MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

H2 Economics | **9757/01**

Case Study Questions | **10 September 2018**

2 hours 15 minutes

Additional Materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Do not open this booklet until you are told to do so.

Write your name, class and register number in the spaces at the top of the answer sheets.
Write in dark blue or black pen.
You may use an HB pencil for any diagrams or graphs.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A
Answer **all** questions.

Begin Case Study Question 2 on a fresh sheet of paper.
At the end of the examination, fasten all your work securely to the cover sheet with the string provided.
The number of marks is given in brackets [ ] at the end of each question or part question.

[Turn Over]

This document consists of **7** printed pages and **2** cover sheets.

Question 1: Education

Table 1: Government expenditure per student (S$) in Singapore

Year	2010	2011	2012	2013	2014	2015	2016
Primary Education	6 624	6 172	7 396	8 549	9 123	10 081	10 600
University Education	20 630	20 505	20 777	21 870	22 181	21 988	21 853

Source: data.gov.sg, accessed August 2018

Table 2: Gini Coefficient (2017)

Gini Coefficient (after tax and transfers)	
US	0.390
Singapore	0.356

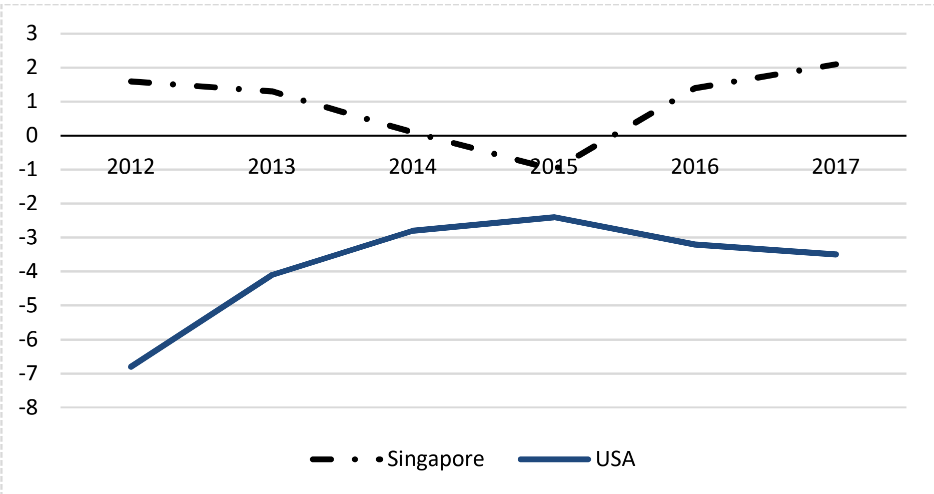
Source: The Straits Times, August 2018

Table 3: GDP per capita (US$)

	2012	2013	2014	2015	2016	2017
Singapore	54 715	56 389	56 957	54 940	55 243	57 714
USA	51 450	52 782	54 696	56 443	57 588	59 531

Source: World Bank, accessed August 2018

Figure 1: Government budget balance of Singapore and USA (as % of GDP)



Source: Singapore Budget 2018; Congressional Budget Office, April 2018

Extract 1: Rise in price of university education in Singapore

The price of attending university in Singapore has jumped 38% on average since 2007. Official data showed that Singaporeans are spending more on higher education. Singapore's median household income grew 10% over the period and Consumer Price Index (CPI) rose 25%, yet university tuition fees were up 38%.

Increased labour costs in Singapore could have been a large contributing factor in the big jump in university costs, besides the cost to universities of owning and maintaining buildings, covering utilities and buying research equipment.

Government subsidies play a role in increasing education affordability in Singapore. And Singapore's increases in higher education tuition fees were, in fact, relatively tame when compared to other countries. College tuition in the U.S. increased by 50% between 2001 and 2015. However, rising demands from provisions for the ageing population, healthcare and other social needs in Singapore may threaten the sustainability of the government spending on higher education.

Adapted from: CNBC, October 2016

Extract 2: Returns from pursuing higher education

Unlike primary education, higher education provides individuals with concrete skills and capabilities, which in turn allow them to command a substantial wage premium when they enter the labour market. An increasing number of young Singaporeans are furthering their studies for this reason. There is a desire to learn more specialised skills, or secure a better job and higher pay check. Youths today also have a greater desire for personal fulfilment, which spurs them on to learn more about a subject they are interested in.

Nonetheless, there are compelling reasons to heavily subsidize higher education. There are social returns to higher education. Private returns – such as higher employability and wages – have positive social effects as well, in terms of lowering poverty and crime rates. Numerous productivity benefits also arise from higher education. For instance, economists hypothesise that a city with more human capital would be able to generate more knowledge capital, and the productivity gains from that would then spill over and raise incomes for the whole economy.

Moreover, even if the returns to higher education were completely private, there is a case for government to intervene to ensure that there are equal opportunities. While it is generally feasible for individuals to fund their own tertiary education through loan schemes, the lower-income may face credit constraints because of their lack of collateral. Evidence from abroad also suggests that the lower-income tend to underestimate the returns to education due to lack of information. Hence, a key component of government expenditure on higher education is channelled towards ensuring that higher education remains affordable for the population at large.

Adapted from: Singapore Budget 2010

Extract 3: Budget cuts in higher education in the United States

Almost a decade since the Great Recession hit in 2008-2009, US government spending on public colleges and universities remains well below historic levels. The recession led to record-breaking declines in government revenue, and the slow recovery prolonged its impact.

The funding decline has contributed to higher tuition and reduced quality on campuses as universities have had to balance budgets by reducing faculty and limiting course offerings. At a time when the benefit of a university education has never been greater, policymakers have made going to university less affordable and less accessible to the students most in need. This has jeopardized the ability of many to afford the higher education that is key to their long-term financial success and led to rising student debt levels for those who still pursue higher education. High school students who cannot afford the rising fees in universities are opting to start work earlier instead.

To help more young people reach their full potential — and, in turn, boost the economy and quality of life — it is necessary for policymakers to target financial aid at students on the margins and those most hampered by limited resources. This can be in the form of need-based financial aid which is awarded to students who have demonstrated financial need and might otherwise struggle to afford college.

Adapted from: www.cbpp.org, August 2017

Questions

(a) **(i)** With reference to Table 1, compare the government expenditure per student on primary and university education in Singapore between 2010 and 2016. [2]

(ii) Explain **one** possible reason for the difference observed in (a)(i). [2]

(b) With reference to Extract 2, explain how investment in human capital can 'raise incomes for the whole economy'. [4]

(c) Use the concept of opportunity cost to explain one possible effect on each of consumers of education and the US government due to the 'rising student debt levels' described in Extract 3. [4]

(d) Assess whether supply factors, rather than demand factors, are the key cause of rising price of university education in Singapore. [8]

(e) Discuss whether Singapore should follow the US in lowering its higher education subsidies to better achieve the government's microeconomic objectives. [10]

[Total: 30]

Question 2: Brexit – Breaking out of the European Union

The European Union (EU) is a political and economic union of 28 member states that are located primarily in Europe. While the United Kingdom (UK) is part of the EU, it uses its own currency, the pound sterling, instead of the euro. The UK is made up of England, Scotland, Wales and Northern Ireland. Ireland, on the other hand, is a separate independent country under the EU.

Table 4: Rates of growth of GDP, annual percentages, 2015-2017

	2015	2016	2017
EU	2.32	1.96	2.44
Germany	1.74	1.94	2.22
Ireland	25.56	5.14	7.80
UK	2.35	1.94	1.79

Source: The World Bank Group, 2018

Extract 4: Why Brexit?

The UK has voted to break out of the EU, according to official results on Friday (June 24, 2016), allowing 'Brexit' to strike a thunderous blow against the bloc and spreading alarm through markets as the pound sterling plummeted to a 31-year low against the dollar as the UK took a lurch into the unknown. Their decision will undoubtedly re-awaken fears of a domino-effect ripple of exit votes in EU-sceptic members that could imperil the integrity of the bloc, already struggling with twin economic and refugee crises.

The UK is also a net contributor to the EU budget, where the money is used across Europe to ensure a level playing field for the EU's poorer countries by being invested in for example, new roads or broadband. However, the bill is rising as the UK's economy improves, with a net contribution of £11.3 billion in 2013, compared to £2.7 billion in 2008, according to official UK data.

Freedom of movement for labour is one of the key principles of the EU. This ease of movement has been attacked in the UK, which had an unexpectedly high level of migration from several old Soviet bloc states after they joined the EU. Some of the blue-collar workers felt threatened by this new, cheap, source of labour as their income decreases.

Source adapted from *The Straits Times*, 24 June 2016 and CNBC, 27 May 2015

Extract 5: EU membership has been good for Ireland

The creation of a single market in Europe in the 1990s was exploited by Ireland like no other country. Increasingly, companies are choosing Ireland as a jumping off point for their European ambitions. Many of them are also using Ireland as a technology hub by placing vital data centres on Irish soil. Ireland has 8 of out 10 of the largest ICT companies in the world here because the infrastructure is at the levels these companies expect.

While Ireland's "natural" advantages – English-speaking and geographical location between east and west – cannot be discounted, a key advantage of coming here is that incoming companies can avail of leading-edge services. If these services weren't available, the companies wouldn't come, no matter how attractive the tax structure.

Source: IDA Ireland, 12 April 2012 and *The Guardian*, 17 June 2016

Extract 6: Brexit one month on – the good, the bad and the ugly

One month on and the UK is still reeling from the referendum result on the country's place in the European Union. The political and economic landscape of the country has changed radically since. UK now faces a mountain of issues, many of which are tied to Brexit. Inflation is surging, consumer spending is slowing, productivity remains mired in pre-crisis growth levels, and uncertainty reigns supreme. The Bank of England has sought to respond: After the referendum, it cut interest rates to the lowest level in its 322-year history.

Global financial markets have surprised many people by recovering faster than expected in the immediate weeks following the Brexit vote. Yet, confidence in the UK economy is starting to look shaky.

One bright spot was that the weaker pound had boosted exports orders for manufacturing. Given the drop in sterling, UK firms are seen as ripe for takeovers – earlier this week, Japanese firm Softbank agreed to buy semiconductor firm ARM Holdings in a deal worth more than $32 billion.

Source: Various

Extract 7: Brexit and its impacts on the EU

The European Union's chief concerns over UK's vote to leave the group are political but losing its second-largest economy will have a huge economic impact as well. For one, other members will have to fill in at least some of the shortfall from a lack of its contributions. UK's total contribution to the EU budget for 2016 has been set at 19.4 billion euros. Germany, the EU's largest member, would inevitably have to provide the most extra cash, estimated to be about 2.5 billion euros.

Many economists also forecast Brexit would at least temporarily reduce UK growth. A possible reintroduction of import tariffs could lead to a reduction of rest-EU GDP by 0.26 percent. However, the UK is also consistently the largest recipient of foreign direct investment in the EU, with an average of $56 billion per year in the 2010-2014 period. Given that access to the European single market has been cited as important to the UK's attractiveness to FDI, there is therefore a risk that some FDI would be diverted to other EU countries if UK lost access to the EU single market.

Additionally, one of the main arguments for Brexit campaigners is to limit migration of workers from other EU countries. Hence, if UK did cap immigration, it could have a negative impact on eastern European countries. The impact could be most acute in the countries with the most citizens in UK – Poland (853 000 in 2014), Romania (175 000) and Lithuania (155 000). By contrast, other affluent western European countries, such as Germany, could as a result see higher inflows of EU migrants.

Research determined that impacts could be worse in Ireland than in UK, based on their degree of trade dependence on UK, while the impact on Germany would be very limited given that its auto and other manufacturing sectors have many other markets. There could also be "dynamic effects", such as a potential loss of productivity because a decreased openness to trade reduces international competition and lowers the incentive to improve competitiveness. With dynamic effects, the long-term impact on German GDP would range between 0.3 and 2 percent below the value if UK remained in the European Union.

Source: Reuters, 24 June 2016

Questions

(a) With reference to Table 4, compare the changes in GDP between Germany and the UK from 2015 to 2017. [2]

(b) **(i)** Using a diagram, explain why the pound sterling fell in value after UK had voted to break out of the European Union. [2]

(ii) Explain whether the depreciated pound sterling would lead to a higher cost of living and standard of living in the UK. [6]

(c) Explain a likely advantage to the foreign firms for locating their businesses in Ireland. [2]

(d) In light of the issues faced by the UK as mentioned in Extract 6, evaluate the Bank of England's decision to cut interest rate. [8]

(e) With reference to the data where appropriate, assess whether on balance, the benefits of Brexit outweigh the costs for UK and the remaining EU member countries. [10]

[Total: 30]

– End of Paper –

MERIDIAN JUNIOR COLLEGE

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COVER SHEET

H2 ECONOMICS

Section A: Case Study Question 1

Name: ______________________________ Civics Group: ____________________

Register Number: ____________ Tutor: ____________________

10 September 2018

READ THESE INSTRUCTIONS FIRST

Write your name, civics group, register number and tutor's name in the spaces at the top of this cover page and on all the work you hand in.

At the end of the examination, fasten this cover sheet to your answer scripts for Case Study Question 1 with the string provided before submission.

QUESTIONS ATTEMPTED		MARKS
(a)	**(i)**	
	(ii)	
(b)		
(c)		
(d)		
(e)		
TOTAL		**/30**

MERIDIAN JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2018

9757/01

COVER SHEET

H2 ECONOMICS

Section A: Case Study Question 2

Name: ______________________________ Civics Group: ____________________

Register Number: ____________ Tutor: ____________________

10 September 2018

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At the end of the examination, fasten this cover sheet to your answer scripts for Case Study Question 2 with the string provided before submission.

QUESTIONS ATTEMPTED		MARKS
(a)		
(b)	(i)	
	(ii)	
(c)		
(d)		
(e)		
TOTAL		/30

Suggested answer scheme:

(a)	**(i) With reference to Table 1, compare the government expenditure per student on primary and university education in Singapore between 2010 and 2016.**	**[2]**
	• **Similarity:** Government expenditure per student on primary and university education both increased overall during 2010 to 2016. • **Difference:** - Expenditure per student on primary education has always been lower than that on university education. **OR** - The increase in expenditure per student on primary education is around 10 times more than that on university education.	
	(ii) Explain one possible reason for the difference observed in (a)(i).	**[2]**
	For 1st difference - The expenditure on university education on a per student basis has always been higher than that for primary education: The cost of university education has always been higher than that of primary education due to the need for research facilities and equipment, payment of salaries to professors (who are more highly trained/skilled and command higher wages), etc. However, university class sizes are smaller compared to primary schools, leading to a higher government expenditure per student on university education compared to primary education throughout the time period. **OR** **For 2nd difference above - The increase in expenditure per student on primary education is more than that on university education:** This may be because the government has perceived the extent of the market failure in primary education to be **larger over the years**. This is because the external benefit of primary education to the whole population is large compared to its private benefits, whereas the large private benefits of university education incentivise individuals to pursue higher education (Ext 2).	
(b)	**With reference to Extract 2, explain how investment in human capital can 'raise incomes for the whole economy'.**	**[4]**
	Investment in human capital would mean increased spending on education and training of labour, which increases quality of labour due to productivity gains (Ext 2). This leads to an increase in productive capacity of the economy. As a result, the LRAS increases, leading to potential growth as full employment level of output increases. As the Singapore economy operates close to full capacity, AD is high enough. Moreover, the rise in G on education and training in the short run will cause AD to rise and be high as well. This causes the potential growth to be actualised. The increase in real output leads to firms hiring more labour and hence wages rise in the economy, leading to an increase in real incomes, which 'raises incomes for the whole economy'.	

(c)	**Use the concept of opportunity cost to explain one possible effect on each of consumers of education and the US government due to the 'rising student debt levels' described in Extract 3.**	**[4]**
	• *Interpret rising student debt level:* The increase in price of university education in US has led to more students taking loans to fund their education. • *Define opportunity cost (or embed definition in answer):* Opportunity cost refers to the highest valued alternative that is sacrificed when an option is chosen. • *Effect of rising student debt levels on consumers of education:* With rising student debt levels, consumers of education (students) have to make a choice between pursuing higher education or going to work, as suggested in Extract 3. If they choose to pursue higher education, the opportunity cost would be the income earned from working (next best alternative) that is foregone. • *Effect of rising student debt levels on US government:* Rising student debt levels would mean that the government would need to raise the amount of financial aid to keep higher education affordable, as suggested in Extract 3. Thus, with a limited budget, the government would have less to spend on other sectors such as healthcare (next best alternative) when they choose to spend more on financial aid for university students. The opportunity cost would thus be the benefit to society from spending more on healthcare that is foregone.	
(d)	**Assess whether supply factors, rather than demand factors, are the key cause of rising price of university education in Singapore.**	**[8]**
	<u>Identify supply factors:</u> • *Ext 1: Increased labour costs, cost to university of owning and maintaining buildings, covering utilities and buying research equipment.* These would lead to a rise in unit COP, lowering profit per unit and hence causing producers to reduce qty supplied at every price. This leads to a fall in supply of university education. • *Ext 1: subsidies on university education*. This leads to a fall in unit COP, thereby causing an increase in SS. • Overall, supply of university education is likely to have fallen since the 'large' rise in labour costs along with other costs stated above may outweigh the effect of subsidies on university education, which are most likely increasing marginally by around 6% over the years based on the increase in govt spending per student (Table 1). **<u>Identify demand factors:</u>** • *Ext 1: Singapore's median household income grew 10%.* *Table 2: increase in Singapore's GDP per capita.* These suggest an increase in incomes and hence purchasing power of consumers, increasing the demand for university education, assuming it is a normal good (YED>0). • *Ext 2: A greater desire for personal fulfilment and increased desire to learn specialised skills.*	

These would lead to a further rise in demand due to increased preference for higher education.

Thesis: Supply factors are more important than demand factors

- **[Fall in SS & MAP]** With the overall fall in supply of university education from S1 to S2 (Fig 1), at the initial price P1, there is a shortage of E1A. This leads to an upward pressure on price. As price rises, quantity demanded starts to fall and quantity supplied starts to rise until a new equilibrium is reached at E2 where the shortage is eliminated. At the new equilibrium, price has increased from P1 to P2 and quantity has fallen from Q1 to Q2.

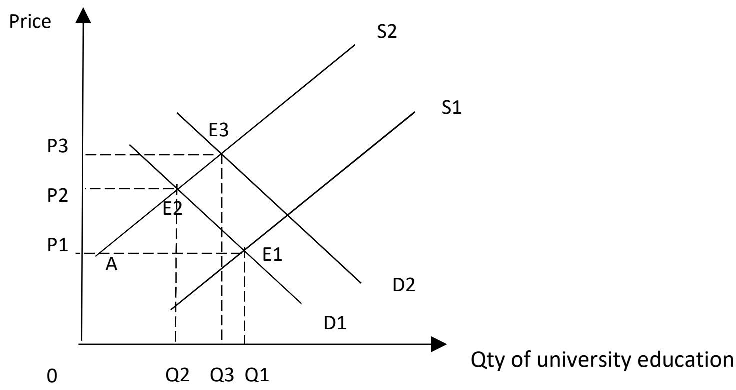


Fig. 1

- **[Rise in DD]** At E2, with the rise in demand for university education from D1 to D2, the resultant shortage at P2 leads to an upward pressure on price. At the new equilibrium E3, price has risen further from P2 to P3 and quantity increased from Q2 to Q3.
- **[Overall impact of both shifts on price]** Both the fall in supply and rise in demand reinforce each other and lead to a rise in price of university education from P1 to P3. This explains the 'jump' in price of university education mentioned in Ext 1.
- SS factors are more important in causing this increase in price because Ext 1 suggests increase in labour cost is a 'large' contributing factor, despite the subsidies. Coupled with the increases in other costs stated above, this would have caused a large fall in SS, leading to a large rise in price.

__EV:__ The PED< 1 for education as it may be deemed as a necessity. With the fall in supply, the price of university education would rise to a larger extent compared to a situation whereby PED>1. Hence, there is a sharp increase in price with the fall in supply.

- Moreover, 0<YED<1 for education since it is considered a normal necessity. Thus, the rise in income leads to a less than proportionate increase in DD, implying that the fall in supply may be a more important factor that is driving the price up.

Anti-thesis: Demand factors may be more important than supply factors

- Ext 2 suggests there is a large increase in DD for higher education as there is a greater desire among young Singaporeans to opt for higher education. Coupled with the rise in demand due to the rise in incomes, the increase in demand may have played a large role in driving up the price of university education.

EV: PES<1 for higher education in the short run as it takes time to gather the necessary factor inputs such as skilled professors, land for building new campuses etc to respond to rising prices. Hence, compared to a situation where PES>1, the increase in dd will lead to a sharp rise in price due to the PES<1.

Conclusion:
Overall, both demand and supply factors account for the large rise in price of university education by 38% (Ext 1).
[Ranking of supply and demand factors] However, Ext 1 suggests that 'large' rise in costs have led to the large rise in prices. Moreover, real incomes actually fell in Singapore as rise in household income of 10% is less than the rise in CPI of 25% (Ext 1), suggesting that supply factors in the form of rise in costs and PES<1 may have played a key role in causing the large rise in price of university education compared to the demand factors.

Mark scheme:

Level	Knowledge, Application & Understanding	Marks
L2	For a rigorous analysis of whether supply factors rather than demand factors are the key cause of rising price of university education, with good use of relevant case materials.	4-6
L1	For a descriptive explanation (lacking in economic linkages and analysis), with limited or no use of case materials. May contain conceptual errors.	1-3
Level	**Evaluation**	**Marks**
E	For an evaluation based on economic analysis and arriving at a judgement on whether supply factors are the key cause of the rising price of university education.	1-2

(e)	**Discuss whether Singapore should follow the US in lowering its higher education subsidies to better achieve the government's microeconomic objectives.**	[10]

Introduction
- Clarify "micro-economic objectives"
  - Efficiency in the allocation of a country's limited resources
  - Equity in the distribution of a country's resources

<u>Anti - Thesis: Singapore should not follow US in lowering higher education subsidies</u>

1. **Need to subsidise due to inefficiency in market for higher education (merit good)**:

- The price mechanism fails to allocate resources efficiently in the market for university education as it is considered to be a merit good. Merit goods are goods that the government believes consumers will buy too few units if provided by the market because of information failure (under-estimation of the private benefits in consumption) and positive externalities in consumption.
- Information failure occurs in the consumption of university education as consumers underestimate the private benefits of consuming the good. For example, university education increases the productivity of individuals and leads to increases in employability and wages (Ext 2). Such increases in future income are uncertain and difficult to estimate accurately. Hence, this lack of information causes individuals to underestimate the private benefits of consuming education, as mentioned in Ext 2 as well. The perceived benefits of consuming the good (MPBif in Fig 2) are less than the true benefits of consuming the good (MPBpk).
- Consumption of higher education also generates positive externalities. Besides the private benefits, with productivity gains from higher education (Ext 2), there are also external benefits on third parties such as citizens who are neither producers nor consumers of university education but benefit from the raised incomes for the economy (as explained in (b) above) which help to create more jobs, lower poverty and crime rates (Ext 2), without compensation. As consumers are only concerned about their private benefits and costs, they ignore such external benefits and under-consume the good. Hence, as social benefit = private benefit + external benefits, the marginal social benefit curve (MSB) lies above the marginal private benefit curve (MPBpk) in Fig 2 below.

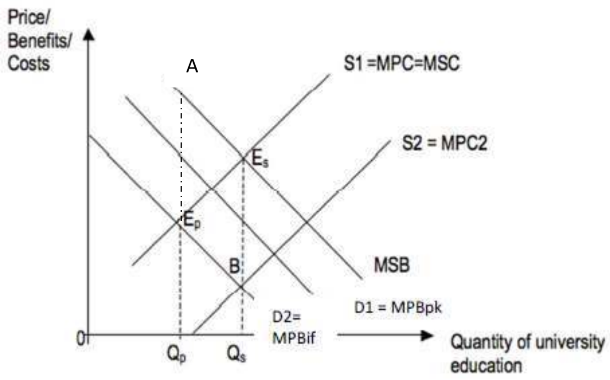


Fig 2

- Assuming no externalities in production, S=MPC=MSC. The social optimum occurs where MSB = MSC at output level 0Qs where society's welfare is maximized. The market equilibrium occurs where MPB = MPC at output level 0Qp where private welfare is maximized. Hence, there is an under-production and under-consumption of university education of QsQp units. This under-allocation of resources to the market leads to a loss of welfare to society, or a deadweight loss of area AEpEs. Thus, there is market failure.

- [Analyse how subsidy works] As a result, there is a need for the govt to subsidise to ensure efficient allocation of resources. A subsidy per unit of EsB (the divergence at the social optimum output level) provided by the government will lead to a fall in unit cost of production and hence a rightward shift in the supply curve from S1 to S2, causing the new market equilibrium level of output (where MPBif = S2) to coincide with the social optimum level at 0Qs. The under-allocation of resources is corrected and the deadweight loss is eliminated, thereby eliminating the market failure.

EV: However, the extent of market failure is smaller for university education compared to primary education. As seen in part (a), the external benefit of primary education to the whole population is large compared to its private benefits, causing the government to spend more to make it more accessible. On the other hand, the large private benefits of university education incentivise individuals to pursue higher education (as suggested in Ext 2) and hence less government spending is required compared to primary education. Thus, the govt may not need to intervene as much in higher education through such large subsidies.

2. **Need to subsidise due to inequity:** Access to university education is a major issue in many countries and is subsidised for equity reasons as most countries consider education as a basic right or necessity. As income is unequally distributed, households with lower income may have problems affording basic education and especially university education, given that university education is usually more expensive. Given rising price of higher education in Singapore (as explained in part d), and US facing high student debt levels due to education being unaffordable (Ext 3), this leads to inequity. Hence, the market fails to allocate resources in a fair and just manner. This further justifies the need to subsidise to lower the market price rather than reducing subsidies.

EV: Ext 1 shows that price of university education has shot up. Besides equity concerns, given the nature of Singapore's economy where investing in human capital is essential for boosting competitiveness and ensuring higher growth and employment, higher education needs to be made affordable. Hence, it may not be appropriate for Singapore to follow the US in further reducing university subsidies in the midst of the rising price of university education.

EV: However, Gini coefficient is lower in Singapore than USA (Table 2). This shows that Singapore suffers from less income inequality and therefore less inequity in society as compared to the US and hence Singapore need not subsidise education as much.

<u>Thesis: Singapore should follow the US in lowering higher education subsidies</u>

1. **Possibility of over-subsidy due to information failure of government:** It is justified to lower higher education subsidies in US and Singapore if there is a possible case of over-subsidy in the market for university education due to information failure of the government. Overestimation of positive externalities and imperfect information leads to over subsidised university education. This would lead to a situation of overproduction where the market produces at an output level that is higher than the social optimum, leading to an over-allocation of resources and hence allocative inefficiency. If this intervention by the government creates a greater welfare loss compared to the initial situation before intervention, government failure ensues. In such a scenario, it may be justified to reduce higher education subsidies as it would lead to a more efficient outcome.

EV: [Comparison of likelihood of information failure of govt in US and SG] US is a much larger country compared to Singapore in terms of geographical area. This may lead to a higher possibility of info failure of govt leading to inaccurate estimation of the amount of positive externalities and information failure generated in society, leading to inaccurate estimation of the amount of subsidy per unit to provide for higher education. Singapore being a smaller country may not face such a big issue of over-subsidy as compared to the US, making the above scenario less likely to occur.

2. **Opportunity cost of spending on higher education:** Ext 1 suggests that there is a need to spend on other areas besides university education due to ageing population in Singapore. Spending on large subsidies on university education may therefore lead to an opportunity cost in the form of the benefits to society of spending on other areas, such as healthcare and infrastructure for the elderly, that has to be sacrificed. This may lead to a possible misallocation of resources if the loss in benefits from spending on healthcare outweigh the benefits gained from spending on university education.

EV: However, Singapore has mostly faced a budget surplus (Fig 1) unlike the US which faced budget deficits. Thus, the above opportunity cost of spending more on university education despite such a budget constraint may be larger in the case of US. Hence, this may not be as big of a concern to the Singapore government.

Synthesis and Conclusion:

- Overall, there are definitely benefits of subsidising university education in terms of efficiency and equity. The extent of market failure and budget position in US could be the main reason why US is lowering higher education subsidies. Singapore is not facing the same budget constraint since we have budget reserves. Hence, the decision on whether Singapore should follow the US in reducing university subsidies requires us to weigh the possible benefit and cost that could arise as a result.
- However, keeping in view that income inequality is relatively lower in Singapore compared to the US and the extent of market failure at university level may be considered smaller compared to lower levels of education, reduction of university subsidies in Singapore may be justified

on the whole. Moreover, given the increasing needs in other sectors especially with the ageing population (Ext 1), it may be more appropriate to use needs-based subsidies such as those mentioned in Ext 3 so as to achieve greater equity while ensuring the government is able to allocate its resources to other areas that are in urgent need of attention.

Mark scheme:

Level	**Knowledge, Application, Understanding & Analysis**	**Marks**
L2	Thorough explanation using relevant economic concepts of whether Singapore should follow the US in reducing higher education subsidies, with reference to relevant case materials.	4-7
L1	Descriptive explanation with limited or no reference to relevant case materials. May contain conceptual errors.	1-3
	Up to 3 additional marks for evaluation	
E2	Well-explained judgement on whether it is justified for Singapore to reduce higher education subsidies like the US.	2-3
E1	For unexplained judgement or mere statements without elaboration.	1

2018 JC2 H2 Economics Prelim_CSQ2_Suggested answers

(a)	With reference to Table 4, compare the changes in GDP between Germany and the UK from 2015 to 2017.	[2]

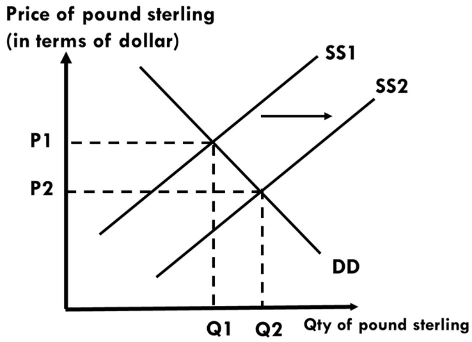
Similarity:
GDP of both Germany and the UK increased from 2015 to 2017.

Difference:
However, Germany's GDP was increasing at an increasing rate, while the UK's GDP was increasing at a decreasing rate.

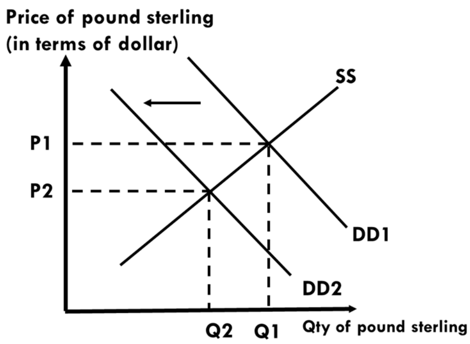
(b)	(i)	Using a diagram, explain why the pound sterling fell in value after UK had voted to break out of the European Union.	[2]

As mentioned in Extract 4, breaking out of the European Union was a "lurch into the unknown", which could give rise to loss in investors' confidence in the economy.

Explain impact on SS of pound sterling in forex market:
This would cause capital outflow from the UK, leading to an increase in supply of pounds in the foreign exchange market, hence reducing the external value of the pound sterling.



OR
Explain impact on DD for pound sterling in forex market:
This would cause a fall in capital inflow into the UK, leading to a decrease in demand for pounds in the foreign exchange market, hence reducing the external value of the pound sterling.



(b)	(ii)	Explain whether the depreciated pound sterling would lead to a higher cost of living and standard of living in the UK.	[6]

Depreciated pound sterling → fall in price of exports in F.C but increase in price of imports in D.C

Impact on cost of living
If consumers consume a large quantity of imports, the increased price of **final** imported goods and services will mean that cost of living will increase.

OR

If UK firms import significant amount of raw materials from overseas, this will cause imported inflation and hence, increase their unit cost of producing domestic final goods, hence, causing SRAS to fall, leading to increases in GPL. Hence, cost of living increases.

Impact on material SOL
Assuming marshall-lerner condition holds (PEDx + PEDm>1), net exports will increase as seen from “boosted exports orders for manufacturing”(Ext 6) → assuming there is spare capacity in the economy → increase AD will result in increase in real output → national income increases by a multiplied amount → increase in quantity of goods and services consumed → increase material standard of living

Explain “whether”: Comment on the extent of change
Material SOL may have worsened instead if the rise in general price level is faster than the increase in national income.

(c)	**Explain a likely advantage to the foreign firms for locating their businesses in Ireland.**	**[2]**

Cost advantages
Locating businesses in Ireland will enable foreign firms to tap into the large EU market and sell to a larger market as inferred from “jumping off point for their European ambitions” (Ext 5). Such increase in market size in turn enable it to produce larger quantity, reaping economies of scale, hence enjoying lower average cost and higher profit, ceteris paribus.

Or

Access to good “technological infrastructure” and “leading services” (ext 5) can enable foreign firms to gain greater productivity if these translate to greater output produced per hour with lesser disruptions to internet connection etc, hence enjoying lower average cost and higher profit, ceteris paribus.

Revenue advantages
Being able to sell to a larger market means that foreign firms will be able to gain larger increases in demand for their goods and services, resulting in increases in total revenue and hence profits, ceteris paribus.

(d)	**In light of the issues faced by the UK, as mentioned in Extract 3, evaluate the Bank of England’s decision to cut interest rate.**	**[8]**

Issues faced by UK: Extract 3: “Inflation is surging, consumer spending is slowing, productivity remains mired in pre-crisis growth levels, and uncertainty reigns supreme”

Explain how decrease in interest rate works
Decreases in interest rate → decrease cost of borrowing→ more firms will be willing to invest → Investment level increases

The fall in the cost of borrowing would also result in an increase in consumption expenditure on big ticket items as consumers would have the ability to purchase items on credit.

<u>Decrease i/r: Ability to address the various issues faced by UK</u>

(Students should address at least 2 problems mentioned below.)

1. **<u>"Slowing consumer spending"</u>**

The lowered cost of borrowing will therefore help to address the 'slowing consumer spending' and hence help to contribute to economic growth.

The increase in both consumption and investment expenditure would result in an increase in UK's aggregate demand as AD= Cd + I + G + X → shortage created → firms run down inventories → upward pressure on GPL→ incentive for firms to ↑output to meet demand→real output in economy has increased, leading to <u>actual growth.</u>

2. **<u>"Inflation is surging"</u>**

The decrease in interest rate may cause hot money outflows, hence, causing pound to depreciate further. This would worsen inflation rates as explained in part bii. However, this maybe a temporary impact as pound may strengthen after the situation on Brexit has stabilised.

3. **<u>"Uncertainty reigns supreme"</u>**

However, given that 'uncertainty reigns'→ the extent of increase in Cd and I will be smaller as consumers are more likely to withhold consumption given uncertainty in their employment and firms are also likely to withhold investment levels given the uncertainty in UK's economic outlook after Brexit → policy will be ineffective in raising economic growth, if this is the intent of the UK govt.

4. **<u>"Productivity remains mired in pre-crisis levels"</u>**

Also, whether the decrease in interest rates will help to increase productivity in UK depends on the type of investment that the firms will undertake given the cheaper cost of borrowing. Given that it is rather incidental; the effectiveness of the policy is likely to be very low.

Conclusion

[evaluate UK's decision] UK's decision to cut interest rate is ineffective given that it is less likely to address any of the above problems. With uncertainty as the biggest problem, therefore, increases in AD is likely to be low.

More importantly, weak productivity is likely to be a main concern and area for the UK govt to focus on as UK leaves the EU. It needs to increase its competitiveness in order to prevent greater loss of FDIs out of UK as a result of foreign firms that used to locate in UK to have access to the larger EU market.

[suggest alternative policies] This can also help to reduce the uncertainty on UK's future economic outlook. Therefore, the UK govt should start looking at implementing ss-side policies instead.

Level	Knowledge, Application, Understanding and Analysis	Marks
L2	For a well-explained answer on decreasing interest rate to address at least 2 macroeconomic problems faced by UK.	4-6

L1	For a limited explanation (lacking in economic linkages and analysis) on decreasing interest rate to address the macroeconomic problems faced by UK.	1-3
	Evaluation	
E1	For an evaluation based on economic analysis and case materials arriving at a judgement on UK's decision to cut interest rate.	1-2

(e)	**With reference to the data where appropriate, assess whether on balance, the benefits of Brexit outweigh the costs for UK and the remaining EU member countries.**	**[10]**

Introduction:
The decision to leave the EU will give rise to both benefits and costs to the UK as well as the remaining EU member countries. However, whether the benefits outweigh the costs for the UK and the remaining EU member countries depends on a few factors.

(Note: Students should at least discuss 1 cost and 1 benefit for UK and EU respectively.)

Development 1: Explain the impacts of Brexit on UK

Benefits of Brexit to UK

1. ***Impact on export revenue of the economies***

One major and immediate impact on the UK after the Brexit vote was a depreciation of the pound sterling against the dollar (Extract 4), which was explained in (b)(i). This will lead to an increase in price of exports for the UK in foreign currency, as well as a decrease in price of imports in pound sterling. Assuming the Marshall-Lerner condition holds, where (PEDx+PEDm)>1, this leads to an increase in (X-M) and hence AD. There is an increase in real output and hence actual growth in the UK. As mentioned in (b)(ii), this may lead to an increase in material SOL.

2. ***Impact on govt's contribution to the EU budget***

Given that the UK is a net contributor to the EU budget, contributing up to £11.3 billion in 2013 (Extract 4), Brexit would mean that the UK government doesn't need to contribute to the EU budget in future and could use the funds to stimulate their own economy. For example, the government could now use the funds to build infrastructure in the UK, giving rise to an injection via increased G in the UK economy. This will lead to an increase in AD, and hence actual growth in the UK economy and improvement in material SOL due to rising incomes and greater purchasing power and access to goods and services. Depending on which area the government spends on, for e.g. if they spend on education and healthcare, there could also be improvement in non-material SOL.

Costs of Brexit to UK

1. ***Impact on migration and the labour force***

One of the main arguments for those in favour of Brexit was with regard to the migration of labour from other EU countries. Moving forward, if the UK were to cap immigration (Extract 7), there could be some consequences on their economy. Firstly, with these migrants now returning to their own countries, the UK's labour force shrinks and this could give rise to a fall in productive capacity, illustrated by a fall in the AS curve. This results in a fall in future material SOL as inflationary pressures may persist with any increases in AD given a lower AS curve.

EV: However, this cap on immigration could also bring about some benefits to the UK. With lesser migrants in their country, the quality of life of the remaining citizens (and hence non-material SOL) may improve since issues like congestion will be reduced given the smaller population size.

2. ***Impact on level of FDI***

Given that the EU single market was a major factor in attracting FDI into the UK (Extract 7), now that the UK is preparing to leave the EU, they would no longer have access to the single market as before. As mentioned in Extract 7, FDI may be diverted to other EU countries now, instead of the UK. The UK faces a fall in FDI and this leads to a fall in AD and hence negative growth. The fall in FDI could also lead to a fall in the UK's AS curve as well, if the rate of increase in FDI does not outweigh the rate of depreciation of capital. This causes a fall in the UK's productive capacity in the LR.

Development 2: Impacts of Brexit to EU members

<u>Benefits of Brexit to EU members</u>

1. ***Impact on level of FDI***

Given that the UK is no longer seen as a viable destination for FDI (Extract 7), there could be diversion of FDI to the remaining EU member countries. This will cause an increase in AD in the SR and AS in the LR for these countries, causing actual and potential growth.

<u>Costs of Brexit to EU members</u>

1. ***Impact on export revenue of the economies***

As it is predicted that there could be a possible reintroduction of tariffs (Extract 7), where the UK imposes tariffs on goods from the remaining EU countries, the UK will import less from the other EU member countries as compared to before when the UK was still part of the EU and they enjoyed free trade. Given a fall in import expenditure by the UK for these countries goods, they will then experience a fall in export revenue and hence a fall in AD. This causes negative economic growth and rising unemployment → fall in material SOL.

EV: However, the extent of fall in X and AD for the remaining EU members depends on how close they were to the UK as trading partners. For instance, Extract 7 suggests that Ireland could be more severely affected compared to Germany, especially because Germany has diversified its trading partners and has "many other markets" for its auto and manufacturing sector. Hence, even with the lack of free trade with the UK, Germany can still generate export revenue through the sale of exports to other countries. That said, Ireland has actually been able to enjoy higher growth rates than the UK and the EU as a whole from 2015 to 2017 (Table 4), so it could mean that they have been able to generate growth through other means apart from export revenue to the UK.

2. ***Impact on govt's contribution to the EU budget***

Since the EU's biggest contributor to its budget (i.e. the UK) has voted to leave the EU, the remaining EU member countries would now have to "fill in some of the shortfall from a lack of its contributions" (Extract 7). This is estimated to be up to 19.4 billion euros in total, with a large amount contributed by Germany of about 2.5 billion euros. This would mean that the governments of those countries would incur an opportunity cost in terms of the loss in benefits from not spending that sum of money on areas such as healthcare or education in their own economies. The larger their contribution is to the EU budget (e.g. for countries like Germany), the larger the opportunity cost incurred.

3. ***Impact on migration and the labour force***

If the UK were to cap migration, migrants from other EU countries who used to be in the UK will now have to return back to their countries. As mentioned in Extract 7, countries in eastern Europe (e.g. Poland, Romania) will suffer the most as they have the most number of citizens in the UK. With the large numbers of migrants returning home, assuming if they are low-skilled workers, this will cause the supply of low-skilled labour in those countries will increase, driving down wages in their labour market. There could also be large scale unemployment which could bring about increased social problems and increased burden on government budget should these governments have to provide unemployment benefits for these returned unemployed migrants.

EV: However, migrant workers maybe also be of higher skillsets. If so, they can contribute to a more productive workforce and hence increase productive capacity (rightward shift of AS) → potential growth.

Conclusion:
[Answer the question] Evaluate whether benefits outweigh the costs:

For the UK, whether or not the benefits outweigh the costs would depend on whether the government is able to put in place appropriate policies to deal with the potential loss in FDI as well as the fall in productive capacity. For instance, if the UK is able to develop the right infrastructure to attract FDI (e.g. like Ireland, in Extract 5), the fall in FDI may not be so significant despite them not being a part of a large EU single market. In addition, should the government be able to adopt appropriate supply-side policies to increase productivity in the economy, in spite of the cap on immigration which would lead to a fall in the quantity of labour, the quality of both labour and capital can more than make up for it and hence still allow for an increase in the productive capacity of the UK's economy in the LR. This is especially possible since the UK govt's contribution to the EU budget can now be reallocated for such a purpose.

For the remaining EU members, whether or not the benefits outweigh the costs depend on the closeness they are to the UK as trading partners and whether they are able to diversify their trade to depend on other economies now that free trade with the UK is no longer possible after their departure. Also, while the UK has now left the EU, making the remaining member countries more attractive to FDI since they are still part of the single market offered by the EU, the extent to which they can benefit from increased FDI also depends very much on their own attractiveness as a destination for FDI. For e.g., Ireland is an attractive destination for FDI and would probably be able to attract much of the existing FDI in the UK over given their "natural advantages" (Extract 5).

Level	Knowledge, Application, Understanding and Analysis	Marks
L2	Explanation of the benefits and costs of Brexit on the UK as well as on the remaining EU member countries with thorough economic analysis, making explicit links to macroeconomic goals as well as SOL	5-7
L1	Explanation of the benefits and/or costs of Brexit on the UK and/or the remaining EU member countries, which may or may not include clear reference to the macroeconomic goals or SOL	1-4
	Up to 3 additional marks for evaluation	
E2	Application of relevant economic concepts to make a judgment on whether the benefits of Brexit outweigh the costs for both the UK as well as the remaining EU member countries	2-3
E1	Unexplained judgment on whether the benefits outweigh the costs for the UK and/or the remaining EU member countries	1

MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

H2 Economics 9757/02

Paper 2 Essays **17 September 2018**

2 hours 15 minutes

Additional Materials: Writing Paper

READ THESE INSTRUCTIONS FIRST

Do not open this booklet until you are told to do so.

Write your name, class and register number in the spaces at the top of the answer sheets.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

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.

Begin each essay question on a fresh sheet of paper.
At the end of the examination, fasten all your work securely to the cover sheet with the string provided.
The number of marks is given in brackets [ ] at the end of each question or part question.

[Turn Over]

Answer **three** questions in total.

Section A

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

1 Due to scarcity, resources have to be allocated between competing uses. For instance, farmers in India are increasingly allocating more land to growing cotton instead of tea leaves. Such decisions may be influenced by fast-changing clothing trends.

(a) Explain how the price mechanism can allocate scarce resources efficiently with increasing demand for a product. [10]

(b) Given these farmers' decision on the use of their land, assess the relevance of elasticity concepts in explaining the impact on consumers' expenditure on tea and other beverages. [15]

2 Discuss the extent to which government failure is the main factor that a government should consider when addressing the various sources of market failure. [25]

3 Disruptive technologies include the advent of e-commerce retailing which has led to consumers buying cheaper products online rather than going to a physical location.

(a) Explain how the survival of firms is affected by disruptive technologies. [10]

(b) Discuss whether increasing competition faced by large retail firms is desirable for the society. [15]

Section B

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

4 Discuss the extent to which trade-offs in macroeconomic objectives will arise when the Singapore government allows its currency to appreciate. [25]

5 Rising government expenditure especially on subsidies is causing many governments to face rising debts.

(a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]

(b) In view of rising government debts, discuss whether government subsidies to increase an economy's global competitiveness are justified. [15]

6 Globalisation has made our world more interconnected than ever before and presented a wealth of opportunities. Yet, globalisation has also presented an uneven distribution of its benefits and costs.

(a) Explain the factors that have fuelled globalisation. [10]

(b) Globalisation has presented an uneven distribution of its benefits and costs. Discuss the reasons for this. [15]

\- End of Paper -

MERIDIAN JUNIOR COLLEGE
JC2 PRELIMINARY EXAMINATION 2018

9757/02

COVER SHEET

H2 ECONOMICS

Section A & B: Essay Question

Name: ______________________ Civics Group: _______________

Register Number: _____________ Tutor: ____________________

17 September 2018 **2 Hours 15 Minutes**

READ THESE INSTRUCTIONS FIRST

Write your name, civics group, register number and tutor's name in the spaces at the top of this cover page and on all the work you hand in.

WRITE down the question number you have attempted.

At the end of the examination, fasten this cover sheet to your answer scripts for the essay with the string provided before submission.

QUESTION ATTEMPTED	MARKS
Question _____	/25

MERIDIAN JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2018

9757/02

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Question _____	**/25**

MERIDIAN JUNIOR COLLEGE

JC2 PRELIMINARY EXAMINATION 2018

9757/02

COVER SHEET

H2 ECONOMICS

Section A & B: Essay Question

Name: ______________________ Civics Group: _______________

Register Number: _____________ Tutor: ____________________

17 September 2018 **2 Hours 15 Minutes**

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At the end of the examination, fasten this cover sheet to your answer scripts for the essay with the string provided before submission.

QUESTION ATTEMPTED	MARKS
Question _____	/25

Essay Q1

1	Due to scarcity, resources have to be allocated between competing uses. For instance, farmers in India are increasingly allocating more land to growing cotton instead of tea leaves. Such decisions may be influenced by fast-changing clothing trends.		
	(a)	Explain how the price mechanism can allocate scarce resources efficiently with increasing demand for a product.	[10]
	(b)	Given these farmers' decision on the use of their land, assess the relevance of elasticity concepts in explaining the impact on consumers' expenditure on tea and other beverages.	[15]

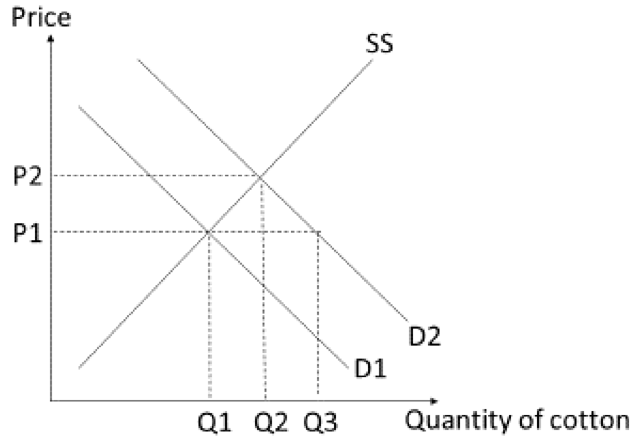
Part (a): Explain how the price mechanism can allocate scarce resources efficiently with increasing demand for a product. [10]

Intro

The central economic problem of scarcity arises due to limited resources and unlimited wants. As society cannot have all the output it desires, choices have to be made by consumers and producers. The price mechanism is the process in a market economy where consumers and producers interact to determine the allocation of these resources among competing uses.

Development: Roles of the price mechanism

Prices perform two key roles which are the **signalling** function and **rationing** function.



[Signalling Function]

Consumers use prices to signal to producers their changing preferences and ability to buy goods and services. Price is the value consumers place on for each unit of good consumed. Producers use prices to signal to consumers their ability and willingness to produce each unit of good. Producers are profit motivated and will charge prices which maximize their profits.

Adjustment process

Assume that there is perfect competition and there are no externalities. Referring to the figure above, the initial equilibrium is where demand (D1) = Supply (SS) and price will be at P1 and quantity will be at Q1. Given that there is now an increase in demand for cotton, it means that there are more dollar votes cast for cotton. Demand will increase from D1 to D2. At initial price P1, a shortage of Q1Q3 is created. This causes an upward pressure on price.

This will signal to producers to allocate more resources to increase production to Q2 due to possibility of earning greater profits, thus quantity supplied increases from Q1 to Q2.
In the long run, the increase in price may lead to increase in producers entering the market, resulting in an increase in supply and even more resources like land allocated into the market for cotton.

What to produce
Hence, higher prices signal to producers what they need to produce and lower prices signal what need not be produced. Producers allocate more resources to the market of cotton. Resources like land used to produce tea leaves are reallocated to produce cotton. Hence, price mechanism determines what to produce in the market.
How to produce
In the market for cotton, producers are in competition with each other for the dollar votes of the consumers. Consumers will buy from producers which offer the lowest price. So producers must produce at lowest cost if they are to survive in the market in the long run, creating incentive for firms to adopt the least cost method of production. This thus determines how goods are produced. Changes in the goods market will then be reflected in the factor markets. Demand for resources in cotton industry like land and labour will rise. There will thus be a transfer of resources from other industries like tea leaves into the cotton industry.

[Rationing]
Prices also serve to ration goods and services to consumers who are willing and able to pay. The amount of goods purchased depends on their income, prices and preferences. Producers will only supply goods and services to those who are willing and able to pay while those who are unable or unwilling to pay will be driven out of the market.
For whom to produce
With reference to the diagram, as price of cotton increases, there is a decrease in quantity demanded from Q3 to Q2. Consumers who are unwilling or unable to purchase cotton will be rationed out of the market. Hence, price also determines for whom to produce.

<u>Conclusion/Synthesis</u>
In a market economy, prices have a signalling and rationing function, which helps to allocate resources efficiently. However, in reality, price mechanism may fail to allocate resources efficiently due to imperfect competition or presence of externalities.

M**ark scheme:**

Knowledge, Understanding, Application, Analysis		
L3	For an answer that gives a clear economic analysis on the functions of the price mechanism in terms of resource allocation between goods and factor markets for cotton.	8-10
L2	Underdeveloped answer or an inadequate attempt to explain the functions of the price mechanism in terms of resource allocation between goods and factor markets. OR Only explains in detail either function of the price mechanism.	5-7
L1	For an answer that demonstrates some relevant knowledge or brief description on the functions of the price mechanism.	1-4

Part (b): Given these farmers' decision on the use of their land, assess the relevance of elasticity concepts in explaining the impact on consumers' expenditure on tea and other beverages. [15]

__Intro__

From part (a), farmers are likely to allocate more land to the production of cotton rather than tea leaves. Since these two goods are in competitive supply, less tea leaves will be produced at every price, resulting in a fall in supply and increase in price of tea leaves.

__Development 1: Relevance of PED in the market for tea__

Since tea leaves are a factor of production for tea, unit cost of production for tea increases. Potential profits per unit falls, and profit motivated producers will cut down on production of tea at every price. As SS for tea decreases, equilibrium price increases and equilibrium quantity decreases. The change in consumers' expenditure is dependent on the relative changes in price and quantity. This can be determined by the price elasticity of demand.

Price elasticity of demand (PED) measures the degree of responsiveness of quantity demanded of a good to a change in the price of the good itself, ceteris paribus.
Price elasticity of demand for tea = % change in quantity demanded of tea/ % change in the price of tea
The numerical sign of the price elasticity of demand for normal goods is necessarily negative due to the inverse relationship between the price and quantity demanded of the good.

Assuming PED>1: the demand for tea is **price elastic** i.e. for a given **increase in the price** of tea, there will be a **more than proportionate fall** in the quantity demanded, ceteris paribus. This is possible in the case whereby tea is deemed to have many close substitutes available such as caffeinated beverages like coffee and coke. Consumers are very responsive to price increase as they can easily switch to purchasing other readily available substitutes. Thus, the increase in consumers' expenditure due to increase in price is less than the decrease in consumers' expenditure due to the fall in quantity demanded. Overall, consumers' expenditure will decrease.
Assuming PED<1: the demand for tea is price inelastic i.e. for a given **increase in the price** of tea, there will be a **less than proportionate fall** in the quantity demanded, ceteris paribus. This could be a case of heavy tea-drinkers who deem tea to have no close substitutes. In this case, consumers' expenditure increases.

Hence, PED is very relevant in determining changes in consumers' expenditure in the market for tea.

__Development 2: Relevance of XED & PES in the market for other beverages__

As price of tea increases, consumers may switch to relatively cheaper substitutes like coffee and other beverages, increasing the demand for these beverages. As demand increases, equilibrium price and quantity increases.

Price elasticity of supply (PES) measures the degree of responsiveness of quantity supplied to a change in the price of good, ceteris paribus.

Price elasticity of supply for good A = % change in quantity supplied of beverage/ % change in the price of beverage
The PES value is positive because of the direct relationship between price of the good and the quantity supplied of the good itself.

Assuming PES>1: the supply for the beverage is **price elastic** i.e. for a given **increase in the price** of the good, there will be a **more than proportionate increase** in the quantity supplied of the good, ceteris paribus. This could be in the case of beverages such as caffeinated can drinks with preservatives such as coffee and soft drinks which have a longer shelf-life and can be stored cheaply with minimum loss of quality. Given the availability of stocks, firms can easily increase their output to the market by drawing down on their inventories when price goes up.
Assuming PES<1: the supply for the beverage is **price inelastic** i.e. for a given **increase in the price** of the good, there will be a **less than proportionate increase** in the quantity supplied of the good, ceteris paribus. This would be applicable for substitutes like fresh fruit juice that have short shelf life and cannot be stored for long.

While PES tells us the relative changes in price and quantity, regardless of PES value, consumers' expenditure will increase in this case as price increases and quantity increases. The increase in consumers' expenditure, is also highly dependent on the extent of the shift in demand for other beverages, hence XED may be more relevant than PES.

Cross elasticity of demand (XED) of other beverages *with respect to the price of tea* measures the **degree of responsiveness of demand of another beverage** to a **change in the price of tea**, ceteris paribus.
Cross elasticity of demand of another beverage with respect to the price of tea
= % change in demand of another beverage/ % change in the price of tea
The numerical value of cross elasticity of demand may be positive or negative. In the case of other beverages in relation to tea, the XED value is **positive** as they are **substitutes.**
The magnitude of the value of the cross elasticity of demand indicates the extent of the relationship.

Assuming XED>1: the cross elasticity of demand for the beverage is elastic i.e. a **given increase in price of tea** leads to a **more than proportionate increase in demand for the substitute**. This is possible for close substitutes such as coffee which also contains caffeine and can be deemed to achieve similar level of satisfaction for consumers. Demand increases by a large extent, resulting in a large increase in equilibrium price and quantity for coffee, hence consumers' expenditure increases by a large extent.
Assuming 0<XED <1: the cross elasticity of demand for the beverage is inelastic i.e. a **given increase in price of tea** leads to a **less than proportionate increase in demand for the substitute**. Such substitutes could include decaffeinated beverages like fresh fruit juice and bottled water. Hence, consumers' expenditure is likely to increase by a small extent.

Therefore, XED is a key determinant of the change in consumers' expenditure for other beverages.

Development 3: Relevance of YED in the market for tea and other beverages

Income elasticity of demand (YED) measures the degree of responsiveness of demand of a good to a change in income, ceteris paribus.
Income elasticity of demand = % change in demand of a good/ % change in income

The numerical value of income elasticity of demand may be positive or negative. Inferior goods have negative income elasticity of demand i.e. as income increases the demand for the good falls, ceteris paribus.

On the other hand, beverages like tea are considered as normal goods with positive income elasticity of demand i.e. as income increases the demand for the good increases, ceteris paribus. If deemed as a luxury good, **YED>1** and demand is income elastic i.e. for a given **increase in income**, there will be a **more than proportionate** increase in the demand of the good. The demand for luxury goods is **income elastic**. If deemed as a **necessity**, **YED<1** and demand is income inelastic i.e. for a given **increase in income** there will be a **less than proportionate** increase in the demand of the good.

In this context, as there is assumed to be no change in income, YED is least relevant in determining changes in consumers' expenditure in the markets for tea and other beverages.

Conclusion/Synthesis:

Theoretically, the ***PED of tea is most relevant in showing the effects a decrease in supply on consumers' expenditure on tea****. The increase in demand for alternative beverages suggests* ***that XED is most relevant in determining the extent of increase in consumers' expenditure for different substitutes****. However,* ***in reality, elasticity data may not be accurately computed.*** *In addition, internal changes (e.g., firm learns more cost-effective methods of production) or changes to the firm's external environment (e.g., more substitutes to the firm's products appear in the market) may occur. Therefore,* ***such data may also change from time to time****, making it harder to rely upon and therefore less relevant to determine the changes in consumers' expenditure.*

Mark scheme:

Level	Knowledge, Understanding, Application , Analysis	Marks
L3	Well-developed analysis of the changes in the markets for tea and other beverages, with application of different elasticity concepts to clearly demonstrate relevance.	8-10
L2	An underdeveloped analysis of the relevance of various elasticity concepts. OR Limited scope of elasticity concepts/markets considered in analysis.	5-7
L1	For an answer that shows some knowledge of changes in the market and/or elasticity concepts. Mere listing of points and definitions.	1-4
E3	*Provides analytically well-reasoned judgement on the relative relevance of elasticity concepts in determining changes in consumers' expenditure on different beverages.*	*4-5*
E2	*Makes some attempt at a judgement on the relative relevance of elasticity concepts in determining changes in consumers' expenditure on different beverages.*	*2-3*
E1	*Gives an unsupported statement on the relative relevance of elasticity concepts.*	*1*

Discuss the extent to which government failure is the main factor that a government should consider when addressing the various sources of market failure. [25]

Introduction

Market failure occurs when the free market fails to allocate resources efficiently and equitably. There are various sources of market failure that is <u>externalities, market dominance, income inequality, factor immobility and missing markets</u>.

Based on the various sources of market failure, government intervention is deemed necessary to overcome the problem of inefficiency and inequity so that the microeconomic objectives of the government are attained. However, in some circumstances, government intervention aimed at solving the problem create greater inefficiencies which outweigh the benefits of government intervention. This is government failure, an unintended consequence of government intervention. The likelihood of government failure is influenced by the availability of information and the constraints, that is, whether government has the ability to finance the policy. There are also other factors that could influence government decision to address market failure. The extent of market failure and the nature of the economy will determine the severity of the problem and whether government intervention is necessary.

Development

Students need to consider the likelihood of government failure as well as other factors that go into a government decision when it addresses specific sources of market failure.

1. Explain 2 sources of market failure
2. What contributes to govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention] (ii) efficiency due to the lack of profit motive
3. Other factors (i) severity of the market failure (ii) Nature of the economy

Source of market failure	**Factors**	**Elaboration**
Externalities [E.g. Negative Externalities in Production due to industrial production]	Government Failure	*Likelihood govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention]* Need for government intervention: Negative Externalities in Production - industrial production that result to carbon emission →pollution reduces air quality which increased risk of respiratory problems → divergence of costs curve [MSC> MPC] → overallocation of resources → taxation required → socially optimal level achieved **(i) Unintended consequences of govt intervention due to the lack of information available**

		The lack of information → i) overestimation of externalities, i.e. MEC → Result to overtaxation that do not bring about positive outcomes in reducing pollution. →ii) PED values unknown → inability for producers to measure the exact amount of taxes This could bring about inequity in resource allocation.
	Severity of market failure	Due to increase in temperature and climatic changes due to global warming, it is evident that industrialisation has bring about huge negative externalities in production, increasing the severity of market failure.
	Nature of economy	It is important to reduce negative externalities in production due to industrial production. This improves quality of economy and hence productivity of workforce and our infrastructure. This allow Singapore to remain attractive as a destination for Foreign Direct investments which is essential for a small economy that is reliant on FDI.
Public Goods [National Defence]	Government Failure	*Likelihood govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention] (ii) efficiency due to the lack of profit motive* Need for government intervention: Characteristics of Public good → National Defence → Explain features of non-excludability and non-rivalry and how it results to missing market **Unintended consequences of govt intervention** (i) The lack of information → no expression of dd so government may overestimate the dd required → result to overprovision of public goods → govt failure (ii) Inefficiency of state owned enterprise given the absence of profit and competition → higher cost with direct provision Government may run into budget deficits when addressing the issue which pose a strain on government budget. It may not be feasible if the government is already accumulating fiscal debts.
	Severity of market failure	Large because there are no goods that will be provided by the free market.
	Nature of economy	Being a small country that is vulnerable to external threats, there is a need for strong defence to ensure continued survival.
Factor Immobility	Government Failure	*Likelihood govt failure → The need for intervention and type of intervention in the market (i) information failure [intended and unintended consequences as a result of intervention]*

		Need for government intervention: Factor immobility (occupational immobility) → productive and allocative inefficiency → underallocation of resources → Education to increase labour mobility to expanding industry **Unintended consequences of govt intervention due to the lack of information available** The lack of information i) Government may identify the wrong industries to develop because it is difficult to gain comparative advantage in production due to the dynamic changes in comparative advantage → workers who undergo training will be redundant because skills are no longer relevant to the expanding industry. ii) Furthermore, there might be time lags and the skills acquired will be obsolete by the time workers are being train because it takes a long time for workers to pick up the skills. → labour mobility may not improve iii) The receptivity of the workers cannot be predicted accurately → training may not improve workers' skills if workers are not receptive → labour mobility may not improve All these poses a strain on government budget. The government need to consider her budget position and only commit if they can afford it on a sustainable level.
	Severity of the problem	Besides inefficiency, factor immobility brings about inequity, another source of market failure. This adds on the severity of the problem. It causes structural unemployment → conflict with macro goals
	Nature of the economy	Labour is a key resource in SG → hurt country export competitiveness and also how attractive SG is for FDI.
Market Dominance	Government Failure	Need for government intervention: Market dominance → large market share → market power → i) ability to set prices such that price is greater than marginal cost → underallocation of resources due to allocative inefficiency **Unintended consequences of govt intervention due to the lack of information available**

		The lack of information → law enforcers may lack the high level of technical knowledge required to understand the nature of the business for a fair verdict to be passed → too much competition is introduced → making it difficult to enjoy the advantages of internal economies of scale
	Severity of the problem:	(i) Types of goods – If the goods sold are necessities, the extent of market failure will be larger (ii) Contestability of market – If markets are contestable due to the advancement in technology or globalisation, there will be potential threat of competition which reduces the inefficiency by firms.
	Nature of the economy:	Singapore has a small and open economy that is bound to international competition. Bearing the characteristics of an open economy, together with the recent trends towards globalization and signing of FTAs → increased competition of SG firms in the international economy → more competition will result in greater efficiency in terms of allocation of resources → less need for government to intervene in the area of market dominance
Conclusion		
Government will need to consider various factors when tackling the sources of market failure, which includes government failure as explained above. This is undergirded by the **availability of information on the source of market failure** (root cause of the problem), as well as the **constraints** before government can pinpoint on the best policy that could minimise government failure. With the information at hand, government will need to **weigh the benefits and cost of the intervention** and **only intervene if benefits outweigh the costs** of intervention. The government will also need to be **mindful of the internal and external changes** that will affect factors that government need to consider when tackling the sources of market failure. For instance, with increased globalisation, the problem of market dominance is less severe due to increased competition. **Depending on the source of market failure, the most important factor may differ.** For instance, for public goods such as national defence, Singapore's small land size and vulnerability of external threats is the main factor why government needs to provide national defence rather than considering government failure. However, it is important for the government to try to reduce the possibility of government failure by ensuring it has more information, and to ensure that there is greater efficiency for state owned enterprises which will bring about less unintended consequences such as excessive government spending which will affect the government budget. **Hence, in the above case, government failure may be a key factor <u>only to a small extent</u> when a government decides on addressing the market failure.**		

Level	Description	Marks
L3	For an answer that uses appropriate analysis to explain the 2-3 factors which affect government decision in tackling 2 sources of market failure. Answers should include why government might need to intervene in at least 2 source of market failure, considered the degree of effectiveness of one intervention from each source of market failure, how government failure will affect the choice of policy.	15 – 20 (18)
L2	For an answer that gives analytical explanation of 1 factor accompanied with many descriptive explanation of the other factors which affect government decision in tackling 2 sources of market failure OR analytical explanation of 3-4 factors of decision making framework which affect government decision in tackling a source of market failure.	9 – 14 (12)
L1	For an answer that shows some knowledge of government failure or cost and benefits that governments consider when making decision on policies taken to tackle market failure.	1 – 8 (5)

E3	For an answer that uses analysis to support an evaluative appraisal of the determinants and decide whether government failure is the key factor for government consideration.	4-5
E2	For an answer that makes some attempt at an evaluative appraisal of the determinants	2-3
E1	For an unexplained evaluative statement	1

Answers for Essay Question 3

Disruptive technologies include the advent of e-commerce retailing which has led to consumers buying cheaper products online rather than going to a physical location.

(a) Explain how survival of firms is affected by disruptive technologies. [10]
(b) Discuss whether increasing competition faced by large retail firms is desirable for the society. [15]

Part a) Explain how survival of firms is affected by disruptive technologies. [10]

Introduction

- A firm's survival is dependent on whether they are able to cover its variable costs in the short run and long run. If they are unable to do so, they will not survive and will need to shut down and exit the industry.
- Define short run – time period with at least one fixed factor and long run – time period with all factors that are variable.
- Disruptive technology could allow more competition on firms and firms can also tap on the technology to differentiate itself and gain larger market share.
- In this essay, we will look at the impact of more competition as consumers turn to online platforms stated in the preamble.

Development 1 – Analysis of disruptive technology on firm's profit

- Disruptive technology reduces demand of goods and services from physical retail outlets because prices of goods and services from online store are relatively cheaper. Demand will also be more price elastic because there are more substitutes that are available.

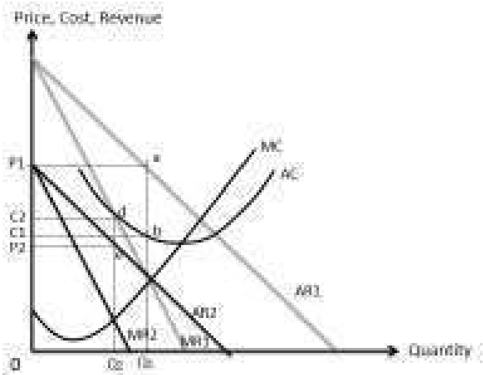


Figure 1: Impact of disruptive technology on firm

  - Initially, the firm maximizes profits at MC=MR1 at output Q1. When outpiut is less than 0Q1, the revenue gained is greater than the cost for an additional unit of good, profits increases with higher output. The converse holds true. Producing one more or one less unit will lead to a fall in total profit.
  - Disruptive technology → ↓demand → ↓AR → may result in subnormal profits (AR<AC) where profits have fallen from supernormal profits of P1abC1 to P2edC2.

[Note] However, disruptive technology may prove opportunity for firms to tap on large markets through e-commerce and hence demand may increase.

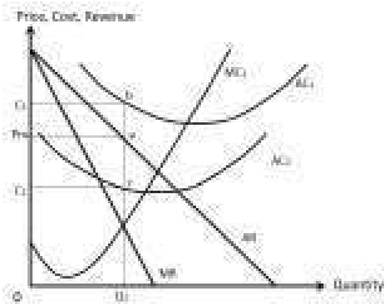
- As explained earlier, firms will consider their variable costs to decide if they are able to survive.

Development 2 – Survival of Firm in SR

- A firm will survive in the short run if its average revenue is able to cover its average variable costs.
- In the short run, a firm incurs both fixed and variable costs.
    - Fixed costs are incurred regardless of the level of output produced by a firm. Even if a firm produces no output i.e. shuts down it will still incur fixed costs.
    - Variable costs are incurred based on the level of production.
    - Provide examples of fixed and variable costs.
- The assumption is that the firm's AR have fallen to an extent that it is making subnormal profits. The firm is also assumed to be a profit motivated firm which intends to minimise its loss.
- A firm cannot survive and will shut down if AR<AVC
    - If AR<AVC, choosing to shut down would mean that the firm only makes a loss equal to its fixed costs. However, if a firm chooses to continue production, the firm would not only incur fixed costs, but it would also incur part of the variable costs. The loss incurred by the firm would be the fixed costs and part of the variable costs as the revenue can only cover part of the variable costs.
    - Thus, a firm's loss is minimised by choosing to shut-down when AR<AVC
- A firm will survive as long as AR>AVC
    - If AR>AVC, choosing to continue production would mean that the loss would be equal to only part of the fixed costs as the revenue is able to cover not only the variable costs but also part of the fixed costs. This would a smaller loss compared to shutting down which would incur a loss equal to the fixed costs.
- However, if AR=AVC, a firm may be indifferent to shutting down in the SR. Choosing to shut down or continue production would incur the same loss.

Development 2 – Exit of Firm in LR

- In the long run, the firm may decide to close down and exit the industry if they make losses.
- In the long run, there are no fixed costs as all factors are variable.
- A firm will exit the industry if AR<AC → subnormal profits



- If $AR \geq AC$, a firm is either making normal profit or supernormal profit. A firm is earning to at least cover its total costs and will continue to remain the industry.
- If $AR < AC$, the firm will make subnormal profits (reference the diagram). Profit motivated firms will choose to exit the industry.

Conclusion

- With disruptive technology, firms may suffer from subnormal profits due to falling demand. In the short run, the firm will survive as long as $AR > AVC$. In the long run, the firm will need to ensure that $AR > AC$ to survive.

MARK SCHEME

L1	Some knowledge of impact of disruptive technology on firms and how survival of firms are affected but it is largely assertive.	1 – 4m
L2	Analytical explanation of impact of disruptive technologies on firms and how survival of firms will be affected in the short run OR long run with some descriptive points.	5 – 7m
L3	Analytical explanation of impact of disruptive technology on firms and how survival of firms is affected in the short run AND long run by linking to the shutdown conditions.	8 – 10m

(b)Discuss whether increasing competition faced by large retailers is desirable for the society. [15]

<u>Introduction</u>

Define retailers: **Retailers** refer to business units or shops which sell goods or services directly to consumers. Examples of retailers in Singapore include shops operating in large shopping malls or in housing (HDB) estates.

With disruptive technology, it allows markets to operate in an environment near perfect information, e.g. Facilitates greater price transparency, quicker access to information for firms and consumers to make comparisons on price and non-price aspects of a products. Furthermore, it also enables firms to be more contestable by reducing the barriers to entry. Hence, this intensify competition between firms in an industry.

The essay analyses whether increasing competition is desirable for the society by analyzing the impact on consumers (lower prices, greater choices, consumer's surplus), producers (profits) & government (efficiency & equity).

<u>Extra information:</u> *In Singapore, there are a large number of small and medium enterprises such as hair salons, apparel shops, food and beverages and consumer electronics shops which fit into monopolistic competitive structure. However, there are <u>large retailers</u> in some of the industries which exhibit the characteristics of oligopolies such as supermarkets such as NTUC, Diary Farm (Cold Storage and Giant), Sheng Siong, petrol stations such as Shell, Esso, SPC and Caltex, fast fashion retailers that multiple chains countrywide and worldwide such as H&M, Zara and Topshop. These firms are faced with high barriers to entry resulting to a few large firms with large market share in the industry and are mutually interdependent where they can choose to compete and collude.*

<table>
<tr>
<td>Yes, increasing competition faced by large retailers may be desirable for the society because</td>
<td>No, increasing competition faced by large retailers may not be desirable for the society because</td>
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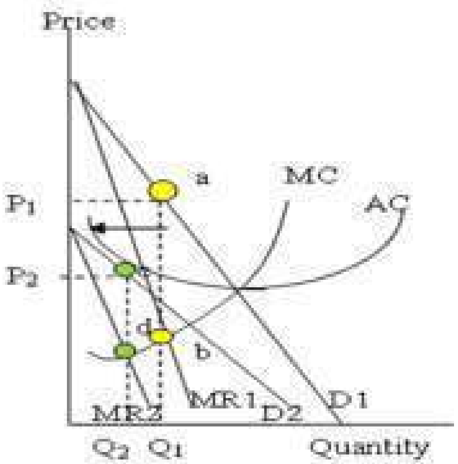
1. Reduce market power



With greater competition, more firms enter the market → lower firm's market share and thus ability to restrict output & charge higher prices → The demand curve facing the oligopolist falls and becomes relatively more price elastic (due to the presence of greater

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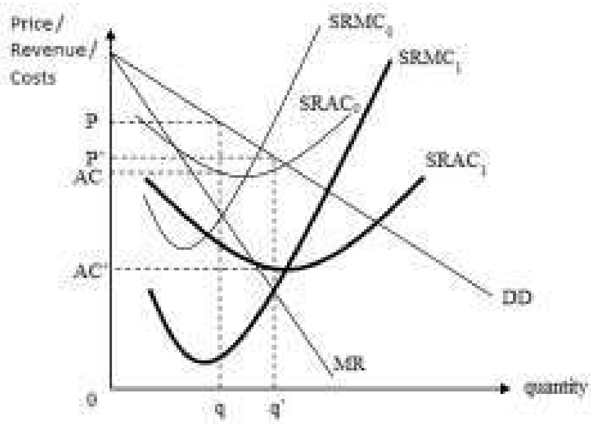
1. Loss of EOS leading to higher unit cost incurred and thus higher prices for consumers.



A large retailer is able to enjoy internal EOS from larger scale production but a smaller firm does not. This is because the larger retailer is able to practice specialization of labour (e.g. customer service, cashier duties etc) hence enjoying technical EOS. Also they are able to

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close substitutes in the market) → as such prices fall from P1 to P2 → improvement in consumers' welfare Moreover, with more firms entering the market, there will be a greater range of products that will be offered to consumers → improvement in consumers' welfare **2. Firms would be less allocative inefficient** Firms are allocative efficient when they are producing the right amount of the right type of good, where P = MC With greater competition in the supermarket→ The demand curve facing the oligopolist falls and becomes relatively more price elastic as shown in diagram above →reduces degree of market power → lesser ability to restrict output and raise prices above MC→ underproduction will be lower→ less allocative inefficient → improvement in society's welfare EV: Can consider an oligopolistic firm that is currently operating in a contestable market. The threat of potential competition would result in these firms behaving in a competitive manner and thus would be less allocative inefficient to begin with. **3. Proliferation of innovative products and services** With more competition due to ↓BTE → firms would have greater incentive engage in product development (self-checkout kiosks and mobile pay) → increase in firm's dd & TR → consumers get to enjoy better quality products → improvement in consumers' welfare EV: However, firms may be restricted to invest in R&D due to the lesser ability to retain supernormal profits in the LR due to lower demand from increased competition. Thus, while they may be willing to do so, they may lack the ability.	purchase goods in bulks and enjoy bulk discounts, therefore enjoying marketing economies of scale. Producers will face higher unit cost of production from SRMC1 to SRMC0 and hence lower profits. Furthermore, producers may transfer the higher cost to consumer through higher prices from P' to P → consumers' welfare compromised. **2. Lack of product development and innovation due to lower profits retained in the LR** With increased competition, it will make it easier for new firms to enter the market when existing supermarkets are earning supernormal profits in the SR → weakened ability to earn supernormal profits in LR → Less funds available for R&D activities → there will be less product development and lower quality products for consumers → Lack of dynamic efficiency → consumers' welfare is compromised, firms also get to enjoy lower profits level too EV: However, the lower profits retained in the LR would reduce income inequality as lesser profits will be distributed amongst the shareholders. **3. Increased unemployment should large retailers shutdown → structural unemployment** With increased competition, firms will face lower demand and hence lower total revenue. If total revenue is less than total costs, firms will make loses and shut down. When this happens, demand of labour falls and this causes unemployment. These unemployed workers are unable to take on jobs in the expanding industry due to skills mismatch, this result in structural unemployment. The scale of unemployment is great because of the size of the industry. EV: However, this depends on how fast the workers can pick up new skills in the expanding industry. The extent of unemployment will be less significant if the extent of skills mismatch is small.

Conclusion (answer the question): Whether increased competition would bring about greater benefits to the society? With increased competition by retailers, it brings about benefits of increasing allocative efficiency, greater equity and variety to the consumers however producers will face the costs of higher costs because minimum efficient scale may not be attained and lower profits. Different stakeholders will experience the benefits and costs differently. It depends on the nature of the industry. If firms face substantial high fixed costs, the minimum efficient scale is large, it may be more ideal for firms to have lower competition to harness the benefit of being large. With increased competition, average costs increase and this will cause higher prices to be charged, if P>MC then it is not desirable to have increased in competition. An example will be petrol retailers in Singapore where substantial EOS need to be reaped at higher output. However, the degree of competition may not be excessive as this will result to wastage of resources. Relative to a smaller firm, a monopoly would spend less on advertising since it is already established in the market. Smaller firms, such as those under a monopolistic competitive industry tend to spend more on persuasive advertising in order to make their demand curve more inelastic to augment their limited monopoly power. To ensure that market power is not abuse for firms that have lower competition, there is a need for government to intervene it ensure that there is fair competition and also to minimise the disruption of technology to the economy.

MARK SCHEME

L1	Some knowledge of the impact of increased competition on society.	1 – 4m
L2	Descriptive explanation of reasons for and against the increased competition in supermarkets OR Analytical one-sided answer explaining reasons for or against increased competition for supermarkets	5 – 7m
L3	Analytical explanation of reasons for and against increased competition in supermarkets with consideration on the impact of different agents (consumers, firms and government) in the society.	8 – 10m
E1	Unsubstantiated judgement on whether more competition should be encouraged for supermarkets.	1m
E2	Substantiated judgement on whether more competition should be encouraged for supermarkets based on 1 criterion.	2 – 3m
E3	Substantiated judgement on whether more competition should be encouraged for supermarkets based on 2 criterion which includes consideration of the Singapore context with relevant contrasting examples.	4 – 5m

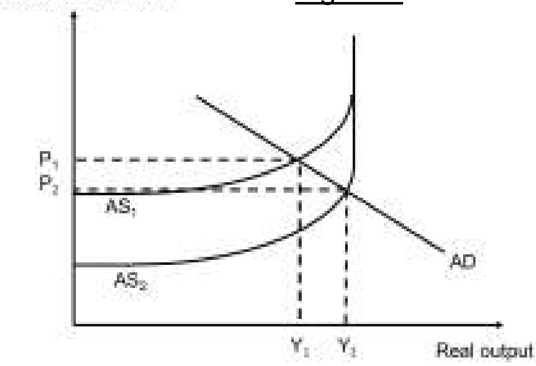
2018 JC2 H2 Prelim Essay Q4
Discuss the extent to which trade-offs in macroeconomic objectives will arise when the Singapore government allows its currency to appreciate. [25]

Suggested Answer:

Introduction:
The use of exchange rates is a significant tool to help Singapore achieve her economic goals. Through exchange rate policy, the Singapore government is able to control its inflation, which in turn will make her exports competitive and attract FDIs.

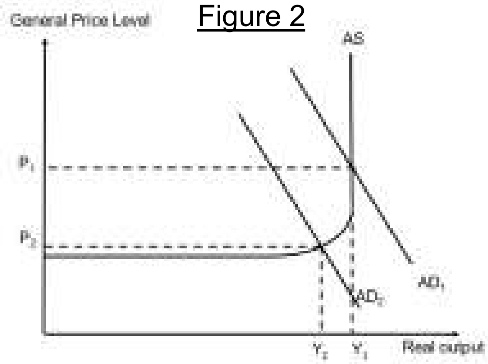
Development 1: Explain the intended outcome of an appreciation of the SGD i.e. explain how appreciation works to lower inflation rate in SG

Figure 1



In SG, a modest and gradual appreciation is used by the Monetary Authority of Singapore (MAS) to mitigate against imported inflation. This is important as Singapore has a high marginal propensity to import and a modest appreciation would thus place emphasis on the addressing of imported inflation first. To deal with rising prices from the global commodity markets, a stronger SGD will reduce the cost of imported raw materials that is expressed in terms of local currency, thus possibly offsetting the rise in price of these raw materials in foreign currency. This lowers the unit cost of production significantly and increases supply of goods and services. If many individual market supply curves increase, then SRAS increases from AS1 to AS2 as shown in Figure 1, causing GPL to fall, thus tackling the problem of imported cost-push inflation. In addition, the appreciation also causes imported final goods and services to be cheaper in terms of SGD, and also increases competitive pressure for domestic firms to keep prices low. These overall aim to lower domestic inflation rates in SG.

Figure 2



The appreciation of the SGD can also help to curb demand-pull inflation. With an appreciation of the SGD, price of exports in foreign currency rises and price of imports in domestic currency (SGD) falls. Assuming PEDx>0 in SG's case, there will be a fall in demand for exports, and hence export revenue measured in SGD. At the same time, since PEDm<1 for SG, the fall in prices lead to a less than proportionate increase in quantity demanded for imports, causing a fall in import expenditure. If the Marshall-Lerner condition holds, where (PEDx+PEDm)>1, this will decrease net export revenue (X-M) and aggregate demand (AD), ceteris paribus. Marshall-Lerner condition holds for Singapore because the demand for Singapore's export is price elastic (i.e. PEDx>1) due to the wide availability of substitutes for Singapore's exports. While this further helps to manage inflation through a lowering of the AD and hence GPL (lowering demand-pull inflation), it also in turn leads to lower real output.

However, the appreciation of the SGD will mean that export competitiveness is compromised. This is because Singapore's exports, being expressed in SGD, will now require more foreign currency to be exchanged for them given the stronger SGD.

Development 2: Explain the trade-offs (at least 2) that occur as a result of appreciating the SGD

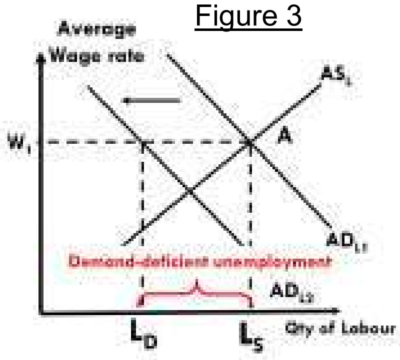
Show that while an appreciation of the SGD can lower cost-push and demand-pull inflation, it may worsen BOP, cause negative growth and increase demand-deficient unemployment in SG

While the main intent of the appreciation of SGD is to address imported inflation, it can also address demand-pull inflation, as explained above. While the appreciation may successfully reduce inflation rates in Singapore, there are potential trade-offs with the government's macroeconomic objectives.

Firstly, the appreciation of SGD may worsen Singapore's balance of trade and hence balance of payments. With higher prices of exports measured in foreign currency and lower import prices measured in domestic currency, assuming the M-L condition holds, as explained earlier, (X-M) falls. Assuming the trade balance were in equilibrium, where (X-M) = 0, a fall in (X-M) would lead to a deficit in the trade balance and hence BOP, ceteris paribus. This causes a **trade-off with the goal of a healthy BOP, should the deficit in the BOP be large and persistent.**

Secondly, while the fall in (X-M) and hence AD leads to a lowering of demand-pull inflation, assuming the economy is producing with spare capacity, the fall in AD thus leads to a fall in real output, causing negative economic growth. As a result, firms are likely to decrease the derived demand for labour. Aggregate demand for labour (ADL) decreases, and assuming that there are sticky wages at W1 due to contractual agreements, there is increased demand-deficient unemployment of L_DL_S. The appreciation of the SGD to achieve low and stable inflation thus causes **a trade-off with the other goals of high and sustained growth as well as low unemployment**.

Figure 3



Development 3: Explain the factors that influence the extent to which trade-offs will occur

[Linking to the question] The extent that trade-offs occur depends on the extent to which the X and (X-M) falls, and this is in turn affected by a few factors, which will be explained in the next part.

Note: Students should explain and evaluate about 2-3 factors

Factor #1: Reliance of the economy on imported inputs
Even though the appreciation leads to higher export prices, which threatens SG's export competitiveness, when the SGD is allowed to appreciate, imported factor inputs become cheaper in SGD. With cheaper imported factor inputs, the cost of production falls and this translates into cheaper prices of final goods. As a result, the effect of the appreciation on export prices in foreign currency may be partially offset by the cheaper prices of final goods produced. Export prices due to the appreciation may not rise as significantly, bringing about a smaller fall in demand for exports and export revenue. **[Link to question]** In light of this, there is a smaller extent to which trade-offs with the other macroeconomic goals will occur when an appreciation is used to lower GPL.

EV (consider the nature of SG's economy): Given that SG is resource scarce and therefore reliant on imported inputs in the production of goods, the appreciation will hence have a <u>significant impact on the extent of trade-off</u> due to the fall in X. The loss in export competitiveness caused by the stronger currency will bring about a <u>more significant</u> offsetting effect due to the fall in the cost of production and the extent of trade-off will be to a much smaller extent for Singapore.

OR
EV (consider the nature of exports in SG): However, if a large proportion of Singapore's export revenue is contributed by exports in services, then the trade-off with a healthy BOP may be more significant. This is because in industries which export services, a relatively smaller proportion of its inputs would be imported and hence, these industries benefit less from the appreciated SGD in the form of cheaper inputs. The higher export prices due to the appreciation would lead to a significant fall in export revenue, hence giving rise to a more significant trade-off where the deficit in the BOP could be greater.

Factor #2: Whether the M-L condition holds
Whether or not the appreciation of the SGD leads to a fall in (X-M) and hence worsen the trade balance as well as lower AD depends on whether the Marshall-Lerner condition holds. In the short run, the PEDx and PEDm may not be greater than 1 due to existence of contractual agreements between SG and its trading partners. Hence, when there is an appreciation of the SGD, (X-M) increases in the short run, before decreasing later on. As a result, since (X-M) increases, the appreciation of the SGD doesn't actually lead to a worsening of the trade balance or negative growth and demand-deficient unemployment in the short run but instead, may in fact promote an improvement in the trade balance and allow for actual growth. **[Link to question]** As such, the shorter the time period, the higher the likelihood that the M-L condition does not hold and thus, the smaller the extent to which trade-offs with other macroeconomic goals will occur.

Factor #3: Size of the appreciation and characteristics of the SG economy
The size of the appreciation also matters. **[Link to question]** The greater the extent of the appreciation, the larger the impact on (X-M) is and hence the larger the impact on the trade balance as well as AD. This will cause a greater likelihood for trade-offs with the three other macroeconomic goals to occur.

Also, given the small and open nature of SG, the (X-M) component in AD is relatively significant. Hence, any changes to (X-M) will cause significant changes to AD and hence, real output, via the multiplier process. **[Link to question]** Given that this is the case, the likelihood and extent of trade-offs will be much greater since SG is an open economy, with a high trade-to-GDP ratio.

EV (consider the likelihood that there will be a large extent of appreciation): However, given that the Monetary Authority of Singapore (MAS) generally pursues a <u>modest and gradual appreciation of the SGD</u>. There is a lot of careful consideration of the impacts the appreciation would bring on other aspects of the economy by the MAS in their pursuit of such a policy. In light of this, the extent of trade-offs due to an appreciation is less likely.

Factor #4: State of the global economy (i.e. external factors that influence X)
There are also factors that are not within the control of the SG economy in determining the extent to which the appreciation of the SGD will lead to trade-offs in other macroeconomic goals. For e.g. should there be strong economic growth worldwide, there could be rising incomes which causes higher purchasing power of SG's trading partners' for SG's exports. In light of that, even though SG appreciated its currency which will reduce demand for SG's exports, the higher incomes worldwide may increase the willingness of other countries to import from SG, thereby increasing our export revenue and hence AD. A stronger currency therefore causes a fall in export competitiveness by a small extent, assuming that the global economy demand is strong. Thus there may only be a slight fall in AD and the negative impact on actual growth and employment may be limited. **[Link to question]** The greater the increase in incomes due to worldwide economic growth, the smaller the extent to which the appreciation of SGD leads to trade-offs with the other three macroeconomic goals.

EV (consider how likely other economies will impact SG's economy): The extent to which this factor influences the extent of trade-off is dependent on the closeness of the trading partners to SG. Should there be rising incomes in SG's closest trading partners, then the extent of trade-off will be much lesser, compared to a case where rising incomes are observed in economies which are not as close to SG as a trading partner.

Factor #5: Whether the SG government puts in place other policies to achieve the other macroeconomic goals (i.e. other policies to increase AD/ improve export non-price comp.) *Note: Explaining <u>one</u> policy will suffice.*

Other policies may also be pursued simultaneously with an appreciation to achieve other macroeconomic goals as well.

Supply-side policies: For e.g. supply-side policies (e.g. subsidies for investment in R&D for product innovation) may also improve the non-price competitiveness of exports from SG. Hence, in spite of the lower price competitiveness of SG's exports due to the appreciation, the non-price competitiveness of the exports may still result in a high demand for it and hence, still allow for an increase in X and AD overall. As such, the appreciation may not necessarily lead to a trade-off with the goals of a healthy BOP, as well as economic growth.

OR
Expansionary FP: For e.g. expansionary fiscal policy may be employed to boost domestic demand so as to achieve actual growth. As such, even with the appreciation of the SGD which has effects like lowering the AD through lowering external demand and causing negative growth, the use of an expansionary FP to boost domestic demand may offset the fall in AD, and should the injection of G be significantly larger than any fall in X due to the appreciation, overall AD may rise and bring about an increase in real output instead. Hence, there may not necessarily be negative growth and demand-deficient unemployment when the SGD is allowed to appreciate, if there are other expansionary demand-management policies put in place at the same time.

[Link to question] Hence, the more there are alternative policies put in place to complement the appreciation of SGD in promoting high export demand, and the more successful these policies are, the smaller the extent to which trade-offs with other macroeconomic goals will occur given an appreciation of the SGD.

EV (consider how useful the policies are): However, this depends largely on the success of the policies. Given that efforts in R&D and innovation take time and may not always reap positive outcomes, the use of supply-side policies may not necessarily allow for improved export competitiveness. The impact of an appreciation may still hurt export competitiveness and the trade-offs brought about may still be significant.

Conclusion [show ranking of factors]:
The use of an appreciation may result in trade-offs between certain macroeconomic objectives, but these trade-offs do not always occur as it depends on various factors, the most important one being, whether or not the M-L condition holds. This is because this condition has a direct impact on the success of the policy to address inflation, in particular, demand-pull inflation. Overall though, given that the MAS generally pursues an appreciation of the SGD that is modest and gradual, there will not be large increases to the external value of the SGD and hence, the extent to which trade-offs occur will be much lesser.

Nevertheless, in order to minimise conflicts in government's objectives, the use of supply side and trade policies should be implemented to ensure that the demand for her exports remains strong with a larger export market and greater improvement in the quality of her exports. The focus on raising productivity is also important to maintain Singapore's competitiveness. These policies will be able to offset further some of the loss in exports competitiveness when Singapore adopts a strong exchange rate policy.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Clear analytical explanation of various trade-offs and the factors that influence the extent of the trade-offs, in the context of Singapore	**15 – 20**
L2	Description of trade-offs that occur as a result of an appreciation of the SGD and some factors that influence the extent of the trade-offs OR analytical explanation of at least 2 trade-offs that occur as a result of an appreciation of the SGD and at least 1 well-explained factor which considers the extent of trade-off	**9 – 14**
L1	Knowledge of how an appreciation of the SGD works to address macroeconomic goals in SG (i.e. to tackle both cost-push (imported) inflation as well as demand-pull inflation) i.e. explanation of the intended outcome of an appreciation of the SGD.	**1 – 8**
	Allow up to 5 additional marks for Evaluation	
E3	For an answer that arrives at an analytically well-reasoned judgment on the extent to which trade-offs in macroeconomic objectives occur when there is an appreciation of the SGD.	**4-5**
E2	For an answer that makes some attempt at evaluating or for a conclusion that answers the question but does not explain the judgment or base it on analysis.	**2-3**
E1	For an answer that gives an unsupported evaluative statement.	**1**

JC2 H2 Prelims Question 5

(a) Explain the process whereby an increase in government expenditure can lead to a bigger change in national income. [10]

(b) In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified. [15]

Suggested Answer to Part A

<u>Introduction</u>

Identify the process as Multiplier process and state the multiplier and its formula:

This is the multiplier process, where any increases in injection, e.g. government spending, will cause national income to increase by a multiplied amount of the rise in G. This is determined by the size of the multiplier, k, where

k = 1/ 1- Marginal Propensity to Consume (MPCd)

= 1/ Marginal Propensity to Withdraw (MPW)

A small MPW will mean that a small proportion of additional income is allocated to withdrawals such as savings, taxes and import expenditure in the economy, therefore the size of the multiplier will be large, resulting in a large multiplied increase in national income.

Explain the <u>underpinning</u> of the multiplier process:

For instance, a country like U.S. will have relatively higher rate of consumption due to well-developed social security systems hence less incentive to save.

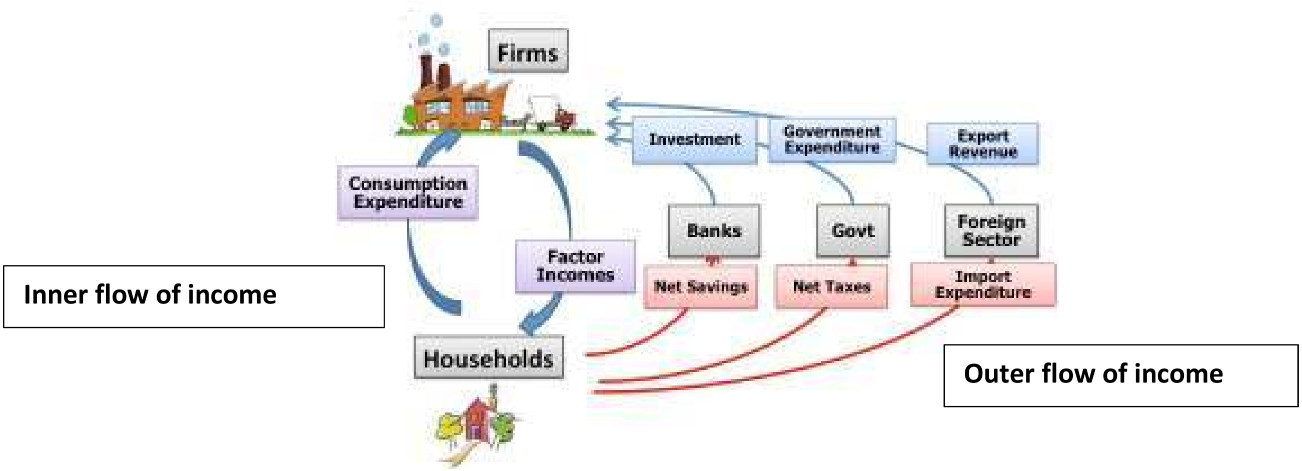
This means that given an amount of injection, lesser income is leaked away as withdrawals while a larger proportion of additional income is spent on domestic consumption in each round of spending. This means that every round of the inner flow results in larger rounds of induced consumption. This results in a larger multiplied increase in national income.

<u>Development</u>

Explain the multiplier process:

Let us assume a four-sector economy with an MPC of 0.9. It is assumed to be initially in equilibrium and spare capacity is available in the economy.

Briefly Explain the CFoI, role of HHs and Firms: In the inner flow there are 2 key sectors, the households and the firms. The role of the households is to supply factors of production e.g.



land, labour, capital and entrepreneurship to the firms in return for factor income. This income is then used to purchase goods and services or be withdrawn from the inner flow as savings, taxes and import expenditure. The role of the firms is to produce goods and services which households will exchange for consumption expenditure.

Explain trigger(s):

An injection is an addition to the circular flow of income which does not come from the expenditure from domestic households. In this case, the Increased spending by the government could be spent to improve public infrastructure.

Explain multiplier effect:

[Round 1] When $10bn of government spending is spent on infrastructure upgrading → construction firms will have to increase their output by a value of $10bn. This means that they will have to hire FOP such as skilled workers and machinery. HHs that supply factor inputs to these industries will hence receive $10bn worth of income. Given the MPCd is 0.9, they will spend 90% of it on goods and services such as food. Domestic consumption will increase by $9bn. $1bn is withdrawn from through savings, taxes and imports.

[Round 2] Firms in the food industry will thus to increase their output by a value of $9bn. This means that they will have to hire FOP such as labour and machinery to manufacture food. As the HHs working in the food industries receive $9bn worth of income, they will spend 90% of it on goods and services such as clothing. Domestic consumption will increase by $8.1bn. $0.9bn is withdrawn from through savings, taxes and imports.

[Conclude] The process continues with each round of consumption expenditure being 90% of the previous rounds income. This process does not go on indefinitely and it stops when the value of the initial injections (or total injections) is equal to the sum of the withdrawals.

As k=1/MPW, k=1/0.1 = 10

Change in NI = change in injection x k = S10bn x 10 = $100bn

National income would have increased by a multiplied amount of $100bn.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	Detailed and analytical explanation of the impact of increased government spending on a country's national income with a clear understanding of the working of the 'k' process	8-10
L2	Some analysis of the impact of increased government spending on a country's national income.	5-7
L1	Unexplained statements of the multiplier process, largely lacking in analysis.	1-4

(b) In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified. [15]

Suggested Answer to Part B

Introduction

In this essay, we will define global competitiveness in terms of

- increasing price competitiveness of a country's exports
- increasing non-price competitiveness of a country's exports

(Students may also define **global** competitiveness in terms of the ability to attract FDI)

Thesis: Governments' subsidies to increase its global competitiveness is justified

Development 1:

Governments' subsidies to increase its global competitiveness can be implemented through **supply side policies** to:

1. **increase non-price competitiveness**

With the use of better technology and machinery to harness better designs and quality of exports produced → this can help to increase non-price competitiveness→ demand of exports will increase and at the same time, become more price inelastic due to the reduced substitutability to other competitors' goods

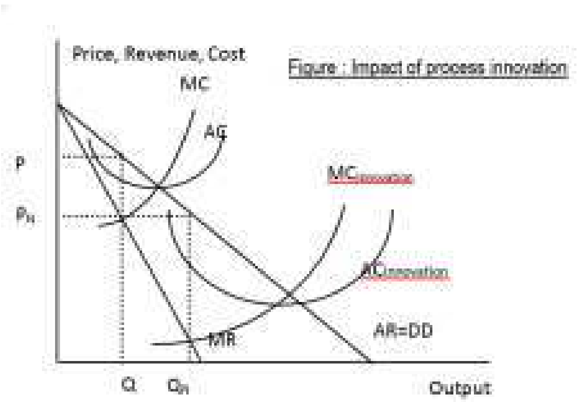
2. **increase price competitiveness**

Policies directed at SMEs and capital enhancement through funding of research and incentives to innovate. E.g. Productivity and Innovation Credit Scheme resulted in capital accumulation which takes the form of capital broadening & capital deepening.

E.g. Through the Productive Innovation credit, firms enjoy tax deduction or cash reimbursement for the retraining of workers, investing in automation or acquiring intellectual property.

Economic analysis version 1: firm analysis

By encouraging automation, if export-related firms are likely to increase their investment spending on capital goods such as automated equipment and this might be used to replace labour as machine might be able to increase the output per hour especially for repetitive task.



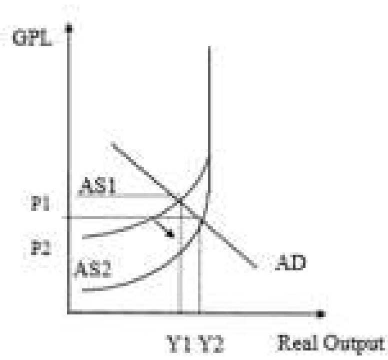
On the other hand, use of retraining to equip workers with new skills can increase labour productivity as workers are more able to work with more efficient technology etc. this helps to further increase output per manhour.

The above will help to lower unit cost of production, lowering average and marginal cost of the firm, resulting in lower prices charged at PN. Price competitiveness of exports produced increases. Assuming PEDx>1, a fall in price will lead to a more than proportionate increase in quantity demanded, hence, increasing export revenue.

OR

Economic analysis version 2: macro. level analysis

if these policies are conducted across all industries, the increase in productivity will lead to <u>lower unit cost of production</u>, increases in aggregate supply from AS1 to AS2, hence, <u>GPL falls</u> from P1 to P2. <u>Price competitiveness of goods including exports will increase</u>. Assuming PEDx>1, a fall in price will lead to a more than proportionate increase in quantity demanded, hence, increasing export revenue.



<u>Development 2:</u>

<u>Use of subsidies is justified as there are positive impacts of increased competitiveness on the macroeconomy</u>

- Increase X → increase AD → increase <u>actual growth</u> and hence, increase material standard of living, given that consumers will have higher incomes and hence greater ability to consume more goods and services
- On the other hand, with increases in real output produced this will increase the aggregate demand for labour → decreasing demand-deficient unE which can also improve non-material standard of living → with more individuals being able to find jobs and receive income → less financial difficulties met will lead to decreased crime rates → increases the safety and security in the neighbourhood → improve quality of life
- Both domestic and foreign investments can increase as foreign firms may also be attracted to tap on the new expertise → increase AD & AS → increase non-inflationary sustained growth
- The increase in net export revenue and greater net inflow of foreign investments will also improve current account balance(if initially in a deficit) and hence balance of payments
- The increase in economic growth in the later time period would help to raise tax revenues, as workers would be able to contribute to higher tax revenues with higher income levels and firms would be able to pay higher corporate taxes with higher profits earned. This would be helpful to pay off government debts.
- EV: If the improvement in economic outlook brings about sustained increases in export revenue and FDI levels, this can allow the government to receive a stable increasing stream of corporate and personal income taxes, which can help to offset any existing government debts.

<u>Anti-thesis: Governments' subsidies to increase its global competitiveness is not justified in view of rising government debts</u>

<u>Limitations of ss-side policies</u>

However, the outcomes of these supply side policies are often uncertain because it depends on the receptivity of the firms and workers towards these schemes. Firms might be unwilling to allow their workers to engage in training as they might lose these workers after the training, if these workers chose to be employed by other firms. Traditional companies might also be unwilling to adopt automation and choose to stick to their labour intensive methods. Therefore, the extent of increase in AS is limited, which reduces the effectiveness of the policy. (judgement) If the outcomes on productivity is minimal, then this will also represent a wastage of government resources which could have been spent for financing the government debt in the current time period.

<u>Consequences of rising government debts</u>

In view of rising government debts, this spending on supply-side policies may then result in more government borrowing and hence, this could lead to a crowding out effect, where the increased demand for private loans pushes up the interest rate, resulting in a fall in private investments. This fall in I would lead to a fall in AD, negating the effect of increase AD due to the fiscal boost. With a smaller increase in AD, this will lead to a smaller increase in actual growth.

Furthermore, the increased government borrowing would mean government debts will worsen

→ government will have to increase taxes in the future to repay the government debts (elaborate any further outcomes below)

- This will lower the proportion of future income that can be spent on consumption → lower future material SOL
- increase disincentive to work → lower labour productivity → decrease in output per manhour → productive capacity decreases → AS shifts to the left → fall in potential growth & actual growth
- decrease credit rating (assessment of the creditworthiness of a borrower in general terms or with respect to a particular debt) of the country as investors are less confident of returns of their investments in the country → reduce foreign investments into the country → worsen economic recovery / dampen economic growth [SR effect]

EV: Efforts to increase innovation and productivity usually take a long time to reap its desired outcomes. This means that governments should expect such expenditure to be long-term and hence, negative short-run consequences of rising debts may actually outweigh the long-run benefits from increased competitiveness if the intended outcomes of investment is not successful.

<u>Conclusion</u>

In view of rising government debts, discuss whether governments' subsidies to increase its global competitiveness is justified

Ultimately, whether government's spending on subsidies to raise global competitiveness is justified or not depends on the intent of the government in its decision-making through considerations on the constraints faced by the government, cost and benefits onto the various economic agents in the economy, intended vs unintended consequences, and lastly, any internal & external changes which also have impacts on the decision.

Government spending on subsidising for productivity changes can be justified provided that the government has <u>sufficient information</u> to decide how they can still carry out other supplementary measures to increase taxes and reducing government spending to finance the current government debts and yet at the same time, not forgoing growth entirely. For example,

- To reduce the disincentive effects of increased taxation on labour productivity, the government may want to increase the tax revenue from other tax sources i.e. indirect taxes instead which are more broad-based.
- Government spending should also be cut and directed on spending that will aid economic recovery. I.e. boosting productivity gains such as grants for re-training and innovation purposes which will lead to both increases in AD and AS, hence ensuring a more sustained economic recovery.

Other acceptable approaches:

Students may discuss the use of government subsidies in the case of developing infant industries, where in the long run, may contribute to building of new comparative advantages and hence, ability to export and hence positively impact the various macroeconomic goals. In the anti-thesis, drawbacks of protectionism should be recognised i.e. risks of retaliation and downward world multiplier effect and addressed together with the consequences of rising government debts.

Level	Knowledge, Application, Understanding and Analysis	Marks
L 3	Clear analytical explanation of advantages and disadvantages of government's raising global competitiveness in view of rising government debts	**8 – 10**
L 2	Description of use of government subsidises to raise global competitiveness OR one that does not consider the impacts of rising government debts	**5 – 7**
L 1	Knowledge of increasing global competitiveness or impacts of government debts but largely unexplained – i.e. a list like presentation.	**1 – 4**
	Allow up to 5 additional marks for Evaluation	
E3	For an answer that arrives at an analytically well-reasoned judgment on whether efforts to raise global competitiveness is justified in view of rising government debts	**4 - 5**
E2	For an answer that makes some attempt at evaluating or a conclusion that answers the question but does not explain the judgement or base it on analysis .	**2 - 3**
E1	For an answer that gives an unsupported evaluative statement.	**1**

6	Globalisation has made our world more interconnected than ever before and presented a wealth of opportunities. Yet, globalisation has also presented an uneven distribution of its benefits and costs.		
	(a)	Explain the factors that have fuelled globalisation.	[10]
	(b)	Globalisation has presented an uneven distribution of its benefits and costs. Discuss the reasons for this.	[15]

<u>Suggested answers to part (a)</u>

(a) Explain the factors that have fuelled globalisation. [10]

Introduction: <u>Define globalisation and briefly describe the main factors that have fuelled globalisation</u>

Globalisation is the increased integration and interdependence of economies. It can be categorised as **economic globalisation**; the greater integration of <u>goods and services (via trade), labour and capital markets</u> and **geographical globalisation**; <u>the reduction in travel times between locations and the rapid (electronic) exchange of information.</u> Knowledge and production previously confined to certain geographical areas may now cross borders and be made available because of the communication and transport technological innovations.

Body 1: <u>Explain how trade liberalisation led to increase trade flows based on the theory of CA.</u>

One main factor that facilitates globalisation is **trade liberalisation and the promotion of free trade based on the Theory of Comparative Advantage.** The theory of comparative advantage posits that economies can mutually benefit from specialisation and exchange of goods they have a lower opportunity cost in producing. For example, between Thailand and Singapore, Thailand's vast amount of arable land and large number of rice farmers meant that it has resources that are more suited for the cultivation of rice over Singapore. In the cultivation of rice, Thailand has a **lower opportunity cost** as compared to Singapore as Singapore does not have the similar factor endowments that are suitable for rice cultivation. On the other hand, Singapore would have a lower opportunity cost in the production and manufacturing of electronic goods because of its skillful labour force and level of technological adoption. If Thailand devotes its resources to the cultivation of rice and Singapore devotes its resource to the production of electronic goods, both countries would be more efficient in their production. **With subsequent exchange,** that is, Thailand to export rice and import electronic goods, while Singapore would import rice and export electronic goods, **both countries could exploit their differences in relative opportunity cost** and **consume a combination of goods outside what they possibly could if they produce both goods on their own (consume beyond their PPC)**.

The greater amount as well as variety of goods available for consumption among other potential gains from free trade have led to increasing liberalisation of trade and capital markets, facilitated by governments moving towards policies such as Free Trade Agreements (FTAs) to reduce trade barriers (removing import tariff and quotas). These led to greater economic integration amongst economies and the trend of globalisation.

Body 2: <u>Explain how development in communication technology has led to increased intergration</u>

The revolutionary break-through in information and communication technology (ICT) and development in transport technology have also provided the drive for global integration by facilitating trade.

Development in communication technology has facilitated the transmission of information over geographical borders quickly and efficiently. This allows transnational firms to coordinate their operations worldwide via different avenues such as video conferences & emails. The implication is that firms such as Toyota and Apple Inc. are **able to set up plants worldwide by tapping on the comparative advantages in production of different types of goods in different countries** to improve their productivity and efficiency. These firms are also able to outsource part of the production process yet maintain control over them with the ease of communication. This "**slicing up of the value chain**" results in increased flow of intermediate goods as well as capital amongst the economies leading to higher degree of globalisation.

Body 3: <u>Explain how development in transport technology has led to increase intergration</u>

Last but not least, **developments in transport technology** have caused transportation cost and time for goods and people to shrink tremendously increasing mobility of goods and factors of production. These have enhance economies trade network and aid in the increase in trade volume. For example, sea transport has become more efficient with new technology such as (automated cargo handling and faster vessels). Better navigation system also enhanced the safety and efficiency of sea transport. The reduction in time for sea transport and cargo handling has helped to transport goods and documents for firms faster.

Conclusion: <u>Summarise Salient Points</u>
Not only has these technologies enhance the benefits of trade, they are essential enablers of trade, without which, there would not be as much integration amongst world economies.

Syllabus 9757

Level of Response Marking Scheme (LORMS)		
L3	For a well-developed answer that clearly explains factors that fuelled globalisation based on economic reasoning (e.g. Theory of Comparative Advantage) Answers are well-supported with appropriate examples.	8 – 10
L2	For an undeveloped answer that attempts to explain factors which fuelled globalisation. Answers are descriptive and lacks economic reasoning (e.g. Theory of Comparative Advantage). Answers are supported with some example.	5 – 7
L1	For an answer that is irrelevant and contains conceptual error.	1 - 4

(b) **Globalisation has presented an uneven distribution of its benefits and costs. Discuss the reasons for this. [15]**

Introduction

Globalisation brings about several benefits and costs to the economy. Increasing trade, capital and labour flows will benefit an economy in terms of higher economic growth, higher employment opportunities and increasing SOL while at the same time they may also lead to rising income inequity, structural unemployment and environment degradation.

At the same time, there is an uneven distribution of benefits and costs between countries (LDCs vs DCs, small country vs large country) and within a country and there is a need to consider the reasons behind the differences in distribution. The reasons could stem from:

1) Factor immobility: Geographical, occupational.
2) Unfair trade practices
3) Nature of economy
4) Lack of laws/enforcements/Less established banking sector/corporate governance

Reason 1: Factor immobility

One of the reasons that would limit the benefits within the domestic markets would be **factor immobility**. Factors of production (land, labour, capital) are not perfectly mobile within a country. As a country specialises in the production of a good, it will eventually be forced to utilise resources which are less suited to the production of the good. For example, as Singapore specialises in the production of pharmaceutical products, it will be forced to use labour that lacks the relevant skills and knowledge needed.

As such, in reality, a country's PPC would be concave to the origin. This reflects the law of increasing opportunity costs, whereby the opportunity costs of producing each successive unit of pharmaceutical products rises. The increase in opportunity cost would limit the extent of specialisation and thus reduces the full benefits of specialisation and exchange.

a) Occupational immobility

In addition, Globalisation has merely hastened the speed at which countries (like SG) move up the value-added chain, shedding jobs in sunset industries (low value added manufacturing industries) but creating jobs in sunrise industries (high value added, technological based industries.) Hence, in this aspect, since employees in the sunset industries may find themselves without a job and because their skill sets are not suitable for the sunrise industries (occupational mobility), these lower skilled workers may not benefit from globalisation. Thus, in this aspect, there could be structural unemployment and widening income gaps when the lower skilled workers are displaced and this problem is also exacerbated by the influx of foreign labour.

Also, ↑ openness and trade → allow for offshoring to occur → differences in the demand for high-skilled workers (higher) and low-skilled workers (lower) → differences in the wages of these 2 groups of workers → income gap ↑→ worsens **<u>inequity</u>** across countries

b) <u>Geographical immobility</u>

The benefits of globalisation are not evenly distributed as it depends on the accessibility of job opportunities and trade flows. For instance, some rural areas of China which do not tap on global markets due to poor transport and communication (geographical immobility) networks may not be able to reap the benefits of globalisation and this could worsen the rural-urban income gaps.

<u>Linking back to the question</u>

Hence, within a country, different groups of workers and firms may benefit differently from globalisation and this depends heavily on the effectiveness of government policies in ensuring that the pool of labour is able to flexibly adapt to changes in comparative advantages and has fair access to employment opportunities across the country with increasing globalisation.

<u>Reason 2: Unfair trade practices</u>

With globalisation and free trade, countries have access to international markets and hence, some countries to be exposed to unfair trade practices like Dumping. The problem is more pertinent if there are no proper regulations in place to protect the domestic industries.

Dumping refers to the sale of a good overseas (exports) below its cost of production or at prices which are lower in foreign countries than in domestic markets. FTA would introduce foreign competition (imports) to domestic market. These imports could be heavily subsidised by the foreign countries or government such that the prices could be lower than those of the domestic products. This is perceived to be dumping into the domestic market.

A reason for dumping could be to force out domestic firms so as to consolidate monopoly power. Once monopoly power is established, the foreign firms could charge higher prices to reap supernormal profits. Hence, while consumers could enjoy lower prices in the short run, the consumer welfare could be eroded in the long run.

Furthermore, foreign competition could jeopardise the development of home industries before the industries could realise its potential. These infant industries could have the potential to be more efficient compared to the foreign firms. The hampering of the development of these industries could precipitate long run welfare loss. Production of commodities, especially strategic goods, makes a country overly dependent on other countries.

Linking back to the question
Hence industries which experienced dumping by other countries may suffer more from free trade and globalisation and thus globalisation brings about an uneven distribution of benefits and costs to different industries.

Evaluation
The extent of costs faced by these industries is also dependent on the type of government policies that are put in place

For instance, some countries like China have put in place anti-dumping measures on synthetic rubber from the US and EU as dumping has caused substantial damage to its domestic industry.

While there are gains to be realised from specialisation, countries should still embark on diversification programme to promote self-sufficiency and independence in the provision of strategic goods to some extent.

Reason 3: Nature of economy

With globalisation and the increasing openness to trade, open economies like Singapore could be more vulnerable to external shocks. ↑ openness and trade. Singapore was one of the first to be hit during the global financial crisis in 2009 where we experience a ↓ X → ↓ AD → ↓ RNY by a multiplied amount → worsen actual growth and increasing unemployment. In addition, ↓ X-M → worsen current account and hence BOP position.

The extent of the costs (worsening actual growth, increasing unemployment and worsening BOP) could differ from country to country as it depends on the significance of the net exports to the country's GDP. Countries like China which have large domestic markets and have consumption-led growth may not be as negatively affected by an external crisis as compared to countries like Singapore. Hence, the distribution of costs and benefits could be uneven.

The extent of imported inflation also depends on how reliant a country is on imported raw materials. Greater reliance breeds greater susceptibility and hence such countries are more prone to suffer from volatile prices externally.

Reason 4: Lack of laws/enforcement

LDCs and DCs may benefit differently from globalisation as there could be differences in the way policies are enacted and enforced.

a) **Capital outflows due to lack of government regulations/laws**

With globalisation there could be ↑ capital mobility. If FDI are footloose (unrestricted in locations and could move out easily, this is dependent on the government regulations in place) and withdraw capital in times of negative outlook → worsen long term capital flow and capital and financial account → worsen BOP. Hence, if there are lack of laws to govern the flow of short term capital (hot money) and long term capital (FDI), it could be destabilising to an economy. Since capital investment is likely to be more scarce in developing countries than in developed ones, returns to investment in many developing countries are likely to be higher at home than abroad. Hence, developing countries could be more severely affected by outflows of capital.

b) Pollution problems

In addition, with increasing FDI and offshoring practices by foreign firms, developing countries could suffer from rampant pollution (since factories and heavy industries are often relocated to developing countries as cost of production is much lower than the home country). Hence, without proper laws and regulations, the pollution problem could be more severe.

Evaluation

This persistence and severity of the problem is highly dependent on the effectiveness and appropriate enforcement of government policies.

Conclusion

Globalisation has presented an uneven distribution of its benefits and costs and the government plays a significant role in ensuring that the costs are minimised and benefits are maximized to achieve sustainable and inclusive growth.

Ultimately, the most significant reason behind the uneven distribution of benefits and costs could be **the effectiveness and enforcement of various policies** implemented to address the costs of globalisation. For instance, in dealing with competition for jobs amongst locals and foreigners, Singapore has implemented the **Dependency Ratio Ceiling (DRC)** to put a cap on the number of foreign workers that could be hired (ratio depends on the type of industry). This effectiveness of policy is also dependent on appropriate enforcement by the government. Also, the Singapore government has adopted Skills Future as a policy to improve the skills of workers to keep them relevant in the changing economy. Thus with effective policies, countries would be able to enjoy a greater extent of benefits from globalisation.

Also, the reasons can be multi-causal:

1) **Depends on the nature of economy**. Ultimately, different countries would enjoy different distribution of benefits and costs of globalisation. For a small economy like Singapore with limited natural resources and small domestic size, the benefits of globalisation will outweigh the costs as Singapore has little choice but to look outward for imported raw materials and for further growth. The continuous economic growth led by trade enjoyed by Singapore in the last 50 years is a testament to the overall net benefits of globalisation.

2) **Outlook of the world economy:** If global economy outlook is poor, it may increase anti-trade sentiments amongst countries as governments turn towards protectionist measures to boost domestic economy given that the external driver of growth through exports is less useful. Countries that can diversify their pool of trading partners and maintain greater trade flows will be able to fully benefit from international trade. But more often than not, even with the most effective government policies and proper enforcement, there are external conditions that are not within a government’s control and it depends significantly on the agility of the economy and workforce to adapt

Mark Scheme:

Level	Knowledge, Application/Understanding and Analysis	Mark
L3	For a well-developed answer that uses appropriate analysis and framework to discuss the reasons for an uneven distribution of benefits and costs of globalisation, with good usages of examples.	8 – 10
L2	For an under-developed answer that comprises the reasons for an uneven distribution of benefits and costs of globalisation, with limited usages of examples.	5 – 7
L1	For an under-developed answer that shows superficial discussion of the reasons for an uneven distribution of benefits and costs of globalisation. Answers lack clarity and are largely erroneous. Mere listing of benefits and costs which does not address the question.	1 – 4

E3	For an answer that arrives at an analytically well-reasoned judgement about whether the benefits of globalisation outweighs the costs. Answers are able to address the idea of "uneven distribution" and have considered several parameters for which distribution is often uneven within a country and/or across countries. Ranking of reasons is necessary to attain this level.	4 – 5
E2	For an answer that makes some attempt at a judgement about the reasons for the uneven distribution of benefits and costs.	2 – 3
E1	For an answer that gives an unsupported judgement about the reasons for the uneven distribution of benefits and costs.	1