall (Figure 1)

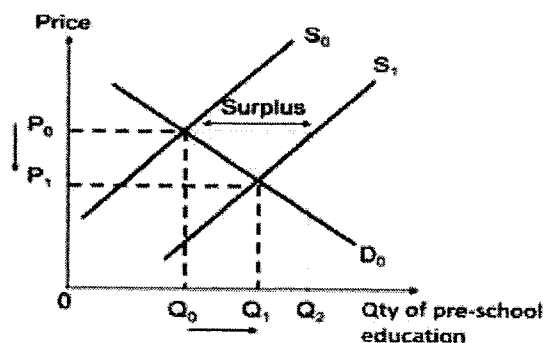


Figure 1

- Due to the lower price, the MPC of preschool education will also fall. Assuming that the fall in price of preschool education equates to MEB, then MPC will decrease from MPC to MPC1 (where $MPC1 = MPC + \text{Subsidy}$) and intersects MPB at Q_s

- The decrease in price (equating to MEB) will reduce MPC to MPC_1 as shown in Figure 2.

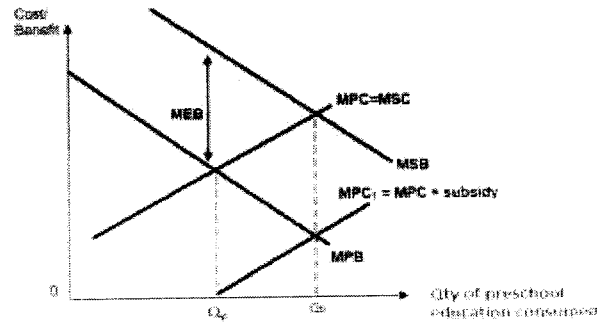


Figure 2

- With a lower price, consumers will increase consumption and the new equilibrium quantity consumed will be at Q_s , where $MPB = MPC$ with subsidy.
- Thus, deadweight loss is eliminated and societal welfare is maximised. There is greater efficiency in the market than without government intervention.

OR

Higher education in Ireland

- Issue → Underconsumption leading to DWL
- Thus, government intervention is required and will result in greater efficiency.
- As stated in Ext 3 → “Ireland eliminated tuition fees for full-time university undergraduates with improving access for disadvantaged students as the principal motivation”

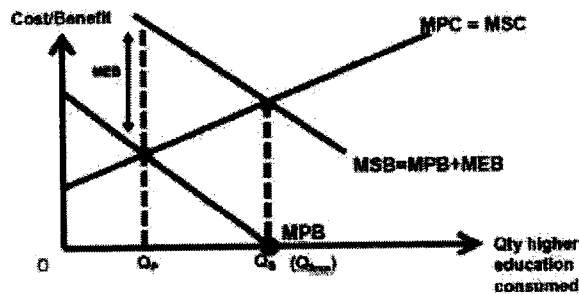


Figure 2

- With free provision, consumers will consume till Q_s where $MPB = 0$. Since the consumption level is at Q_s , the deadweight loss is eliminated and societal welfare is maximized. There is greater efficiency in the market than without government intervention.

Body 2: Government intervention in the market for education through subsidy/free provision may result in greater inefficiency.

- As mentioned in Ext 4, “However, too much government intervention may create excess bureaucracy and inefficiency.”

- This is because the government may have imperfect knowledge and hence, may not estimate MEB accurately as the positive effects of preschool education is extensive.
- Overestimation of subsidy results in price of preschool education reduced too low causing a significant rise in quantity demanded of the services beyond Q_0 which leads to overconsumption of preschool education services. This results in a wastage of resources which is considered an inefficiency in resource allocation.
- This is shown in Figure 3 where the deadweight loss created is greater than the initial deadweight loss due to underconsumption.

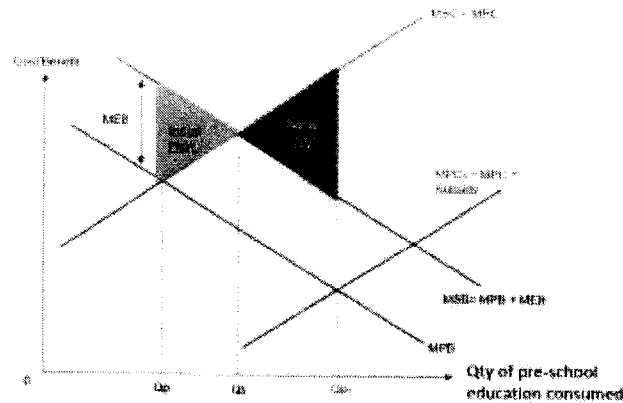


Figure 3

OR

- Free tuition fees may result in greater inefficiency as the deadweight loss created is greater than the initial deadweight loss due to underconsumption as shown in figure 4.

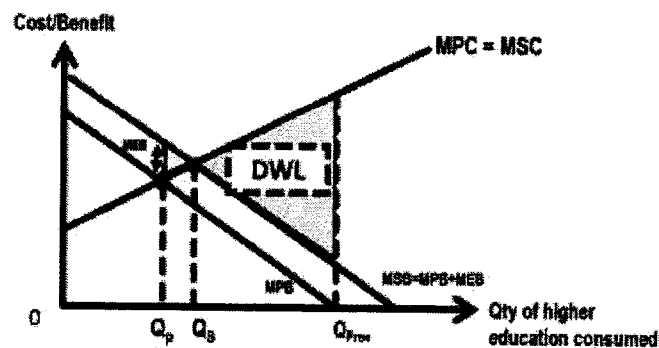


Figure 4

Body 3: Free provision may not solve the issue of inequity and incurs higher opportunity costs.

- As mentioned in Extract 3, "It is also clear from the Irish experience that eliminating tuition fees does not guarantee greater equity of access to college." This is because without additional measures, such as help with living expenses for impoverished

students and more counselling services, stratification will continue as students from wealthier families will enrol in larger proportions in the most selective institutions.

- Although disadvantaged students are now able to have access to higher education, they may not necessarily be able to complete the education due to their inability to cope with the living expenses. Hence, they may eventually drop out of school without attaining the skills to earn higher wages. Furthermore, it was mentioned in extract 3 that although higher education is made free for all, the rapid growth in registration fees over time will mean that fewer students will be able to afford and gain access to higher education. Thus, this may even worsen the issue of inequity.
- As a result of providing higher education for free, the government must also ensure high levels of investments to replace the tuition fees that students would have paid.
- This would incur high budget and the government may have to cut back spending on other areas such as healthcare and defence. Resources will also have to be reallocated to fund the provision of higher education which will thus create greater inefficiencies in other markets.

Conclusion:

To examine the extent to which the assertion is valid, we need to examine the tool used and the magnitude of the problem. Extreme tools of intervention like free provision can create more problems than it solves. When the magnitude of the problem (e.g. level of MEB) is not easily determined, adjustable tools of intervention like subsidies are more appropriate. These tools can be tweaked to ensure a more efficient outcome. Hence, the assertion is largely invalid if the government uses adjustable tools of intervention.

Nevertheless, if the government has done research and has sufficient information to ascertain that the benefits of a particular level of education is extensive, then extreme measure such as free provision may not necessarily lead to greater inefficiencies. This is because as mentioned in extract 2, the benefits of preschool education pay off in the long run by reducing the teen incarceration rate, lowering the crime rate, lessening welfare reliance and unemployment, and creating potential solutions for the future workforce. Thus, if the government implements free provision, it may result in lesser inefficiencies in the future and the resources could be better allocated to other areas such as healthcare.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Question requirements are interpreted accurately in explaining how government intervention may and may not lead to greater inefficiency. • Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. • Appropriate diagrams are used to support economic analysis, where relevant. 	6 - 9
L2	<ul style="list-style-type: none"> • Addresses some question requirements accurately. • Some appropriate economic concepts, theories and principles are used. Economic analysis is accurate but incomplete. • Attempts to address the context of the question but is incomplete. • Appropriate diagrams are used but might not be explained or used to support economic analysis. 	3 – 5
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. • Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. • Inappropriate or wrong diagrams are used. 	1 – 2
Evaluation		
E2	Evaluative comments are well-explained and supported by economic analysis.	2-3
E1	Unexplained evaluative comments.	1

Suggested Answers for Question 2

(a) **With reference to Figure 1, explain why Singapore's Gini coefficient after taxes and transfers is always lower than before taxes and transfers.** [4]

- Gini coefficient measures income inequality and is a value between 0 to 1, with 0 indicating perfect income equality and 1 indicating perfect income inequality. (1)
- Singapore has a progressive tax system which means the high-income earners pay more taxes at a higher tax rate. Thus, their disposable income falls more after taxes. (1)
- Singapore government gives out transfer payments, such as the Workfare Income Supplement to the low-income earners, to increase their disposable income. (1)
- Thus, income gap between the high-income earners and low-income earners gets smaller and the Gini coefficient after taxes and transfers is lower than before taxes and transfers. (1)

(b) **With reference to Table 2, discuss whether the standard of living in Singapore has improved from 2010 to 2020.** [7]

- SOL comprises of both material and non-material SOL
- Thesis: SOL has improved
 - Material: GDP per capita at current prices increases from \$64,608 in 2010 to \$83,789 in 2020 → Could indicate more goods and services produced and higher income → higher purchasing power → Able to consume more goods and services
 - Non-material: Life expectancy increases from 81.7 years to 83.7 years → Enjoy better health and fall sick less often → Higher quality of life
- Anti-thesis: SOL did not improve
 - Material: Higher GDP per capita at current prices could be due to increase in prices and not increase in production of goods and services → Real GDP per capita may have decreased → Purchasing power could have decreased → Consume lesser goods and services.
 - Non-material: Unemployment rate increases from 3.1% to 4.1% → More people don't earn an income → May turn to crime to make ends meet leading to higher crime rate → People are more stressed over their safety and security → Quality of life falls.
 - Non-material: Higher greenhouse gas emissions → Pollution is worsened → People fall sick more often → Lower quality of life
- Evaluation
 - Need more information to conclude whether standard of living has improved.

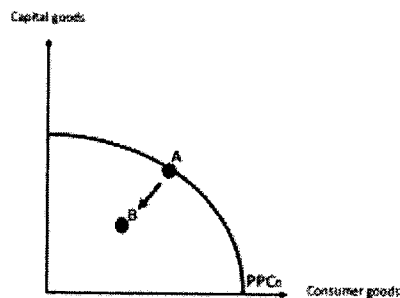
- Composite indicator that takes into account of both material and non-material SOL, such as the Human Development Index, could be useful.
- The HDI is a simple average of three indicators of development designed to capture three key components of human development. The three indicators are life expectancy at birth, education attainment and GDP per capita
- Measured between 0 to 1, a higher value indicates a higher overall SOL.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	A two-sided answer that covers both material and non-material SOL.	3 – 5
L1	An one-sided answer or an answer that covers either material or non-material SOL.	1 – 2
E	An answer that provides a judgement and suggests an alternative.	1 – 2

- (c) **Using a production possibility curve diagram, explain the macroeconomic impact of Covid-19 restrictions on the Singapore economy.** [3]

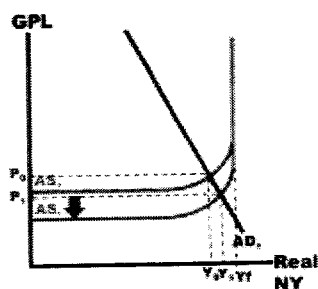
- Production possibility curve shows the maximum possible combinations of 2 goods a country can produce given constant state of technology and its limited resources are fully utilised.
- From Ext 5, the Covid-19 restrictions include stay-at-home orders, movement controls and workplace closures → Results in under-utilisation of FOPs such as labour and capital and lesser goods and service are produced. (1)



- Resources are under-utilised but not reduced in quantity or quality → PPC does not shift but the production point move inwards from A to B. Diagram (1)
- Negative economic growth and since labour is a derived demand, demand for labour falls and demand deficient unemployment rises. (1)

- (d) **With the aid of diagram(s), explain how the policies implemented by the Singapore government have “prevented the unemployment from rising” (Extract 6) and comment on its effectiveness.** [7]

- From Ext 6, policies implemented are the Jobs Support Scheme that subsidises wages of resident workers and various tax and rental reliefs for firms → Lower cost of production of firms. (1)



- SRAS increases from AS0 to AS1 → GPL falls from P0 to P1 and RNY increases from Y0 to Y1. Diagram (1)
- Labour is a derived demand, demand for labour rises and demand deficient unemployment falls. (1)
- From Ext 6, another policy implemented is the SG United Jobs & Skills Package that provides traineeships to fresh graduates to build their skills for job opportunities available → Train workers with the skills needed by firms → Reduce mismatch of skills → Solves structural unemployment. (1)
- Lowering COP does not target the root cause of demand deficient unemployment which is falling AD → AD could continue to fall due to Covid-19 restrictions and deteriorating firms and consumers expectations → Government could not keep on subsidising the firms to lower their COP (1)
- Training of workers takes time and is dependent on the attitude of workers, whether they are receptive to training and pick up new skills that are needed by firms. (1)
- Stand → Policies to lower COP is more effective in the short run to address the demand deficient unemployment due to Covid-19 → Retraining is more effective in the long run to address the structural unemployment due to the mismatch of skills. (1)

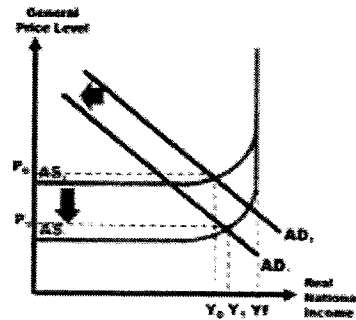
4m for explain how and 3m for comment

(e) With reference to Extract 7,

(i) With the aid of a diagram, explain how Singapore has “slipped into deflation”. [5]

- Fall in consumption expenditure → From Ext 7, implementation of safe distancing measures has dampened consumer demand → Could affect tastes and preferences of consumers, such as stay home rather than dining out, Or
- Fall in consumption expenditure → From Ext 7, labour market continues to soften and dampen wage growth → Consumers may expect their income to fall in the near future → Save more and reduce consumption (1)
- Fall in export revenue → From Ext 7, fall in tourist arrivals → Expenditure by foreigners fall (1)

- Fall in cost of production → Fall in price of oil → Oil is an important FOP needed in the production of many goods and services (1)



- Diagram (1)
- AD falls due to fall in C and X, from AD0 to AD1. SRAS rises due to fall in COP from AS0 to AS1 → If rise in SRAS is greater than the fall in AD, RNY increases from Y0 to Y1 and GPL falls from P0 to P1 → Singapore slipped into deflation due to the fall in GPL. (1)

(ii) Explain why the Consumer Price Index falls marginally when prices of travel-related items fall. [3]

- The Consumer Price Index (CPI) is a weighted average of price change of a basket of goods and services. (1)
- The weights are meant to reflect the relative importance of the goods and services as measured by their shares in the total consumption of households. The weight attached to each good or service determines the impact that its price change will have on the overall index.
- Weights of travel-related items could be small as these items are not frequently consumed and take up only a small part of the total consumption of households. (1)
- When price of travel-related items falls, effect on CPI is small → CPI falls marginally. (1)

(iii) Explain two possible reasons why the authorities will “closely monitor the falling price trends” (Extract 7). [4]

- The authorities closely monitor the falling price trends due to the negative effects of deflation.
- With deflation, consumers and firms may expect prices to continue to fall → Postpone consumption and investment as it will be cheaper to consume and invest in the future. (1)
- Fall in C and I → fall in AD → GPL and RNY fall → leads to further deflation and negative economic growth. (1)
- With deflation, it increases the real value of debt as it cost more in real terms to repay the same amount of debt. (1)
- Cost more for the government to repay its debt → could lead to budget deficit (1)

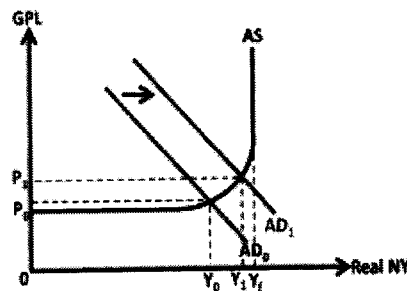
(f) “We believe altering the value of the pound sterling could prove more effective than rate cuts” (Extract 8). [12]

To what extent do you agree with this statement?

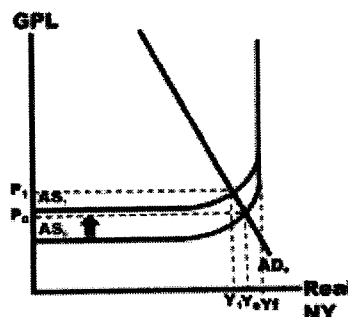
- Problem: From Ext 8, the UK economy has stagnated → need to achieve economic growth
- Direction: Explain how altering the value of pound sterling and interest rate cuts could help to achieve economic growth and whether altering the value of pound sterling is more effective.

Thesis: Altering the value of pound sterling (depreciation) could help UK to achieve economic growth

- The Bank of England could sell pound sterling to increase the supply of pound sterling → Lowers the value of pound sterling → Depreciation of pound sterling
- Price of exports to foreign consumers in foreign currency falls → Qd by them rises → Since price of exports is the same in domestic currency, demand for exports increases → Export revenue increases.
- Price of imports from foreign countries in domestic currency rises → Qd falls → Assuming $PED_m > 1$, import expenditure falls
- Given $AD = C + I + G + (X - M)$, increase in X Rev and fall in M Exp will cause AD to increase.



- AD increases from AD_0 to AD_1 → Unplanned fall in inventories, firms employ more FOPs to cover the short fall and pay more in factor payments such as wages → Leads to rounds of increase in induced consumption with each round getting smaller → GPL increases from P_0 to P_1 and multiplied increase of RNY from Y_0 to Y_1 → Helps UK to achieve economic growth.
- However, depreciation of the pound sterling will cause price of imported inputs to be more expensive → Cost of production increases → SRAS falls.

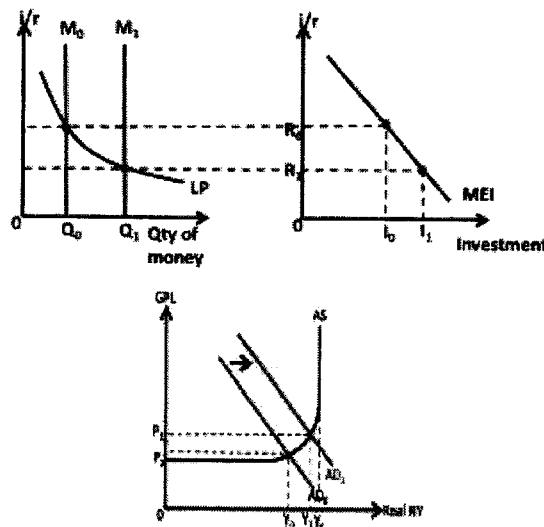


- SRAS falls from AS_0 to AS_1 → GPL increases from P_0 to P_1 and RNY falls from Y_0 to Y_1 → Depreciation may not help UK to achieve to economic growth.
- Demand for imports may be price inelastic in the short run due to contractual obligations → Qd could not change accordingly to price

changes → When price of imports rises and Q_d falls, $PED_m < 1$ in the short run, import expenditure may rise instead → If increase in M_{Exp} is more than the rise in X_{Rev} , AD and RNY fall → Depreciation could not achieve economic growth.

Anti-thesis: Interest rate cuts could help UK to achieve economic growth

- The Bank of England could increase money supply from M_0 to M_1 to reduce interest rate from R_0 to R_1 .
- Reduces the cost of borrowing → Increase the profitability of investment projects → firms borrow more to invest → Rise in investment expenditure from I_0 to I_1 . Also, consumers will borrow more to purchase big-ticket items such as property and cars → Rise in consumption expenditure,
- Returns on savings is lesser → Lower opportunity cost of consumption → Consumers rather consume than save → Rise in consumption expenditure.



- AD increases from AD_0 to AD_1 → GPL increases from P_0 to P_1 and multiplied increase of RNY from Y_0 to Y_1 → Helps UK to achieve economic growth.
- However, consumers and business expectations may be low. From Ext 8, "UK has been embroiled in economic uncertainty since its decision to leave the European Union in 2016" and "people to stay at home and not travel". Thus, the Marginal Efficiency of Investment could be interest inelastic and an interest rate cut could lead to a less than proportionate increase in investments → Increase in AD and RNY could only be marginal → Insufficient to lift the UK economy out from the stagnation.

Overall Evaluation

- **Characteristics of the UK economy:** If the foreign sector takes up a large share of its AD , depreciation could be more effective as impacts on net exports could have a bigger impact on AD and

therefore RNY. However, if the domestic sectors take up a large share of its AD, interest rate cuts that affect consumption and investment could be a more effective policy.

- **Root cause:** UK economy stagnated due to impacts of Covid-19, leading to fall in both the foreign and domestic sectors of AD → From Ext 8, “impacting all major economies, with flight cancellations and strict quarantine measures in some cases” and “encourage people to stay at home and not travel” → Demand side policies may not be effective as long as the Covid-19 measures are still enforced and expectations are low. Depreciation could be less effective than interest rate cuts as it will also increase the COP and decrease SRAS, although its impacts are dependent on the proportion of imported FOPs by the UK. Thus, not only depreciation is not effective to increase AD, it also reduces SRAS, making it harder for UK to achieve economic growth.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Question requirements are interpreted accurately in explaining both the workings and limitations of depreciation and expansionary monetary policy. • Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. • Appropriate diagrams are used to support economic analysis, where relevant. 	6 - 9
L2	<ul style="list-style-type: none"> • Addresses some question requirements accurately. • Some appropriate economic concepts, theories and principles are used. Economic analysis is accurate but incomplete. • Attempts to address the context of the question but is incomplete. • Appropriate diagrams are used but might not be explained or used to support economic analysis. 	3 - 5
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. • Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. • Inappropriate or wrong diagrams are used. 	1 - 2
Evaluation		
E2	Evaluative comments are well-explained and supported by economic analysis.	2-3
E1	Unexplained evaluative comments.	1

[Total: 45]