Class | Adm No

Candidate Name: ____________________

H

millennia institute

2022 Preliminary Exams
Pre-university 3

ECONOMICS **9757/01**

Paper 1 **31 August 2022**
2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
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, highlighters, glue or correction fluid.

Answer **all** questions.

You are reminded of the need for clear presentation in your answers.

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

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

Answer **all** questions.

This question paper consists of **9** printed pages and **1** blank page.

[Turn over

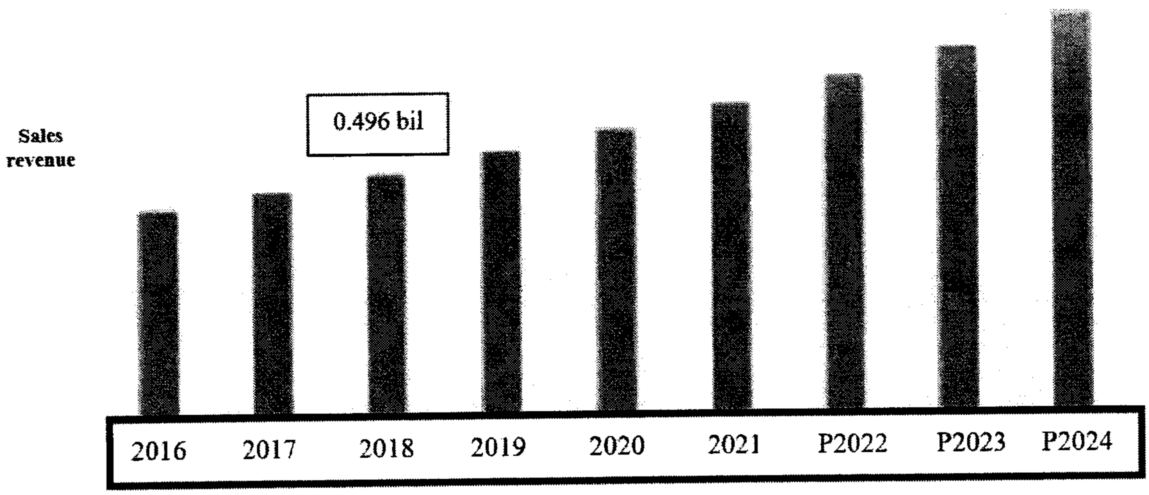
Question 1: Bittersweet chocolate

Extract 1: Soaring price could make it 'Like Champagne'

As chocolate prices surged to near-record highs on demand from emerging markets, chocoholics brace for a hike in price. This growth has been driven by demand from India and China, with consumption of the 'luxury" sweet treat tripling over the last few years. However, worldwide chocolate market sales revenue was affected by the lockdown measures and economic slowdown due to COVID pandemic, but supply side did not impact the chocolate market during the pandemic.

Source : Adapted from https://www.cnbc.com 17 April 2014

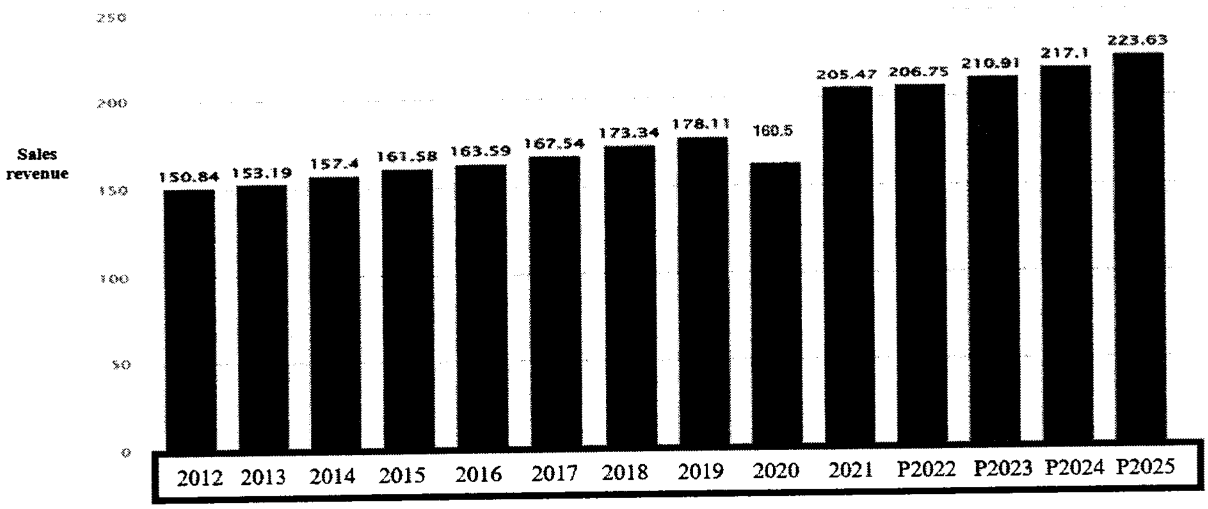
Figure 1: India chocolate market: Sales revenue 2016-2024 (in USD billion)



P=Projected sales revenue

Source : Adapted from mordorintelligence

Figure 2: Worldwide chocolate market: Sales revenue 2012-2025 (in USD billion)



P=Projected sales revenue

Source : Adapted statista.com

Extract 2: Chocolate or not?

Cocoa butter made from crushing and grinding cocoa beans is used in making chocolate to give the smooth, melt-in-the-mouth flavour and texture. Reduced rainfall and increased temperatures, which led to prolonged periods of drought, are causing a reduction in soil moisture during the dry seasons. These conditions often lead to the killing of cocoa seedlings. If prices of cocoa butter go up too much, chocolate makers may shift to substitutes such as palm oil or even cotton seed oil instead of using cocoa butter. The limitation, of course, is that if you put in too much of the poor substitutes, you are not allowed to call it chocolate. No alternatives of cocoa butter have been found so far that could meet the exact demand of cocoa butter.

Table 1: Price elasticity of demand and supply for cocoa butter

	Price elasticity of demand	Price elasticity of supply
Short term	-0.06	0.07
Long term	-0.34	0.57

Source: Adapted from African Journal of Agricultural and Resource Economics 2018

Extract 3: Volatility of cocoa prices

Ivory Coast and Ghana in Africa are the largest global producers of cocoa, supplying 70 percent of the world's cocoa beans. Currently, cocoa farmers' income is low compared to the profit made by the chocolate industry. While the profits of multinational chocolate companies have increased since the 1980s, the world market price for cocoa beans has declined by half. Many cocoa farmers and workers have to get by on less than 1.25 US dollars a day and a study in April 2018 showed that 58 percent of cocoa farming households had incomes below the extreme poverty line.

Cocoa production is carried out mostly by small and marginal farmers which are rarely organised, and they sell their cocoa at low prices dictated by the cocoa traders who act as the middlemen for farmers. Farmers' income insecurity is affected by volatile cocoa prices stems from changing supply volumes. Good seasons which produce good crops in the main cocoa producing countries lead to a high supply and can bring about a fall in prices, while poor crops caused by crop disease or bad weather conditions in some major regions lead to a low supply and can increase the price.

Cocoa traders are able to mitigate these volatile prices by storing beans and controlling the sales volume on the market. Farmers who neither set prices nor reap any profits from high prices are often forced to sell their beans at low prices immediately due to poor living conditions, the immediate need for money and a lack of storage facilities. Farmers also stop investing in their farms, they cut salaries, cannot provide workers with proper working conditions, and in the worst cases are prone to use child labour.

Source: Adapted from Euromonitor International and mightyearth.org 2019

Extract 4: Give cocoa farmers a living income

Despite forecasts that the demand for cocoa will rise by nearly 20 percent in the coming years and the increasing revenues for chocolate companies, many farmers cannot cover their living costs anymore. With limited income and lack of information on market developments, the cocoa farmers and their families are the losers in a lucrative cocoa and chocolate industry.

Kwame Boadu was forced to abandon his cocoa plantation to work in Ghana's capital Accra, but when the government announced plans for a price floor he began dreaming of a return to his fields. A price floor would give cocoa farmers a living income – and to ensure farmers get a fair share of the wealth as well as to protect farmers from dire poverty and fluctuations in the cocoa market, like when the price of cocoa abruptly fell by 30 percent three years ago, leaving many farmers struggling desperately.

Guaranteed minimum prices for cocoa would lead to a hefty bill for the government as it spends billions to mop up cocoa stockpile. Some of the stockpile may just rot in government warehouses. The minimum price also encourages farmers to produce much more of cocoa than they would have otherwise. It also means less funds for other programs such as education and healthcare.

Source: Adapted from Euromonitor International and https://makechocolatefair.org

Extract 5: Growing concern for farming cocoa

Cocoa cultivation has been synonymous with extreme poverty and has resulted in significant destruction of ancient rainforests, including illegal deforestation inside national parks. Traditionally, if a farmer wanted to earn more, he or she had to produce more, which would mean using more land. Research suggests that over the last 50 years, cocoa cultivation has contributed to the disappearance of 14–15 million hectares of tropical forests globally. Moreover, production continues to expand to meet the growing international demand, further increasing pressure on forest areas. Côte d'Ivoire and Ghana have already lost over 90 percent of their forests, and in 2018 had the two most severe increases in rates of deforestation worldwide. Environmental externalities are a growing concern and deforestation has resulted in excess carbon emissions that contribute to the greenhouse effect and accelerate climate change where communities have been deeply affected.

Source: Adapted from mightyearth.org 21 Jun 2019

Extract 6: What policies / government interventions might successfully reduce rates of deforestation?

What little forests remain must be vigilantly protected for future generations. Apart from using price floors to raise prices to increase farmers income which could help to slow the burning of more lands to get more income, regulations and policies are increasingly being deployed to address these externalities in Africa which include the use of taxes to clamp down on farmers burning protected forest for farming cocoa and tax revenue collected can support reforestation programs.

Governments are encouraging farmers to raise productivity by investing in research and development (R&D) to increase crop yield per acre with better farming methods. This will allow them to increase crop yield over time and reduce the pressure on using more of its natural forests and better productivity lowers cost of production which can help to improve their livelihoods with higher profits. However, R&D would require government subsidies to encourage productivity. The extra billions being spent on subsidies would inflate the country's budget deficit and draining the pool of funds available for other important programs for farmers, including road, power, and irrigation networks as well as education and health-care infrastructure for the country.

Source: Adapted from https://www.cambridge.org 2018

Questions:

(a) **(i)** Using Figure 1 and 2, compare the trend for the worldwide chocolate market sales revenue with that of India for the period 2016-2021. [2]

(ii) Using demand and supply analysis and Extract 1, account for the changes in sales revenue from 2019 to 2020 for the worldwide chocolate market. [4]

(b) Define Price Elasticity of Demand (PED) and explain the difference in values of the PED for cocoa butter presented in Table 1. [4]

(c) With reference to Extract 2, explain the relationship between cocoa butter and chocolate. [2]

(d) Establishing "a price floor would give cocoa farmers a living income – and to ensure farmers get a fair share of the wealth as well as to protect farmers from dire poverty and fluctuations in the cocoa market." [8]

With the aid of a diagram, discuss the factors to consider in deciding whether the minimum price should be implemented for cocoa farmers.

(e) With reference to Extract 6, to what extent do you agree that research and development is likely to be a better measure than imposing taxes in addressing the market failure arising from farming cocoa. [10]

[Total: 30]

Question 2: Policy Tightropes in Singapore and United Kingdom

Table 2: Selected Economic Indicators of United Kingdom, 2019-2022

	2019	**2020**	**2021**	**2022**
GDP, in current prices (in billion £)	2255.3	2150.4	2317.1	2520.3
Unemployment Rate (%)	3.8	4.5	4.6	4.2
Inflation Rate (CPI) (%)	1.8	0.9	2.6	7.4
Bank of England Base Interest Rate (%)	0.75	0.1	0.1	1.0
Government Fiscal Budget Balance (in billion £)	-49.8	-274.4	-185.0	-108.8
Gini Coefficient (%)	35.4	34.6	34.4	N.A.

Source: IMF, April 2022

Extract 7: The 'Temporary' Shocks of War

The Ukraine war is already into its eleventh week and no one can say for sure how long more it may drag on. Both Russia and Ukraine are major exporters of many commodities and are the world's largest exporters of wheat and sunflower oil respectively. Russian oil has also been the target of economic sanctions and boycotts.

On the other side of the world, zero-Covid lockdowns in China have amplified the global prices of goods and services. In April, China's manufacturing output fell to its lowest level in more than two years. This has created further stress for global supply chains.

Meanwhile, firms will find alternatives to get around supply bottlenecks. However, Singapore is unable to fully insulate itself from the continued global supply chain disruptions and the ongoing Russia-Ukraine war. Rising prices will affect all Singaporeans, particularly the lower to middle-income, who spend a large part of their budget on essential items like food and utilities.

Source: ChannelNewsAsia, 18 May 2022

Extract 8: Fighting inflation is more than having higher wages offset increased cost of living

Singapore's core inflation continues ticking upwards. Official data released on July 25 showed a 4.4 percent year-on-year increase in June, the highest since November 2008 amid the global financial crisis.

Although the Monetary Authority of Singapore (MAS) has projected it to ease after peaking in the third quarter, core inflation is expected to remain high at around 3.5 percent to 4 percent towards the end of the year.

IS A WAGE-PRICE SPIRAL LIKELY?

Faced with a higher cost of living, will workers demand larger pay raises? Some are worried a wage-price spiral could be in the making. However, there are reasons to believe a wage-price spiral may not take root here.

MAS managing director Ravi Menon pointed out in July that automatic wage indexation is not common in Singapore, and that the pass-through from prices to wages has been historically weak. This is in contrast to countries like Belgium and Luxembourg where salaries are automatically adjusted according to inflation, a practice that may be difficult to sustain as prices soar.

NAVIGATING POLICY TIGHTROPES

All these point to several policy tightropes which the Singapore Government has to navigate in the ensuing months.

The first is how quickly and forcefully to tighten monetary policy. The MAS recently announced its fourth policy tightening move since October 2021.

The appreciation in the Singapore dollar against most major trading partners has helped to stem imported inflation and eased price pressures. The impact of increasing international prices will be absorbed by the appreciating Singapore dollar, instead of being transmitted into local prices. So for many households, this will help absorb some of the rising prices.

But a stronger Singapore dollar also means our exports will be relatively more expensive. This may make it harder for businesses to stay competitive in the global market. However, Singapore's exports are generally high value-added products and services where demand is less sensitive to price, and therefore, exchange rate changes. Further, a stronger exchange rate helps reduce the import costs faced by our export industries.

Given the hard realities of containing inflation, the question becomes one of helping citizens and households tide over this storm. Fortunately, Singapore has the means to provide relief in the form of an S$1.5 billion support package announced in June.

Help will remain targeted to the lower-income and more vulnerable, as a broad fiscal stimulus risks further stoking inflation. Deputy Prime Minister and Finance Minister Lawrence Wong has indicated that relief packages cannot be sustained indefinitely if inflation remains elevated into next year and beyond.

IT'S ABOUT HOW AND WHAT WE SPEND ON

Governments must drive inclusive and sustainable growth in response to the uncertainty and deep structural challenges that are faced today. To respond to these challenges, Mr Wong noted that it is "not just about the amount of spending, but how and what we spend on".

This means repurposing fiscal policy and the role of the state towards building longer-term capacity and public goods, which can include infrastructure such as healthcare and education.

It also requires fostering a refreshed common agenda between the public and private sectors beyond specific projects, in areas such as research and development (R&D) and lifelong learning, he added.

STRUCTURAL SOLUTIONS TO INCREASE PRODUCTIVITY

The pace of labour market adjustments also has to be considered in the light of immediate cost pressures. A key initiative is the Progressive Wage Model, which aims to raise the pay of lower-wage workers across various sectors and occupations, in tandem with skills upgrading and increased productivity. This will help to shape a more inclusive society where all workers are valued and paid fairly for their contributions.

Another set of policy moves is intended to calibrate the inflow of foreign workers. These include raising the minimum salary requirements for Employment and S-Pass holders, raising S-Pass levies and tightening the dependency ratio ceilings in the construction and process sectors.

These initiatives, while critical for a sustainable and resilient workforce, contribute to higher wage and business costs. However, the impact of higher labour costs could be mitigated by redoubling efforts at raising automation and productivity, and through upskilling and reskilling workers, while facilitating the entry of foreign workers to plug critical gaps in the workforce.

Finding the right policy balance will be necessary to steer the economy through the inflationary storm while keeping our sights trained on the goal of a competitive, future-oriented, inclusive and sustainable Singapore.

Source: ChannelNewsAsia, 5 August 2022

Extract 9: Inflation pushes UK government interest payment costs to fresh record

Soaring inflation pushed interest payments on UK debt to a record high in June, putting the government's budget deficit on course to reach more than £100bn this year, almost double its pre-pandemic level. A quarter of the UK's £2.5 trillion government debt is index-linked, making the cost of servicing it vulnerable to rising inflation.

In a blow to Conservative leadership candidate Liz Truss's plans for expensive tax cuts, the Office for National Statistics said public sector net borrowing increased to £22.9bn, £4.1bn more than in June last year.

However, Philip Shaw, chief UK economist at Investec suggested for the tax cuts to proceed, explaining that the possibility of a resulting economic upturn which could reduce government welfare spending and increase tax receipts, helping to correct the fiscal deficit.

Nevertheless, former chancellor Rishi Sunak argued against these tax cuts, explaining that they risk fuelling inflation. Instead, he suggested for tax increases to fight the deficit.

In response to the data, the current chancellor, Nadhim Zahawi, said he recognised there were risks to the public finances, including from high inflation.

Over 219,000 jobs have been created since the UK government launched the 'Kickstart' Scheme in 2020, as a preventative measure against long-term youth unemployment among 16 to 24 year olds claiming Universal Credit. The scheme provides funding to employers for creating new jobs for this group. Funding pays the minimum wage for the new employee for 6 months, as well as National Insurance and pension contributions.

In addition, the UK Government has taken important action to further build the UK's digital infrastructure. The National Infrastructure Strategy, which was announced in December 2020, outlines how the UK Government aims to work with the private sector to provide fast and reliable internet connection across the UK by 2025. It is estimated that one in every seven adults in Wales and Scotland is currently not able to afford private, sufficient and reliable internet to meet their essential needs.

Source: The Guardian, 21 July 2022

Questions:

(a)		With reference to Table 2:	
	(i)	It is said that unemployment and inflation have an inverse relationship. Explain this relationship and describe if the data reflects this.	[4]
	(ii)	What does the change in Gini Coefficient from 2019 and 2021 suggest about the UK economy?	[2]
(b)		Using AD/AS analysis, explain how current global events have resulted in a rise in consumer prices.	[3]
(c)		Extract 8 expresses that "Some are worried that a wage-price spiral could be in the making." Using AD/AS analysis, explain how inflation might cause a wage-price spiral.	[3]
(d)		With reference to Extract 9, discuss whether the UK government should choose tax cuts to create economic growth which will indirectly reduce its budget deficit, instead of directly resolving the deficit via tax raises.	[8]
(e)		With reference to the case material, discuss whether supply side policies alone are sufficient in achieving inclusive growth.	[10]

[Total: 30]

[BLANK PAGE]

BP~355

Candidate Name: ______________________

Class	Adm No

millennia institute

2022 Preliminary Exams
Pre-university 3

ECONOMICS **9757/02**

Paper 2 Essays

14 September 2022
2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams or graphs.
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.

You are reminded of the need for clear presentation in your answers.

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

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

This question paper consists of **3** printed pages and **1** blank page.

[Turn over

Answer **three** questions in total.

Section A

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

1. When Malaysia announced it will ban exports of fresh chicken from June 1st given domestic shortages, Singapore felt a sense of unease given that chicken is a common ingredient in Singapore cuisine. Many people began to stock up on chicken. About 34 per cent of our chicken imports come from Malaysia.

Source: CNA, 12 June 2022

(a) Explain how the export ban will lead to shortages and a sharp rise in prices of fresh chicken in Singapore. [10]

(b) Assess the strategies that the Singapore government could adopt in response to Malaysia's export ban of fresh chicken. [15]

2. Global military expenditure has surpassed $2 trillion per year for the first time, and looks set to rise further as European countries beef up their armed forces in response to Russia's invasion of Ukraine. Closer to home, the annual spending by the Singapore government on early childhood education sector is set to double.

(a) Explain why price signals will not lead to efficient allocation of resources for national defence and education. [10]

(b) Discuss the extent to which government policies can address the above sources of market failure. [15]

3. China has joined Europe and US in curbing the power of big technology companies. China has increased scrutiny on the technology sector and introduced a slew of new regulations that has tried to rein in the power of its domestic giants like Alibaba Group Holding Ltd and Tencent Holdings Ltd.

Source: CNBC, 17 May 2021

(a) Explain the market structure that the technology companies are in and how it will affect their pricing and output decisions. [10]

(b) Discuss the extent to which consumers and the society will benefit when there is greater competition in the technology industry in China. [15]

Section B

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

4. All governments aim to achieve economic growth, reduce unemployment and keep prices stable.

(a) Explain some challenges faced by the economy when the government fails to achieve these aims. [10]

(b) Discuss the extent to which a change in interest rates can help the government of an economy overcome these challenges. [15]

5. India's trade deficit hit a high of $31 billion in July and it isn't easing soon. India's Commerce Secretary says the country's trade deficit surged in July as elevated commodity prices and depreciating rupee inflated its import bill. Its export sales also fell because of a reduction in its exports of petroleum products and other commodities due to domestic demand increase.

Source: The Print, 4 August, 2022

(a) Explain how a country's trade deficit in its balance of payments could affect its standard of living. [10]

(b) Discuss how best a government should address potential concerns arising from a persistent deficit in its trade balance. [15]

6. Singapore has climbed back up to become the world's 3rd most competitive economy, after having slipped to 5th place in 2021 following 2 straight years at the top.

Source:The Business Times, 15 June 2022

(a) Explain how competitiveness amongst countries might change over time. [10]

(b) Discuss measures that a government can adopt to improve its global competitiveness. [15]

[BLANK PAGE]

Candidate Name: ____________________

Class	Adm No

millennia institute

2022 Preliminary Exams
Pre-university 3

ECONOMICS **9757/01**

Paper 1 **14 September 2022**
2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
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, highlighters, glue or correction fluid.

Answer **all** questions.

You are reminded of the need for clear presentation in your answers.

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

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

Answer **all** questions.

This question paper consists of **X** printed pages and **X** blank page.

[Turn over

CSQ1- Suggested answers:

(a)	(i)	Using Figure 1 and 2, compare the trend for the worldwide chocolate market sales revenue with that of India for the period 2016-2021.	[2]
		Similarity: Rising trend for both India and Worldwide chocolate market sales revenue. [1] **Difference:** However, there is a **sharp** fall in market sales revenue from 2019 to 2020 for worldwide chocolate market while India continues to increase during the same period. [1] 1m for similarity 1m for difference	
	(ii)	Using demand and supply analysis and Extract 1, account for the changes in sales revenue from 2019 to 2020 for the worldwide chocolate market.	[4]
		There was a **SHARP** fall in sales from 2019 to 2020 for the worldwide chocolate market. The reasons are : **Demand factor :** (Any one DD factor) **[1m]** The impact of coronavirus lockdowns curbed impulse buying of chocolate, as people focused instead on stocking up on essentials leading to a fall in demand. Or Economic slowdown due to COVID19 brings about less economic activities and loss of jobs and hence a fall in income As a result, there is a fall in demand for chocolate which is a normal (luxury) good DD shifts left. **[1m]** **Since chocolate is a luxury good,** YED is positive and greater than 1. A fall in income leads to a **more than proportionate** fall in demand/consumption of "luxury" items such as chocolate. **[1m]** DD shifts by a **larger extent** compared with a YED that is positive but less than 1 for a good that is a necessity. **[1m]** Hence the **sharp** fall in sales revenue for the worldwide chocolate market is caused by a **large fall** in demand for chocolates. Note: There is no change in SS as mentioned in Extract 1. 1m for DD factor 1m for explanation of DD shifting left 1m for explanation of YED sign and magnitude 1m for explaining the larger extent of shift in DD	
(b)		Define Price Elasticity of Demand (PED) and explain the difference in values of the PED for cocoa butter presented in Table 1.	[4]
		Price Elasticity of Demand measures the degree of responsiveness of quantity demanded to a change of the price of the good itself, ceteris paribus. **[1m]**	

	Price elasticity of demand
Short term	-0.06
Long term	-0.34

The sign of PED is **negative** due to the inverse law of demand. As price increases, quantity demanded decreases and vice versa **[1m]**

Both SR and LR PED of -0.06 and -0.34 respectively has |PED| < 1 as there is a high degree of necessity for cocoa butter as an ingredient for chocolate OR as there are

BP~359

no close substitutes for cocoa butter. From Extract 2, palm and cotton oil are poor substitutes and there are no alternatives of cocoa butter so far that could meet the exact demand of cocoa butter.
[1m]

The LR |PED| is more than the SR |PED| because in the long run, firms that purchase cocoa butter might be able to find closer alternatives for cocoa butter or discover closer substitutes for cocoa butter in response to change in prices of cocoa butter, while in the short run, firms may not have sufficient time to do so. **[1m]**

1m for definition
1m for explanation of sign
1m for explanation of magnitude using a PED factor
1m for explaining why long run |PED| is larger than short run |PED|

(c) With reference to Extract 2, explain the relationship between cocoa butter and chocolate. [2]

Cocoa butter is a factor of production in the production of chocolate. **[1m]**
This is because according to Extract 2, 50% of cocoa butter made from crushing and grinding cocoa beans is used in **making** chocolate. **[1m]**

1m for correct identification of relationship between the two goods
1m for correct explanation using the Extract

(d) Establishing "a price floor would give cocoa farmers a living income – and to ensure farmers get a fair share of the wealth as well as to protect farmers from dire poverty and fluctuations in the cocoa market." [8]

With the aid of a diagram, discuss the factors to consider whether the minimum price should be implemented for cocoa farmers.

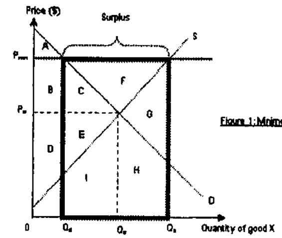
Question Analysis

Command word: "Discuss the factors" explain factors and evaluate which is most important
Content: "factors to consider whether the minimum price should be implemented for cocoa farmers."
- Factors affecting decision making:
  Benefits, costs and constraints

Context: Cocoa farmers

[Turn over

Requirement	Suggested Answer
Introduction: Definition and overview	A price floor is defined as a legally established minimum price that buyers are required to pay for a good or service. Farmers are prohibited from selling below the stipulated price, but prices can rise above it. For price floor to be effective, it must be set at a price above the market equilibrium price. Government may want to use a price floor to protect the income of the farmers from falling, especially in periods of very low prices like when the price of cocoa abruptly fell by 30 percent three years ago, leaving many farmers struggling desperately mentioned in Extract 3.
Factor 1: Benefits of minimum price.	Factor to consider in deciding whether minimum price should be implemented include: **Benefits of minimum price in alleviating poverty for cocoa farmers in Africa and** Decision to implement minimum price would depend on whether price floor would benefit and help to alleviate poverty for the cocoa farmers in Africa. Africa is the largest global producers of cocoa supplying 70% of the world's cocoa beans. Many cocoa farmers and workers having to get by on less than 1.25 US dollars a day and a study also showed that 58 percent of cocoa farming households had incomes below the extreme poverty line in **Extract 3**. According to **Extract 3 and 4**, despite forecasts that the demand for cocoa will rise by nearly 20 % in the coming years and the increasing revenues for chocolate companies but **many farmers are not able to cover their living costs.** Income of cocoa farmers is low compared to the profit made by the chocolate industry and a study in April 2018 also showed that 58 percent of cocoa farming households had incomes below the extreme poverty line. Many cocoa farmers and workers have to get with less than 1.25 US dollars a day. Farmer's income insecurity is affected by volatile cocoa prices stems from changing supply volumes and are forced to sell their beans at low prices immediately due to poor living conditions, the immediate need for money and a lack of storage facilities. A price floor would give cocoa farmers a living income – and to ensure farmers get a fair share of the wealth as well as to protect farmers from dire poverty and fluctuations in the cocoa market, and better standard of living. **Benefits of minimum price for farmers:** Minimum price hence helps to stabilising price of cocoa/minimise fluctuations in prices of cocoa

	With the government guaranteeing the price paid to the farmers, and buying up the surplus stocks, this results in by increasing the total revenue (Pmin x Qs) for farmers as shown in Figure 1 This can help to reverse the situation where farmers stop investing in their farms, cutting salaries, not providing workers with proper working conditions, and in the worst cases are prone to use child labour.  Figure 1: Minimum price for farmers
Factor 2: Costs of minimum price.	Factor to consider in deciding whether the minimum price should be implemented include: **<u>Worsening of resource misallocation of cocoa farming.</u>** Decision to implement minimum price would depend on whether price floor would worsen resource misallocation of cocoa farming in Africa. Minimum price creates a surplus (excess supply) equal to QsQd, since the quantity demanded by consumers is given by 0Qd, while the quantity supplied by farmers is given by 0Qs. The surplus of cocoa results in resource misallocation. This is because too many resources may be allocated to the production of cocoa. This results in larger than social optimum quantity produced. The social optimum quantity is 0Qe but 0Qs is actually produced as a result of the minimum price scheme, resulting in allocative inefficiency given by DWL area (C+E) caused by over-allocation of scarce resources to the production of the good. (Refer to Fig 1) From **Extract 4**, minimum price will attract more farmers such as Kwame Boadu to return to his fields. In addition, due to the guaranteed higher price, new farmers may also be attracted, creating even greater surpluses as the minimum price encourages new and existing farmers to produce much more of cocoa than they would have otherwise causing serious social and environmental problems at expense of sustainable, ecological and diversified farming. Being protected by a guaranteed high price, producers will become complacent and have less incentive to find efficient methods of production or engage in product innovation. In addition, too many resources are being employed in this

	industry due to the high price guaranteed. This may lead to wastage and inefficiency while other industries face shortages in these resources.
Factor 3: Constraints faced by the government.	Factor to consider in deciding whether the minimum price should be implemented include: **<u>Availability of government reserves.</u>** Decision to implement minimum price would depend on whether the government has budget to carry out this policy. **Straining the government budget and the opportunity cost.** Guaranteed minimum prices for cocoa would lead to a hefty bill for the government as it spends billions to mop up cocoa stockpile. To deal with the surpluses, the government will have to buy up the surplus and store it or destroy it or sell it abroad in other markets. If the government maintains the minimum price by purchasing all the surplus stock, over time, there will be a storage mountain especially in Africa which is the largest global producers of cocoa, supplying 70% of the world's cocoa beans. This would mean extra costs of transportation, storage and security for the products. Hence, the purchase of the surplus cocoa beans produced will run down government budget and it will also incur high opportunity cost as less funds available for other important programs such as education and health care services as mentioned in Extract 4. As government spending is financed out of taxes with alternative uses, opportunity costs are incurred and government spending to maintain price floor thus involve losses for society such as a fall in the standard of living. In addition, the maintenance of a price floor may have to be financed out of higher taxes which reduces disposable income and worsens equity. It was mentioned in Extract 4 that some of the stockpile may just rot in government warehouses especially if there are no proper storage facilities. This means that government will not be able to export the stockpiles abroad to foreign markets to recoup the money from implementing the minimum price for cocoa farmers. Exporting the surplus often requires government granting a subsidy to lower the price of the good and make it competitive in world markets. By dumping the excess goods produced abroad, the benefits of increased export revenue and output enjoyed by the country are achieved at the expense of its trading partners and in turn worsen trade relations between countries. Trade partners who experience a decline in export sales and consequently a lower output and employment level will trigger off retaliatory measures. This could in turn reduce the export revenues and output of the country

BP-361

Evaluative Conclusion: Which is the most significant factor?	Conclusion / Evaluation In deciding whether the minimum price support scheme is to be implemented, governments should either: • seek to adopt a detailed cost-benefit analysis on the factors above and implement if the scheme results in a overall net benefit to society or • consider the urgency of the factors / the most important factor and substantiate or • consider the time frame in the implementation of the policy

Level	Description	Marks
L2	Answer covers at least 2 groups of well-explained factors (e.g. benefits and costs) with thorough economic analysis and use of appropriate economic framework. Reference to case material were made in the answer. Max 4m – No reference to case material	4–6
L1	Answer lacks balance or scope or reference to case material or details.	1-3
E	Makes a substantiated judgement that answers the question.	1-2

(e) With reference to Extract 6, to what extent do you agree that research and development is likely to be a better measure than imposing taxes in addressing the market failure arising from farming cocoa. [10]

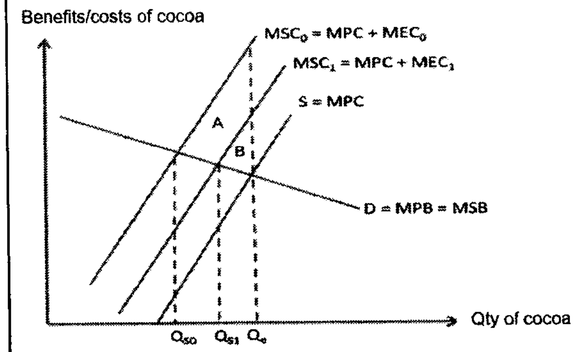
Question Analysis

Command word: "what extent do you agree" 2 sides needed
Content: Criteria to determine "better measure" compare the 2 policies
- **Thesis:** R&D is a better measure (benefits of R&D vs limitations of imposing taxes in addressing the market failure)
- **Anti-thesis**: Imposing taxes is a better measure (benefits of imposing taxes vs limitations of R&D) in addressing the market failure)

Context: cocoa beans production

Requirement	Suggested Answer
Introduction: Definition	Negative externalities that arises from farming cocoa: Deforestation that release carbon emissions which causes greenhouse effect (global warming) from overproduction of cocoa beans. Negative externalities may arise as farmers are not aware of the third-party external costs of producing cocoa beans. Clearing more land to grow more cocoa beans is a growing concern as **deforestation** leads to higher carbon emissions that contribute to the **greenhouse effect** and accelerate **climate change**. Climatic changes not only harm cocoa crop yields but it affects others in the community who are neither the consumers nor producers of cocoa beans. Third parties such as rice and corn farmers are affected by

[Turn over

	extreme weathers from flooding to drought which reduces food crops essential for the community.
Body 1: Explain how R&D and tax work to address the market failure	<u>**How R&D works to address the market**</u> To reduce negative externalities, the government can provide subsidies to encourage investment in R&D for farmers to develop better practices designed to improve productivity to increase cocoa crop yield per acre. Higher crop yield per acre means more cocoa beans without the need to clear more land and less deforestation which means lesser carbon emissions and a smaller contribution to global warming. When this happens, the marginal external cost of farming cocoa is decreased. As such, there would be a smaller divergence between MSC and MPC (the MSC shifts towards the MPC). In such cases, the degree of market failure would also decrease. This is illustrated in the diagram below.  Figure 2: R&D that reduces the negative externality Referring to the diagram above, the original market equilibrium is at Qe where MPB = MPC. The original social optimum is at QS0 where MSB = MSC0. The original deadweight loss is area A + B. With better methods developed to increase crop yield and less deforestation, external cost will decrease, the MSC will decrease from MSC0 (MPC + MEC0) to MSC1 (MPC + MEC1). This causes the social optimum to shift from QS0 to QS1 where MSB = MSC1. The deadweight loss is thus decreased to the area B. If the R&D is successful in developing good farming methods to the point where there is zero deforestation (zero external costs), it would be the ideal solution as there would be no need to reduce production of cocoa beans. <u>**How tax works to address the market**</u> Negative externalities may also arise due to blatant disregard of third-party costs arising from self-interest. To correct negative externalities, the government can impose a tax on the farmers that is equal to the external cost which is the monetary valuation of the harm imposed on society due to the negative externality.

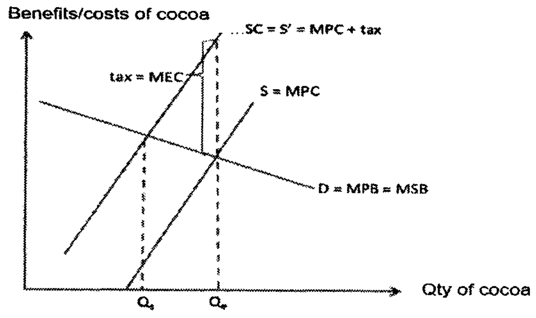


Figure 3: Using tax to correct negative externalities

The tax internalizes the external cost as farmers now have to pay this tax whereas previously they just ignored the external cost. This raises the farmers's marginal private cost (i.e. cost of farming cocoa will increase) and the supply curve will shift to the left to S' (MPC raised to MPC + tax, which is equal to the MSC). Hence, the new market equilibrium output will be at Qs. At this equilibrium, MSB=MSC. The overproduction is corrected. This eliminates the deadweight loss, achieving allocative efficiency.

Body 2
R&D is a better measure (benefits of R&D vs limitations of taxes)

R&D is a better measure (benefits of R&D vs limitations of taxes)

- R&D may provide a more sustainable solution to stop the clearing of land as the success of increasing crop yield per acre can help to 'reduce the pressure on using more of its natural forests" in **Extract 6** and at the same time ensuring that cocoa is a viable option for the next generation of growers with better farming methods.
- R&D reduces DWL through targeting the root of the problem and removing the negative externality with no reduction in cocoa production. If the R&D is successful there is possibility of increasing cocoa production without harming the environment.
- Improve crop yield per acre means that there is an increase in productivity which lowers costs of production. "This improves livelihoods of farmers with higher profits" mentioned in **Extract 6**. This can help to safeguard household incomes and uplift the extreme poverty for farmers.

On the other hand,

- External costs incurred is intangible and it is difficult to place monetary values on the harmful effects. Under-taxation will not completely eliminate the DWL while over-taxation will lead to DWL from under-production as it is difficult to assess the monetary value of the MEC. If the government assesses the amount wrongly due to imperfect information, the tax imposed may be too high or too low. For example, if the MEC of cocoa production is overestimated, the government would levy taxes

that are too high. This would result in underproduction of cocoa. Conversely, if the MEC of cocoa is underestimated, the government would levy taxes that are too low. This would result in cocoa still being overproduced.

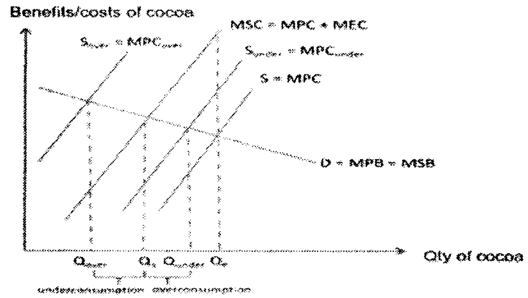


Figure 4: Over- and Underestimating the MEC

In the diagram, we can see that the socially optimal output is Qs where MSB = MSC. The current market equilibrium without taxes is Qe where MPB = MPC. If the government overestimates the MEC and taxes too much, MPC would fall to MPCover and output would fall to Qover. Since Qover is less than Qs, there has been an overcorrection and now there is underproduction instead. If the government underestimates the MEC and taxes too little, MPC would fall to MPCunder and output would fall to Qunder. Since Qunder is still more than Qs, there is still overprodcution.

- In addition, the extent to which a tax can reduce the quantity of a good depends on the PED of the good. Inferring from **Extract 2**, PED for cocoa is likely to be inelastic, a tax that raises the price of cocoa will reduce the quantity demanded of cocoa by a less than proportionate amount. Therefore, fall in quantity will be to a small extent and hence may not be effective in reducing production. In addition, to achieve the desired reduction in output for a highly price inelastic good would mean a much higher tax is needed which may not be viable as "cocoa cultivation has been synonymous with extreme poverty" in **Extract 6**.

Body 3
Tax is a better measure (benefits of taxes vs limitations of R&D)

Tax is a better measure (benefits of taxes vs limitations of R&D)

- By placing a price on the external cost of production, the taxe forces producers to internalise the external costs imposed on third parties, reducing their MPC.
- An advantage of taxes is that the revenue from the tax could be used by the government to mitigate the negative externalities. For example, the government can use the taxes to fund reforestation programmes
- Imposing taxes has flexibility as the tax can be adjusted according to the size of the MEC.

Conversely,

BP-363

	• R&D only works in the **long run** as it takes time to be developed. Besides there is no guarantee of success. The success of R&D also depends on the funds available to support this program as providing subsidies for such R&D can be costly and yet yield no returns. Hence this may strain the government budget. (**Extract 6**) • From **Extract 6**, "R&D would require government subsidies to encourage productivity and this extra billions being spent on subsidies would inflate the country's budget deficit and draining the pool of funds available for other important programs for farmers, including road, power and irrigation networks as well as education and health-care infrastructure for the country."
Evaluative Conclusion:	• R&D is likely to be a better measure than imposing taxes only to a small extent in the short-run. This is because the overproduction of cocoa is more likely to arise from self-interest and it might take a long time to change old ways of farming cocoa even if R&D is successful. In additional, it is expensive to fund ane yet does not guarantee success. Hence the costs of R&D may outweigh the benefits. • In the short-run, imposing taxes may be a more effective measure to trigger immediate action in reducing land expansion to grow more cocoa. The revenue collected can also be used for public education to promote greater awareness on the harm of deforestation and climate changes as well as to use it to support reforestation program. This will help cocoa bean production to reach the socially desirable output level at Qs. • Which is a better measure will depend on the urgency to address the problem of deforestation from cocoa farming. While R&D may take time to work, it may provide a more sustainable solution to stop deforestation as increasing crop yield per acre can help to reduce the pressure on using more of its natural forests as well as alleviating poverty for cocoa farmers in the longer term.

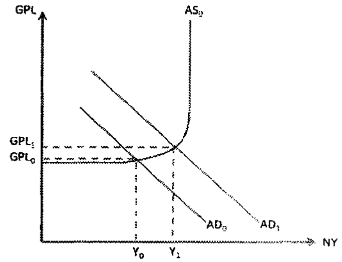
L2	• Answer is **relevant to question requirements** and covers sufficient **breadth**: o explains how R&D and imposing tax can address the overproduction problem o explain the relative benefits and limitations of each of these measures • Answer has sufficient **depth**: o rigorous and detailed economic analysis that demonstrate strong understanding of how R&D and imposing tax can address the overproduction problem o **relevant** and **precise** use of economic concepts (i.e. **market failure framework**) o **relevant** and **clearly**-labelled diagrams (i.e. **cost-benefit graphs**) to support economic analysis • Answer is **relevant to the context** of the question and applies **contextual evidences** to support the analysis.	5-7

L1	• Answer is mostly relevant to question requirements but lacks comparison of the relative benefits and limitations of the measures. • Economic concepts are relevant but may contain inaccuracies. • Economic analysis is incomplete or lacks precision. • Attempts to address the context of the question but **lacks contextual evidences.** • No diagrams or relevant diagrams are used but might not be accurately explained or applied to support economic analysis.	1–4
E2	Evaluative comments on the relative benefits and limitations of the measures in addressing the issue. Makes an overall stand: Extent to which R&D is likely to be a better measure than imposing taxes. Judgement provided with substantiation.	2-3
E1	Judgement provided but no substantiation	1

CSQ 2- Suggested answers:

(a)		With reference to Table 2:	
	(i)	It is said that unemployment and inflation have an inverse relationship. Explain this relationship and describe if the data reflects this.	[4]
		An increase in AD in an economy will lead to an increase in the output of goods and services (assuming AS is constant), which leads to a fall in unemployment **[1]**. As the economy reaches near full employment levels, the shortage of goods and services due to the increase in AD will result in a rise in general price levels i.e. inflation rates. **[1]** This explains the inverse relationship between inflation and unemployment. Table 2 reflects this relationship for UK in 2019-2020 because it is experiencing falling inflation rates along with rising unemployment rates. And in 2021- 2022; there is rising inflation rates along with falling unemployment rates Table 2. **[1]** However, the relationship does not seem to hold for 2020-2021, where both unemployment and inflation rates rose. **[1]** ***Mark Scheme:*** *Explain theoretical fall in unemployment – 1m* *Explain associated fall in GPL – 1m* *Describe whether UK adheres to this relationship– 2m*	
	(ii)	What does the change in Gini Coefficient from 2019 and 2021 suggest about the UK economy?	[2]
		The Gini coefficient has decreased [1], which means that incomes in UK have become more evenly distributed. [1] 1m for recognising the change in the Gini coefficient 1m for the interpretation in terms of the change in income distribution	
(b)		Using AD/AS analysis, explain how current global events have resulted in a rise in consumer prices.	[3]
		Global Supply chain disruption due to the Russian-Ukraine conflict and zero-COVID lockdowns in China **[1]** Supply Shock due to reduced availability of goods and services at every price level <u>or</u> COP rising due to rise in price of factor inputs Fall in SRAS from SRAS1 to SRAS2 **[1]** Rise in GPL from GPL1 to GPL2 **[1]**. Thus, causing rising consumer prices.	
(c)		Extract 8 expresses that "Some are worried that a wage-price spiral could be in the making." Using AD/AS analysis, explain how inflation might cause a wage-price spiral.	[3]
		When inflation is high, workers may demand for higher wages to compensate for the loss of purchasing power **[1]**	

[Turn over

		When this happens, the cost of production would increase. This shifts the SRAS **[1]** upwards and causes another increase in the GPL. In response, workers may demand higher wages again **[1]**, causing a spiral of increasing prices ie SRAS will shift further upwards and wages would increase again.	
(d)		With reference to Extract 9, discuss whether the UK government should choose tax cuts to create economic growth which will indirectly reduce its budget deficit, instead of directly resolving the deficit via tax raises.	[8]
		According to Extract 9, the UK "government's budget deficit (is) on course to reach more than £100bn this year, almost double its pre-pandemic level." Government fiscal budget deficit refers to government expenditure being higher than tax revenue. <u>Thesis: The UK government should prioritise economic growth via tax cuts to indirectly reduce the fiscal deficit</u> The UK government should implement tax cuts will help achieve high economic growth. The reduction in income taxes and corporate taxes increases AD indirectly. A decrease in income taxes would increase the disposable income of households. Thus, with the higher purchasing power, households will consume more, leading to a rise in consumption expenditure (C). A decrease in corporate taxes would increase the after-tax profit of investments. Hence, with higher profitability of investments, investments (I) increase. Together, the increase in C and I would increase AD from AD0 to AD1. This will via the multiplier effect lead to a more than proportionate increase in NY from Y0 to Y1.  "Philip Shaw, chief UK economist at Investec suggested for the tax cuts to proceed, explaining that the possibility of an economic upturn could reduce government welfare spending and increase tax receipts, helping to correct the fiscal deficit." The Economic growth would improve the UK government budget deficit as more tax revenue can be collected from individuals whose rising incomes fall into higher income tax brackets. The UK producers who tend to earn higher profits will have to pay more corporate taxes as well. In addition, less welfare payments would also need to be made. Thus, reducing the budget deficit indirectly through NY increase. Evaluation: The NY increase may lead to demand-pull inflation as stated in Extract 9 when the former chancellor said that the tax cuts will "risk fuelling inflation" as shown	

BP-365

in diagram above when GPL0 goes up to GPL1. The UK debt that is directly linked to inflation will end up increasing too.

Anti-thesis: The UK government should directly resolve the fiscal deficit via tax raises.

Instead, the UK government should implement tax raises as this will more directly lead to an increase in government revenue and correct the deficit. Additionally, tax raises would reduce C & I, resulting in a fall in AD and reduce inflationary pressures which would reduce inflation-linked debt further.

A persistent fiscal deficit will have an adverse effect on the UK economy due to the debt repayments in future years, which would pose a burden for future generations.

However, there would also be a fall in National income and employment, which may then require increase in government welfare spending.

Synthesis: The UK government should prioritise tax cuts to reduce the fiscal deficit

Tax cuts to promote economic growth is beneficial to a larger extent as it will improve the UK government budget deficit as explained earlier as it allows for more tax revenue to be collected and reduced welfare payments.

Furthermore, there are supply side effects from the Tax cuts which result in an increase in investment. This increase in investment can help increase long-run productive capacity and enable a higher rate of potential growth. This will temper inflationary pressures and help bring down public sector debt.

Additionally, if growth does improve, then the borrowing can pay for itself, hence a government should prioritise tax cuts to achieve higher economic growth rather than a tax raise to solve its budget deficit.

But it must be noted that there is no guarantee that EG will result with the tax cuts if people are pessimistic about the future and simply ended up saving the extra income from tax cuts. The UK government also needs to have measures to ensure that inflation is managed despite the tax cuts if investments do not increase.

Mark Scheme		
L2	For a well-developed answer that explains the costs and benefits of tax raises vs cuts and the potential implications.	4 – 6
L1	For an under-developed answer that explains the costs and benefits of tax raises vs cuts and the potential implications.	1 – 3
E	Makes a substantiated judgement that answers the question.	1 – 2

(e) With reference to the case material, discuss whether supply side policies alone are sufficient in achieving inclusive growth [10]

Inclusive growth is growth that is broad-based across economic sectors, and creates employment opportunities for the majority of the country's population. In the case of Singapore, inclusive growth implies growth without worsening of income inequality. It first requires sustained growth i.e. actual and potential growth.

Thesis: Supply-side policies alone are sufficient in achieving inclusive growth.

[Turn over

In Singapore, the govt has adopted structural solutions to increase productivity. This includes labour market adjustments policies that will help to ensure wage improvements and increase in potential EG.

Labour Market adjustment policy   Inclusive and Potential EG
Labour market adjustment measures of reducing dependence on low-skilled foreign worker works by "calibrate the inflow of foreign workers" via "raising the minimum salary requirements for Employment and S-Pass holders." This will make low-skilled foreign workers becoming more expensive to hire and cause an increase in the demand for local low-skilled workers, resulting in higher wages helping to manage the growth of low wage workers, allowing growth to be more inclusive.

It also forces firms to reduce dependence on foreign workers and increasing innovation and training so as improve worker productivity so as to justify paying them a higher wage. This will lead to an increase in LRAS due to improvement in factors of production i.e. labour, and technology, contributing to potential growth.

Similarly, the "Progressive Wage Model, which aims to raise the pay of lower-wage workers across various sectors and occupations, in tandem with skills upgrading and increased productivity," would also lead to an increase in LRAS due to improvement in factors of production and technology, contributing to potential growth.

In the UK, the government has also implemented 'KickStart' to tackle long term youth unemployment which will likely support wage growth and also the adoption of skills which they will pick up in their respective industries. Not to mention, the employment opportunities that would be created for a significant portion of the country's population Additionally, UK has also implemented a plan 'to provide fast and reliable internet connection across the UK by 2025', this will ensure that households will have access to technology and this will enable equity in access to online learning resources so that no one gets left behind and lead to an improvement in productive capacity.

Antithesis: Supply Side policies alone are insufficient in achieving inclusive growth.

For inclusive growth to occur, we also need actual economic growth:

Exchange rate policy   Actual EG
"The appreciation in the Singapore dollar against most major trading partners has helped to stem imported inflation". "Further, a stronger exchange rate helps reduce the import costs faced by our export industries." The appreciation of the Singapore currency price of imported inputs in terms of SGD decreases, this leads to a fall in cost of production and could increase price competitiveness of SG's exports. Assuming imports remain constant, this leads to an increase in (X-M) and AD. NY increases more than proportionately via the multiplier effect i.e. there is actual economic growth.

Exchange rate policy   inclusive EG
"So for many households, this will help absorb some of the rising prices." The appreciation of the SG dollar also helps prevent imported inflation by allowing households to buy final products at a competitive price and provide broad-based support, in particular lower income households.

Fiscal policy   Actual EG, Potential EG & Inclusive EG
Governments will also need to conduct spending i.e. fiscal policy towards "building longer term capacity and goods for the public which can include infrastructure such as

healthcare and education." The increased spending will serve to further boost AD, while infrastructure development will boost LRAS ensuring that economic growth is sustained. The spending on relief packages, healthcare and education will add on to ensure that growth is inclusive for all as these expenditures benefits the poor more. The cooperation between public and private sectors "beyond specific projects, in areas such as research and development (R&D) and lifelong learning" will ensure that employment and growth will benefit a large proportion of the population.

Traditional Monetary Policy Achieve price stability
With reference to Table 2, we can see that the UK government has increased their interest rate from 0.1% to 1% between 2021 and 2022, in a bid to fight the increase in cost in living (inflation rate- 7.4% in 2022), which is likely to hurt households and drastically reduce the purchasing power of all especially the poor. This also helps to prevent UK's inflation-linked debt from increasing too much and limit their ability to support UK households in the future.

Conclusion/Evaluation
In the end, supply policies alone are definitely useful, but they alone are inadequate in "steer(ing) the economy through the inflationary storm", while achieving inclusive growth. There needs to be a correct 'policy mix' of demand-management and supply side policies to cover policy gaps, manage conflicts so as attain actual and potential growth, while ensuring all households have an equitable wage.

L2	• Answer presents well-balanced arguments of whether supply side policies alone are sufficient to achieve inclusive growth. • Economic analysis is well-developed throughout, argument is coherent. • Answer makes good use of relevant case evidence- with reference to both UK and SG.	5-7
L1	• Answer is mostly relevant to question requirements but does not directly address the question. • Economic concepts are relevant but may contain inaccuracies. • Economic analysis is incomplete or lacks precision. • Attempts to address the context of the question but lacks evidence. • No diagrams or relevant diagrams are used but might not be accurately explained or applied to support economic analysis.	1–4
E2	Evaluative comments that are based on arguments. Judgement provided with substantiation.	2-3
E1	Judgement provided but no substantiation	1

[Total: 30]

BP-367

Candidate Name: ____________________

Class	Adm No

H

millennia institute

2022 Preliminary Exams
Pre-university 3

ECONOMICS **9757/02**

Paper 2 Essays **14 September 2022**
2 hours 15 minutes

Additional Materials: Answer Booklet

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams or graphs.
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.

You are reminded of the need for clear presentation in your answers.

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

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

This question paper consists of **3** printed pages and **1** blank page.

[Turn over

Answer **three** questions in total.

Section A

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

1. When Malaysia announced it will ban exports of fresh chicken from June 1st given domestic shortages, Singapore felt a sense of unease given that chicken is a common ingredient in Singapore cuisine. Many people began to stock up on chicken. About 34 per cent of our chicken imports come from Malaysia.

Source: CNA, 12 June 2022

(a) Explain how the export ban will lead to shortages and a sharp rise in prices of fresh chicken in Singapore. [10]

(b) Assess the strategies that the Singapore government could adopt in response to Malaysia's export ban of fresh chicken. [15]

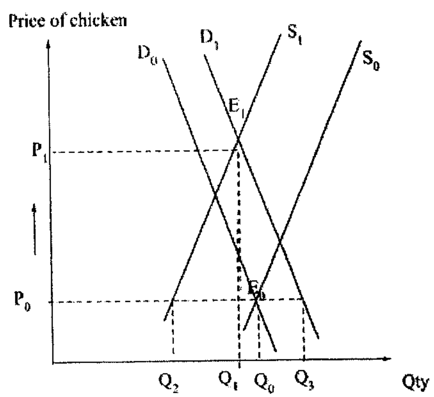
Suggested Answer

Part (a)

Question Requirements
Command words: Explain
Content/concept words: Sharp rise in prices due to Demand and Supply Factors / PED and PES
Context: Fresh chicken in Singapore

Requirement	Suggested Answer
Introduction	The ban exports of fresh chicken and the stocking up of chicken, coupled with the inelastic supply and demand will cause the price of chicken to rise sharply.
Body 1: **Export ban fall in Supply with |PED| < 1**	The supply of chicken refers to the various quantities of chicken producers are willing and able to offer for sale at various prices over a period of time, ceteris paribus/ Since Malaysia supplies about 30% of Singapore's chicken, the implementation would decrease the supply of chicken, this will cause the price of chicken rise. The rise in price of chicken is also accentuated by the price inelastic demand for chicken in which price elasticity of demand (PED) measures the degree of responsiveness of quantity demanded of a good to a change in its own price, ceteris paribus.

BP~369

	The demand for chicken is price inelastic, since there are few substitutes for chicken, and is also a necessity as it is a common ingredient in many dishes in Singapore cuisine. This fall in supply would lead to a rise in price and fall in qty traded. Due to the inelastic demand, the rise in price will lead to a less than proportionate decrease in quantity demanded. Hence, the price will rise to a large extent.
Body 2: **Stocking up of chicken Rise in demand with PES < 1**	The demand for chicken represents the various quantities of a good or service that consumers are willing and able to buy at various prices over a given period of time, ceteris paribus. With the announcement of the export ban, households and businesses may anticipate price increases in the future, and may increase their demand for chicken now. The extent of an increase in price can be further explained using the price elasticity of supply (PES) that measures the degree of responsiveness of quantity supplied of a good to a change in its own price, ceteris paribus. The supply for chicken is price inelastic, due to the time taken for the chicken to grow up to be of eating size. This rise in demand would lead to a rise in price and rise in qty traded. Due to the inelastic supply, the rise in price will lead to a less than proportionate rise in qty supplied. Hence, the price will rise by a large extent.
Body 3 **Illustrate and explain with a DD/SS diagram**	

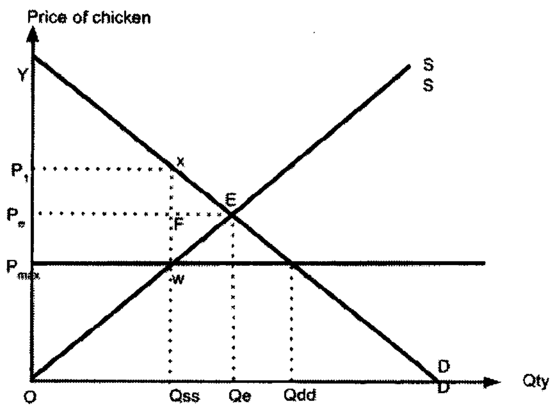
	With reference to Figure above, supply decreases from S_0 to S_1, along a price inelastic demand, ceteris paribus, a rise in demand from D_0 to D_1 along a relative price inelastic supply curve. When supply decrease and demand increase, at the original price, quantity demanded is greater than quantity supplied, Q3 > Q2, **leading to a shortage of chicken**, denoted by Q3Q2. This shortage will lead to an upward pressure on the price. As price of chicken rises, qty demanded will fall and quantity supplied will rise. The price adjustment will stop until qty demanded = qty supplied. Thus, the price of chicken increases sharply from P_0 to P_1.
Conclusion	The fall in supply and the rise in demand for chicken, with the inelastic demand and supply will cause the price of chicken to rise sharply.

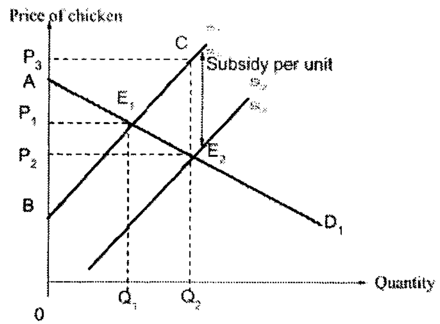
Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For an answer that shows well-developed explanation • Considers both demand and supply factors • Addresses the sharp increase in price (by combined shifts and elasticity concepts) • Consider shifts but only 1 elasticity (max 8)	8-10
L2	For an answer that shows under-developed explanation • Lacking clarity and accuracy at times • Does not address the sharp rise in price clearly Or, an answer that lacks scope • Only considers DD **or** SS shift	5-7
L1	For an answer that shows limited knowledge • with listing of points, or unexplained statements • Many conceptual errors	1-4

Part (b) Assess the strategies that the Singapore government could adopt in response to Malaysia's export ban of fresh chicken. [15]

Suggested Answer

Question Requirements
Command words: Assess 2-sided with evaluation
Content/concept words: strategies and the limitations
Context: Singapore

Requirement	Suggested Answer
Introduction	Singapore government is concerned about efficiency and equity, since chicken is widely used in many homes and food and beverage establishments. There are 3 possible strategies. They could implement a price ceiling, subsidize eggs, or to diversify chicken imports.
Thesis: Price ceiling	A price ceiling refers to government-imposed price above which firms are not legally allowed to charge. It is the maximum price set by the government below the market equilibrium price which is deemed too high. For it to be meaningful, it is set below the market equilibrium price. Singapore government may implement price ceilings when they want to prevent prices of chicken from rising beyond a certain level.  With reference to the fig above, before the implementation of the price ceiling, the intersection of the demand and supply curves establishes the equilibrium price, P_e, and quantity, Q_e. With an effective price ceiling being set at Pmax, the quantity supplied falls to

	Qss and the quantity demanded rises to Qdd, resulting in a shortage of of QddQss. This will lead to a lower price of Pmax and is more affordable as compared to the initial equilibrium price of Pe.
Anti-Thesis: Limitation of price ceiling	However, the price ceiling will lead to shortages of Qdd-Qss. There is also welfare loss to the society as indicated by the area XEW. Where customers are unable to buy enough in the market, there will be emergence of black market. This happens as some firms may not want to sell all of their goods openly at the artificially low price. Hence, they might secretly sell to people who are willing to pay a higher price in order to earn higher revenue. Assuming that producers are able to sell Qs illegally, then based on the demand curve, consumers are willing and able to pay P1. Hence, the price may reach as high as P1 as shown in Figure 1. This price level, P1, is even much higher than the pre-price ceiling equilibrium price, Pe.
Thesis: Subsidy	The government may also give out subsidy. With reference to Figure below, the initial equilibrium price and output are OP1 and OQ1 respectively. When a subsidy is granted on chicken (assuming subsidy is given to producers), the supply curve will shift downwards by the full amount of the subsidy granted, as the subsidy can be used to compensate part of the production cost and the profit level from selling one unit of chicken increases. At OP1, there will be an excess supply of the good. This will cause the price to fall, and quantity exchanged to rise. These changes will occur until a new market equilibrium is attained at E2 with a lower equilibrium price, OP2 and a higher equilibrium quantity, OQ2. 
Anti-Thesis: Limitation of price ceiling	Due to the loss of govt expenditure (Area P2P3CE2) and despite gain in consumer surplus (Area P2P1E1E2) and producer surplus (Area P3CE1P1), there is overall loss of welfare to the society (E1E2C). The provision of subsidy would mean that the government needs to forgo expenditure in other governmental projects (opportunity cost is incurred). In order to finance the subsidies, the government may have to impose high tax rates on citizens. This may in turn have

BP~372

	disincentive effects on work, investment and hence adverse effects on the economic growth of the country.
Thesis: Diversify chicken imports to increase SS	The Singapore government started looking for other sources of chicken with the ban to make sure Malaysia is not our only source of imported chicken and went on to get chicken from Indonesia. This will cause supply of chicken to rise and price to fall, making it more affordable.
Anti-Thesis: Limitation of diversifying chicken imports	However, there will be higher transport costs due to the longer time taken for the chicken to arrive in Singapore from Indonesia. This will also lead to freshness issues.
Overall Evaluation	The choice of which strategy that the government can implement depends on whether the country is food-producing or food-importing. Imposition of price ceiling and production subsidies will be appropriate for countries that are food-producing, such as China, United States and Brazil as they are able to influence the price of the food that they are selling domestically or exporting, but food-importing countries like Singapore will not be able to influence the price set by their exporters through a price ceiling. Furthermore, production subsidies will have little impact in curbing rising food prices for food-importing countries. Singapore only produces about 10% of the food that she consumes. Any production subsidies given to the food producers will have limited effect in bringing down food prices if imported food prices are rising. Hence, Singapore government should diversify the import market and look for other markets to import chicken from.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	A balanced and well-developed answer on the policies used by the government to address rising price of chicken, with relevant use of examples.	8 - 10
L2	An under-developed, balanced answer on polices deal with rising price of chicken, with inconsistent use of examples and gaps in analyses.	5 - 7
L1	May have many and/or serious conceptual errors. May have relevant points that were made incidentally.	1 - 4
	Evaluation	
E3	A well-reasoned conclusion that clearly addressed the question.	4 - 5
E2	Some attempt to make conclusive judgements about the strategies but not well substantiated and rather generic.	2 - 3
E1	A judgement that is unsupported.	1

2. Global military expenditure has surpassed $2 trillion per year for the first time, and looks set to rise further as European countries beef up their armed forces in response to Russia's invasion of Ukraine. Closer to home, the annual spending by the Singapore government on early childhood education sector is set to double.

(a) Explain why price signals will not lead to efficient allocation of resources for national defence and education. [10]

(b) Discuss the extent to which government policies can address the above sources of market failure. [15]

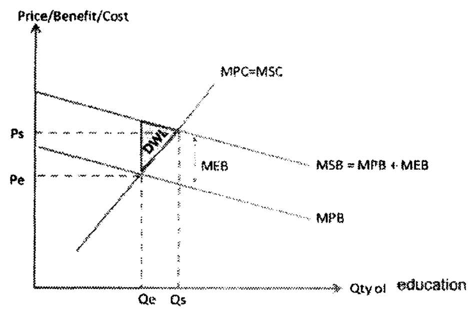
Suggested answer

Part (a)

Question Requirements
Command words: Explain
Content/concept words: sources of market failure for public and merit goods
Context: national defence, education

Requirement	Suggested Answer
Introduction	Market failure occurs when the free market is unable to allocate resources efficiently. It occurs due to positive externalities and public goods. Positive externalities occur when production or consumption imposes external benefits enjoyed by third parties, who are neither the buyers nor sellers, for which no compensation is made. Positive externalities occur in the consumption of education. It is a merit good. For national defence, it is a total market failure as the market does not produce it at all.
Body 1: **Total market failure – public goods**	<u>Explain that the good is non-excludable</u> National defence is non-excludable. This is because when there are armed forces in a country that deters other countries from attacking it, everyone in the country enjoys the same level of safety from invasion. It is not possible for the Singapore Armed Forces (SAF) for example, to exclude non-payers specifically from the protection. <u>Implication of non-excludability on the provision of the good by the market</u> The property of non-excludability gives rise to free rider problem. The free rider problem is a situation where it is possible for a person to consume a good without having to pay for it. For example, even if you do not pay taxes, the SAF cannot exclude you from its protection. So, you would still enjoy the protection without having to pay for it (i.e., you can enjoy a free ride). The possibility of free-riding weakens the incentive for consumers to offer to pay for the good. Since demand for a good is the ability and willingness to pay for a good, when there

	is no willingness to pay for the good, there would be no demand for the good. Since there is no expression of demand, it is impossible to charge a market price for the good. The good would not be produced at all by the private sector. Hence, we say that there is a missing market for the good if left to the market. <u>Explain that the good is non-rivalry in consumption</u> Furthermore, national defence is non-rivalry in consumption. Once national defence services are provided, it can be consumed by everyone within the national border. If an additional person enters the border, this person's consumption of the national defence services does not reduce the amount of protection or security available to other residents. In other words, the supply of national defence services, once provided, is not depleted by an additional user. <u>Implication of non-rivalry on the provision of the good by the market</u> As a result of non-rivalry, the marginal cost of providing protection to an additional user is zero, MC=0. Once an army is formed, the total cost of defending the country is the same regardless of the number of persons the army has to protect. There is no extra cost involved for defending an additional person. To achieve allocative efficiency in the provision of a good, consumers should pay a price equal to the marginal cost of serving an additional user (P = MC). Since MC = 0, national defence services should be made free of charge to all individuals to achieve an optimal consumption level. However, this means that no private firm in a free market can supply it profitably if required to do so at the optimal output. Thus, the free market fails to allocate resources to produce such goods.
Body 2: **Partial market failure – education**	Education generates positive externalities. For example, the consumption of education services not only raises people's income but the increased knowledge and skill may increase the productivity of the entire economy. The positive externalities cause MSB to diverge from MPB in the figure below as MSB = MPB + MEB. We assume that there are no negative externalities in the education market, i.e., MEC = 0. Thus, MSC = MPC. The market equilibrium quantity will be at Qe where MPB=MPC. This is because self-interested consumers and producers will only consider their private benefits and costs in their consumption and production decisions. However, the socially optimal output where social welfare is maximized is at Qs where MSB = MSC. This is because if MSB > MSC, social welfare can be increased by producing more while if MSB < MSC, social welfare can be increased by producing less. <u>Since Qe is less than Qs, there is underconsumption of education.</u>

	For the quantity in between Qs and Qe, MSB is more than MSC. This causes a deadweight loss of the shaded area as social welfare is not maximized. Hence, the market fails due to allocative inefficiency. 
Conclusion	Hence, price signal will not lead to efficient allocation of resources for public goods and education.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Developed and well-contextualized explanation of goods that generate positive externalities and public goods	8-10
L2	**Undeveloped explanation** of goods that generate positive externalities and public goods **Developed** explanation of goods that generate positive externalities or public goods	5-7
L1	Smattering of valid points	1-4

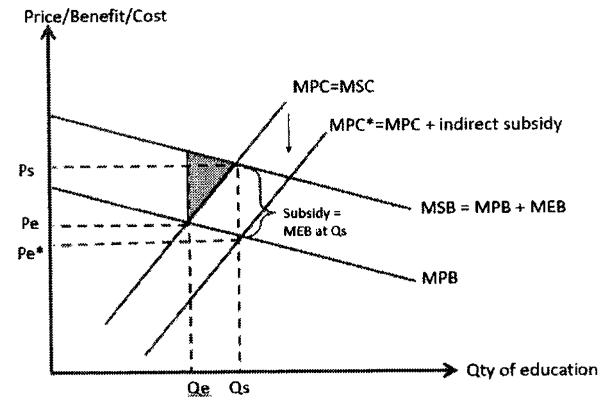
Part (b) Discuss the extent to which government policies can address the above sources of market failure. [15]

Suggested Answer

Question Requirements
Command words: Assess 2-sided with evaluation
Content/concept words: policies to address the 2 sources of market failure and limitations
Context: defence, education

BP-373

Requirement	Suggested Answer
Introduction	Government intervention is needed when there is market failure. Market failure happens when the market is not producing where MSC=MSB, which is the social optimum.
Thesis: Government policy to address market failure due to public goods	In the case of public goods, since the market would not produce the good at all, the government must take over the role of provision. They can do so through directly being the provider (e.g., Singapore government directly running the army and providing national defence) or pay private firms to do so (e.g., countries that hire private contractors to carry out the army's work). The government provides these public goods free of charge and finances them through collecting taxes. The public goods are provided at zero price for two reasons. Firstly, it is allocatively inefficient to charge a price for the public good because that would discourage some people from using it. This is because since it does not cost anything to provide the good to an additional user (recall that non-rivalry in consumption meant that MC = 0), the more users there are, the more net benefits are generated. Hence, the ideal case would be to have as many users as possible. This is accomplished when the good is provided for free (price = 0). Secondly, it is not possible to charge a price for the public good because of the free-rider problem anyway.
Evaluation of policy	Since the market does not produce the good, government provision is the only way the good would be provided. However, there are disadvantages. Government must decide what and the amount of public goods to provide (e.g., to maintain a national reserve or to spend on national defence, and how many tanks should we purchase for national defence). Governments must use economic criteria to decide which public goods to provide with the greatest social benefits for a given amount of money spent on providing the goods. However, it is difficult to calculate the expected benefits as such goods have no price To fund public goods, governments may need to tax more or borrow money. Too high a level of taxation can have disincentive effects on work and investment which may lead to a slowing down of national income and economic growth. If the government borrows to fund the provision of public goods, it may 'crowd-out'
Thesis: Government policy to address market failure due to positive externality - subsidy	To correct positive externalities, the government can give an indirect subsidy to producers that is equal to the external benefit. Governments can give a subsidy per unit to childcare operators. Producers can pass on the subsidy to consumers in the form of lower prices. Hence the subsidy lowers the marginal private cost of producers/consumers, shifting the MPC curve downwards to MPC* = MPC + indirect subsidy.

	 With a lower MPC, the new market equilibrium quantity (where MPB=MPC) will be higher than Qe (without intervention). If the amount of subsidy is equal to the MEB at Qs, which is the monetary valuation of the benefit enjoyed by third parties, we say that the subsidy internalises the external benefit as producers are now paid to produce for this benefit whereas previously the benefit would only have been enjoyed by third parties. The new market equilibrium quantity (where MPB=MPC*) will be at the socially optimal quantity Qs (where MSB=MSC). The under-allocation of resources to education is thus corrected and the deadweight loss is eliminated, achieving allocative efficiency.
Evaluation of policy	Subsidies are a market-based policy that does not displace the price mechanism. It still allows the market forces of demand and supply to work. The market equilibrium quantity can still rise or fall with changes in demand or supply conditions. However, the governments face difficulty in estimating the MEC to determine the correct amount to tax to correct market failure due to negative externalities, governments also have imperfect information about the monetary value of the MEB. If the value is assessed wrongly by the government, giving too much or too little subsidies would still result in allocative inefficiency.
Thesis: **Government policy to address market failure due to positive externality – legislation**	The government could set rules or enact laws to ensure that a certain amount of goods with positive externalities are consumed/produced. Fear of punitive measures/penalties will ensure that people abide by the legislation and consume the socially efficient level of the good. This forces the quantity consumed to increase from original the market equilibrium of Qe (where MPB = MPC) in the diagram below to Qs (or somewhere closer to Qs). In Singapore, there is the compulsory education law in Singapore which makes it mandatory for parents to enroll their children in primary schools.
Evaluation of policy	Such compulsory consumption laws are easy to understand. However, compulsory consumption laws displace the market mechanism. Once it is in place, the quantity of the good consumed can no longer change in

	response to demand and supply changes. The socially optimal output would increase but the legislated quantity would not automatically increase. In this case, we say that the legislation has displaced the market mechanism. As with any form of legislation, there could be high monitoring and enforcement costs in ensuring compliance. High costs are incurred in sending government officials to households and firms to check and monitor that laws are being followed.
Overall Evaluation	For public goods like National Defence, since there would be complete market failure, provision has to be provided by the government. However, more data needs to be collected to determine whether the current provision is optimal. With the tense relationship between the major countries, China and US and the on-going war between Ukarine and Russai, more countries are beginning to spend more on National Defence. For education, if the source of market failure is positive externality, then subsidy or legislation will work well. However, If there is imperfect information, the government will need to provide education / campaign to address this issue. In addition, it also depends on the context of the country. For developed countries, imperfect information might not be much of an issue as parents generally know the importance of education. In this case, subsidy and legislation might work better

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Answer shows in depth knowledge of at least 2 policies to achieve allocative efficiency in the market for education and national defence. Each policy is well- evaluated, supported by sound economic analysis.	8 - 10
L2	Answer shows some knowledge of at least 2 policies to achieve allocative efficiency in the market for education and national defence. There may be some attempt to evaluate the policies to show balanced arguments which are supported by sound economic analysis. Answer may be undeveloped.	5 - 7
L1	Descriptive answers lacking in tools of analysis.	1 - 4
	Evaluation	
E3	Critically evaluates the various policies to achieve allocative efficiency in the market for education and national defence Synthesises economic arguments to arrive at well-reasoned judgements on the effectiveness of policies.	4 - 5
E2	Some attempt at evaluation or a summative conclusion. Relevant to the question but judgements may not focus on the effectiveness of policies.	2 - 3
E1	Unsupported evaluative statement(s) or judgements. One that lacks explanation.	1

3. China has joined Europe and US in curbing the power of big technology companies. China has increased scrutiny on the technology sector and introduced a slew of new regulations that has tried to rein in the power of its domestic giants like Alibaba Group Holding Ltd and Tencent Holdings Ltd.

Source: CNBC, 17 May 2021

(a) Explain the market structure that the technology companies are in and how it will affect their pricing and output decisions. [10]

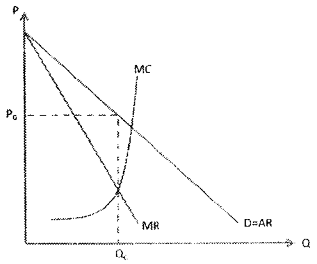
(b) Discuss the extent to which consumers and the society will benefit when there is greater competition in the technology industry in China. [15]

Suggested answer

Part (a)

Question Requirements
Command words: Explain
Content/concept words: market structure of technology companies   Oligopoly, price and output decision
Context: technology companies

Requirement	Suggested Answer
Introduction	Firms in such an industry operate in an oligopolistic market. The key characteristics of such a market is mutual interdependence between the few dominant firms in the industry, where the actions of one firm will directly impact the other firms in the industry and also high barriers to entry.
Body 1: **Market structure – Oligopoly**	The technology industry is dominated by a few large firms, like Alibaba Group, Tencent Holdings Ltd. There are high barriers to entry for new firms to enter. For e.g the Chinese laws on intellectual property are one of the biggest China market entry challenges. Local and foreign companies face many issues with the country's IP regime relating to trade secrets, irregular applicability, procedural matters, etc. In addition, the existing big technology companies will enjoy a lower average cost compared to new entrants as the new entrants would have a smaller scale of production. This allows the incumbent firms to price lower and prevent the new entrant from entering the market. Hence, these firms have high market power and are able to set high prices. Based on the above, the technology firms are likely to be in a oligopolistic market structure.
Body 2: **The pricing and output decision**	The big technology firms compete with one another. For competitive oligopoly, each firm faces its own demand curve which is only a part of the market demand. Each oligopolist's demand curve is downward sloping and fairly inelastic due to the market power of each

	technology firm. The oligopolist can only choose the price to set or the output to produce but not both. The demand curve for an oligopolist is also its AR curve and its MR curve will lie below its AR curve.  Figure 1: Equilibrium price and output for an oligopolist With reference to Figure 1, profit is maximised when MC = MR at P0 and Q0. At any quantity less than Q0, MC < MR. Thus, producing an extra unit of output adds more to revenue than to cost. Total profit will increase if more is produced. As long as MR exceeds MC, profits can be increased by increasing production. At any quantity more than Q0, MC > MR. Thus, producing one less unit of output will create more cost savings than foregone revenue. Total profits will increase if less is produced. As long as MC exceeds MR, profits can be increased by decreasing production. Hence, P0 and Q0 where MC = MR is where profit is maximised.
Price rigidity in a competitive oligopolistic market structure	Lower levels of competition also give rise to mutual interdependence and hence. This is because with fewer firms in the industry, the actions of one firm would have a larger effect on any of the existing firms and vice versa. Once a price has been set, oligopolists do not change their prices because of the rival consciousness brought about by mutual interdependence. If an oligopolist, Alibaba considers reducing the food delivery fees, he knows that his rivals like Tencent will also react by reducing their prices. Thus, his reduction in price will only lead to a less than proportionate increase in quantity demanded of his product as few customers would switch over from his rivals. This would cause his TR to decrease. Hence, he would not decide to decrease his price. If he considers increasing his price, he knows that his rivals will maintain their prices in response. Thus, his increase in price will lead to a more than proportionate decrease in quantity demanded of his product as many of his customers would switch over to his rivals. This would also cause his TR to decrease. Hence, he would also not decide to increase his price. Since an oligopolist would not increase or decrease his price, there will be price rigidity.
LR profits level	In the short run, an oligopolist can earn subnormal, normal, or supernormal profits. In the long run, oligopolist can still earn supernormal profits.

	Existing oligopolist are earning supernormal profits in the short run, new firms attracted by the supernormal profits will want to enter the industry but are unable to do so as there are high barriers to entry. For example, in the technology firms, there are high set up costs involved such as data centres and storage facilities that prevents new firms from entering. Hence, an oligopolist makes supernormal profits in the long run.
LR profits level	In the short run, an oligopolist can earn subnormal, normal, or supernormal profits. In the long run, oligopolist can still earn supernormal profits. Existing oligopolist are earning supernormal profits in the short run, new firms attracted by the supernormal profits will want to enter the industry but are unable to do so as there are high barriers to entry. For example, in the technology firms, there are high set up costs involved such as data centres and storage facilities that prevents new firms from entering. Hence, an oligopolist makes supernormal profits in the long run.
Conclusion	The technology firms are oligopolistic and are able to set high prices and because of the mutual interdependence, the prices set are rigid.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well-developed answer that shows thorough knowledge and appropriate application of the technology firms to the choice of market structure. Answers explains how prices and output are determined in the market.	8-10
L2	For an under-developed answer that shows some knowledge and application of the technology firms to the choice of market structure.	5-7
L1	For an answer that shows some knowledge of the choice of market structure.	1-4

Part (b) Discuss the extent to which consumers and the society will benefit when there is greater competition in the technology industry in China. [15]

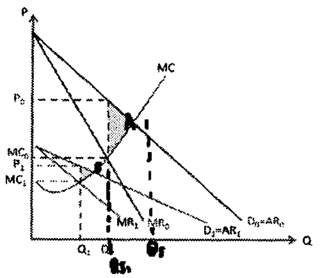
Suggested Answer

Question Requirements
Command words: Discuss
Content/concept words:

Thesis: Increasing competition is likely to be beneficial to society

Antithesis: Increasing competition is likely to be costly to society.

Context: Technology industry

Requirement	Suggested Answer
Introduction **Explain terms:** **Increasing competition,** **Beneficial/** **Costly** **To society**	Increasing competition in this market structure would mean allowing or making it easier for more firms to enter this industry. It could mean moving from an oligopolistic market structure where there is domination by the three supermarkets to one where other firms can enter the industry and compete with these three. If the entry to this industry becomes increasingly easy, the industry could become monopolistically competitive in the long run. Whether this is likely to be beneficial or costly to society would be discussed in terms of whether society would be better off or worse off in terms of prices they pay for the goods due to improvement in efficiency, the choices/variety of goods they have and whether there is reduction in inequity.
Body 1: **Thesis:** **Increasing competition is beneficial to society:** **Increase in allocative efficiency ‹ lower prices, higher output**	Firstly, when there is increasing competition in this market structure, there will be fall in allocative inefficiency. Allocative efficiency is achieved when the value that consumers place on the good or service (reflected in the price they are willing and able to pay) equals the marginal cost of the scarce factor resources used up in production. Hence, it occurs when P=MC. The nature of oligopolies means that with the downward sloping demand curve that each firm faces, they would not be allocatively efficient.  Fig 1: Equilibrium price and output of an oligopolist With reference to Figure 1, initially with D=AR and MR, profit is maximised when MC = MR where price and output are at P_0 and Q_0. At the profit-maximising level of output, the price is always above the MC.

	P=MC occurs at Qs level of output but only Qo is produced by the oligopolist. Hence, the shaded area A shows the deadweight loss which is caused by under-production of the good. The oligopolist's price exceeds its marginal cost (P_0 > MC_0). Since consumers value the last unit of the good (measured by price) more than it costs to produce (measured by marginal cost), increasing the output can increase the welfare of the consumers. When there is increasing competition into the market, the demand (D_1) and MR (MR_1) of the firm becomes more elastic as their share of the market decreases. Profit is now maximized when MC=MR_1 at P_1 and Q_1 which are both lower than the original price and output. Q_1 is nearer Qs', the output that society desires. The allocative inefficiency of the oligopolist (P>MC) is lessened with increasing competition, showing a reduction in the deadweight loss (Area B). *[Alternative explanation: The difference between price and MC reduces (P_0C to P_1F).]* Hence, increasing competition is beneficial to society as consumers now pay a lower price, they can enjoy cheaper goods and services and consumer surplus increases. Although allocative efficiency is still not achieved, the inefficiency and deadweight loss has been reduced. Hence, increasing competition into the supermarket industry is likely to allow consumers to enjoy lower prices.
Body 2: **Thesis:** Increasing competition is beneficial to society: Reduction in inequity	Secondly, increasing competition is beneficial to society as it reduces inequity in the society. Inequity occurs when there is a lack of fairness in the distribution of economic welfare. Oligopolists can earn supernormal profits even in the long run because of high barriers to entry. As firm owners were profiting at the expense of consumers, there is inequity. With increasing competition, for e.g the entry of another e-commence company Pinduoduo has reduced the market share of Alibaba. Hence Alibaba earns lesser profits in the long run. They are less likely to profit at the expense of consumers. This will improve the income distribution in the economy. Hence, increasing competition can reduce inequity and therefore this is beneficial to society.
Body 3: **Thesis:** Increasing competition is beneficial to society: Increase in Productive efficiency lower cost lower price	Lastly, increasing competition may help to eliminate X-inefficiency and bring about productive efficiency in the market. X-inefficiency is the situation when firms produce above the lowest possible cost at a given level of output i.e. above the LRAC. Productive efficiency occurs when firms are producing on the LRAC, indicating that they are producing at the lowest possible cost. The lax cost controls (e.g. overstaffing and spending on unnecessary equipment) in oligopolies could happen because of the lack of competitive pressure resulting in complacency since Oligopolists are able to earn supernormal profits in the long run. Hence, increasing competition into this market would mean that firms will be more focused on cost controls as that could affect their profit margins. Higher level of competition forces firms to be productive and

BP-377

	cut out wasteful spending. This is beneficial to society as productive efficiency implies lowest a possible cost of production which may bring about a lower price for consumers.
Body 4: **Thesis:** Increasing competition is beneficial to society: More choice	Moreover, increasing competition gives society more choice and variety of the product. Choice is beneficial for society as they are not 'forced' to buy from a few sellers. With the entry of Pinduoduo and Douyin, comsumers have more options to choose from and need not just buy from Alibaba e-commence platform. This improves society's welfare.
Body 5 **Antithesis:** Increasing competition is costly to society : Increase in cost of production : inability to reap economies of scale higher cost of production higher price of good	On the other hand, increasing competition in this market structure may also be costly to the society. Firstly, increasing competition may result in higher prices of goods for the consumers as it limits the amount of internal economies of scale that could be reaped. As there are only a few firms producing a product, each oligopolist operates on a large scale and is able to reap internal economies of scale (cost savings). However, with increasing competition, the market is now shared with more firms, each of which would have a smaller share of the market. The smaller scale of production means that the firms may not be able to reap internal economies of scale (cost savings) Hence, firms may produce at a higher cost of production than the oligopolists. This may therefore result in higher prices of goods as internal economies of scale are not reaped. Moreover, it could also be argued that since oligopolists do not engage in price competition, it is in their own interests to keep their costs low so as to maximize their profits. They would have a strong incentive to cut out wasteful spending, making them productively efficient.
Body 6: **Antithesis:** Increasing competition is costly to society : no funds to engage in dynamic efficiency less chance of development of goods less product variety	Secondly, increasing competition may mean that dynamic efficiency has to be forgone. Dynamic efficiency is affected by whether firms have the ability and incentive to conduct R&D to develop and innovate products and or process, leading to better products/lower costs for consumers. Increasing competition may lead to more but smaller firms which would not be able to earn as much profits in the long run, as the oligopolist. This would limit the amount of funds (as well as lower the incentive) each firm has to engage in R&D. This inability or lack of incentive for development or innovation of products can be seen as 'costly' to society as there is lack of development/innovation of products or lower costs of goods that could have happened in the case of process innovation. The firms which enter the market because of increasing competition may provide more variety of goods but not necessarily innovative or better quality products because they do not have that resources to pursue R&D.

Conclusion: Evaluative conclusion	While increasing competition in this market structure can be beneficial to society in increasing output and lowering price and reducing inequity and therefore income distribution, it can be costly to society in increasing cost of production (as internal economies of scale may not be achieved), reducing variety and development /innovation of goods. Whether increasing competition is likely to be beneficial or costly to society depends on the nature of the industry and the context in which it operates. For technology firms, technology becomes obsolete very quickly. Increasing competition is not likely to threaten the performance of the big technology firms due to their current market share. They are more likely to engage in R&D to maintain their market share due to increased competition. In their line of business, it is even more important to have better understanding of customer insights and strictly execute these strategies throughout the innovation cycle. Increasing competition is therefore likely to be beneficial rather than costly to the society.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough and balanced economic analysis of how increasing competition to the technology industry could be beneficial or costly to society in terms of allocative efficiency, productive efficiency (X-inefficiency), (presence of) internal economies of scale, choice and inequity. There is excellent ability to use the diagram(s) to explain the result of increasing competition in the oligopolistic market, with relevant examples.	8 - 10
L2	Sufficient economic analysis of how increasing competition to the technology indsutry could be beneficial for costly to society. The analysis for the points are not always thorough although accurate. Answer is mainly one-sided (i.e. explanation of either beneficial/costly) but well-explained- max 5 m	5 - 7
L1	Shows smattering knowledge of the result of increasing competition on the industry. The meaning of the question is not fully grasped. There are some errors in concepts. Mere listing of points of benefits/costs to society. (max 2 m)	1 - 4
	Evaluation	
E3	Well-explained judgment on whether increasing competition is likely to be beneficial or costly to society. The judgement is supported by good relevant examples and economic analysis.	4 - 5

E2	Attempt to explain evaluative comments is incomplete or inaccurate at times. No attempt to evaluate using the context of the technology industry	2 - 3
E1	Evaluative comments are unexplained or unsupported by economic analysis.	1

Section B

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

4. All governments aim to achieve economic growth, reduce unemployment and keep prices stable.

(a) Explain some challenges faced by the economy when the government fails to achieve these aims. [10]

(b) Discuss the extent to which a change in interest rates can help the government of an economy overcome these challenges. [15]

Suggested Answer

Part (a)

Question Requirements Command words: Explain Content/concept words: Consequences/problems of failing to achieve macroeconomic aims Context: As the government of an economy

Requirement	Suggested Answer
Introduction	There are four macroeconomic aims of any government and they are: 1. Economic growth 2. Price stability 3. Full employment 4. Balance of trade surplus in the balance of payments Failure to achieve these aims will result in a fall in the standard of living in the economy.
Body 1: Failure to achieve EG	Economic growth refers to an increase in national income. Growth over the long run would require both actual and potential growth. Actual growth is the increase in national output. Potential growth is the increase in the productive capacity of an economy so that actual growth can be achieved in the future. Failing to achieve economic growth (in terms of both actual and potential growth) may in time lead to negative growth. Two consecutive quarters of negative growth would constitute a recession. A fall in actual growth would be illustrated by the AD curve falling and via the multiplier effect, there would be a fall in NY & employment. When a recession takes place, the fall the level of output and hence a fall in employment and national income will result in a fall in purchasing power of the residents in the economy. When consumers

	have less goods and services to consume, this means a fall in the material standard of living of the country. Funds available for investment and capital accumulation would also be reduced, thus, restricting potential growth. In additional, there will also be fewer FDI in times of recession; hence the potential economic growth would also be adversely affected. This is illustrated by a leftward shift in the economy's production possibility frontier, or the long-run aggregate supply (LRAS) curve. Thus, failure to achieve economic growth leads to the challenge of generating further economic growth and if an economy falls into a recession, then the standard of living would fall.
Body 2: Failure to reduce Unemployment	Unemployment refers to the situation where people are unable to find work or unwilling to accept jobs that are currently available. The unemployed refers to people who are actively seeking employment (i.e. able and willing to work) but are currently without a job. Reduction in national output may cause some firms to go out of business and people lose their jobs causing demand deficient unemployment which is a failure to achieve yet another macroeconomic aim of the government. There may also be structural unemployment if there is a mismatch between worker skills and job requirements especially during a time of restructuring of the economy. Without employment, workers would have loss of income and would end up consuming less goods and services. Their material standard of living would therefore fall. A high proportion of unemployed will lead to fall in SOL for the major portion of population, social problems associated with poverty and strife for a basic SOL will result. Unemployment of labour also means that there is underutilization of resources. The economy is productively inefficient as it is producing below its full potential. If the unemployment is severe and prolonged, there would be a loss of human capital as workers might lose their skills altogether especially over a prolonged time period. Failing to achieve both EG & low unemployment aims also adversely affect the government budget, as a fall in the national income would mean a fall in personal income taxes collected. This is because an increase in unemployment would mean that the unemployed do not have an income thus would not have to pay any personal income tax. At the same time there would be a strain on the government's resources as it would have to increase its expenditure on unemployment and other welfare benefits. Such payments bear a high opportunity cost as the funds could have been spent on infrastructural projects like roads, schools and hospitals to further enhance the economy. The strain on the government's resources will be even more acute if the government is already experiencing a fiscal deficit.
Body 3 Failure to keep stable GPL	The general price level refers to the average of all prices in the economy. It reflects the cost of living. Inflation refers to a sustained increase in the general price level. Deflation refers to a sustained decrease in the general price level.

BP~379

BP-380

	As the prices increase persistently, the cost of living also increases. For households whose nominal incomes remain unchanged, the real income decreases. The material living standards of these people will be lowered because for the same nominal income, they are able to buy less (i.e. less purchasing power). If inflation affects the daily necessities, this will affect the poor more and this redistribution of income will lead to more unequal income distribution as the poor suffers more from the price increase. High inflation may lead to reduction in investment, growth, and employment especially as it tends to be volatile. This volatility in prices makes it difficult for firms to project their expected revenue and cost from investing, and hence the likely profitability of their investments. As such, investments in the economy will decrease. This will then cause a fall in AD and hence national output, resulting in a negative growth rate. Furthermore, since less output is being produced, firms would lay off workers, causing unemployment to rise. Inflation also leads to a fall in value of savings and wealth as the value of money falls when the price level increases. This is because the same amount of money would be able to buy fewer goods and services. This also means that the real value of households' savings in the banks would decrease, reducing their wealth. Inflation also causes income to be redistributed away from certain groups of people eg fixed income earners towards other groups eg businessmen who can profit more from price increase, thus leading to greater income inequality.
Conclusion	Thus, these are some challenges faced by the economy when the government fails to achieve the aims of EG, employment and stable prices.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation (i.e., makes use of economic analysis) of the challenges of not achieving the 3 aims	8 - 10
L2	Adequate explanation of the challenges of not achieving the 3 aims	5 - 7
L1	Cursory explanation or some understanding of the challenges	1 - 4

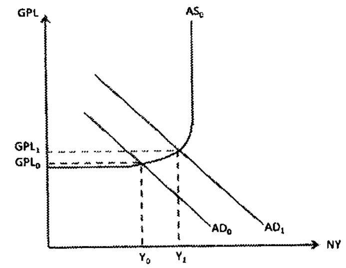
Part (b) Discuss the extent to which a change in interest rates can help the government of an economy overcome these challenges.
[15]

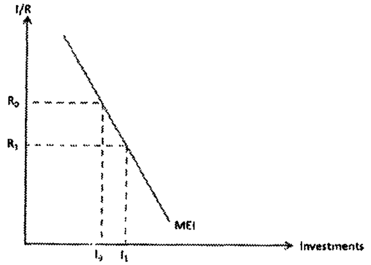
Suggested Answer

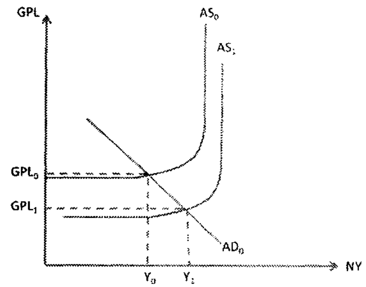
Question Requirements
Command words: Discuss
Content/concept words: Macroeconomic policies including i/r MP
Context: An economy - general context

Approach:

Thesis: A change in interest rates can help the government of an economy overcome these challenges
Antithesis: Limitations of i/r MP & inclusion of at least one other relevant policy

Requirement	Suggested Answer
Introduction	Monetary policy refers to the deliberate use of interest rates (i/r) or exchange rates (e/r) as instruments to achieve macroeconomic objectives. It is carried out by a country's Central bank. Central banks can adjust interest rates through influencing the money supply in an economy through its interactions with commercial banks.
Body 1: Thesis: explain how reduction in i/r (exp MP) works to expand NY & thus reduce unN.	Expansionary interest rate policy is the increase in money supply to lower interest rates. As interest rate is both the cost of borrowing and the return on savings, a fall in interest rates leads to consumers borrowing more money to spend instead of saving. This increases C. At the same time, with the lower cost of borrowing, firms would find it more profitable to invest (rightward movement along the MEI). The increase in C and I then leads to an increase in AD, causing a rise in national income via the multiplier process. This is illustrated below.  Figure : Expansionary interest rate policy causing increase in NY & fall in unemployment With the increase in AD from AD_0 to AD_1 due to the increase in C and I, national output increases from Y_0 to Y_1 through the multiplier process. The multiplier is dependent on the MPW. The smaller the MPW, the bigger the multiplier effect ie when C/I increase by a certain amount, the NY will increase by 1/MPC ie a multiple of the increase in C/I. This is because the spending of one party in the economy will lead to subsequent spending by the income receivers in the economy leading to a multiplied effect on the income of the economy. With the increase in national output from Y_0 to Y_1, there would be an increase in demand for labour as more workers are needed to produce the larger output. Hence, demand-deficient unemployment would decrease as well. Alternatively, if the economy needs to deal with price increases and inflation, i/r will be increased to reduce spending by consumers and investors to reduce AD & thus, hopefully bringing GPL down.

Body 2 Antithesis: • **Limitations of policy** • **Conflict with price stability & BOP position**	However, the impact on NY is dependent on the expectation of the future and if there is poor economic outlook, C or I may not increase much. A fall in interest rate may lead to a limited increase in C and I if consumers and firms are pessimistic about the economy's prospects. In such a scenario, they are unlikely to borrow to consume and invest even when interest rates fall. As such, the effect of an expansionary interest rate policy is limited. For investments, the poor economic outlook is illustrated by a steep MEI (below) where the fall interest rate (R_0 to R_1) only causes a small increase in investment (I_0 to I_1) ie PED of investment is less than one.  Figure 7: Fall in interest rate causing limited increase in investment A liquidity trap which refers to the situation where interest rates cannot fall any further may exist. This is the case when interest rates are so low that they are effectively close to zero. In such a scenario, expansionary monetary policy is limited as there is no more room for interest rates to decrease. Another situation where i/r MP would not work would be when an economy is small and open economy dependent on international financial services. This makes it an i/r price-taker ie it has no ability to use its i/r to impact NY & employment. That is why for a country like Sg, instead of i/r, exchange rate is used as a policy measure to enable the government to meet its macroeconomic objectives of the country. If there is a lack of spare capacity in the economy (i.e., the economy is operating near/at full employment), an expansionary fiscal policy will lead to AD increasing, causing demand-pull inflation with little/no corresponding increase in real output level. Thus, expansionary interest rate policy would not be affective in stimulating economic growth. In fact, it would conflict with the aim of price stability (low inflation) An expansionary interest rate policy may also conflict with the aim of achieving a BOT surplus. The increase in NY would cause an increase in import expenditure and if there is an increase in GPL, there would be a further increase in import expenditure and a fall in export revenue which may lead to BOT deficit instead.
Antithesis: Limitations of i/r MP may mean other policies are necessary	Owing to the limitations of monetary policy and the possible conflict with other macroeconomic objectives, it may be necessary to include supply-side policies to reduce cost of production (COP) and/or increase productive capacity for increase in economic growth and price stability.

eg SS-side policies to move AS downwards &/or outwards	For example, the government can subsidize R&D or education and training. Successful R&D outcomes can improve production methods and education & training can lead to better labour productivity too. An improvement in labour productivity would increase both SRAS and LRAS, leading to both actual and potential growth as well as price stability. The increase in productivity would reduce the average COP in the economy as fewer inputs would be needed to produce each unit of output. This would cause the SRAS to increase (shifts down). It would also increase the productive capacity as more output can now be produced with the same amount of input. This increases the LRAS (shifts right). The increase in both SRAS and LRAS would cause an outward shift of the AS curve. This increases the equilibrium NY. As illustrated in Figure 3 below, the increase in AS from AS0 to AS1 increases NY from Y0 to Y1.  Hence, the Singapore government can use supply-side policy to achieve potential growth. Additionally, subsidising education and training also allow structurally unemployed workers to pick up new skills, reducing the skills mismatch between what workers can do and what employers want. This reduces structural unemployment. In Singapore, education is heavily subsidised and so is skills training under the SkillsFuture programme. Limitations: However, subsidising education and training has its limitations. Heavy government expenditure is required in education and training. Hence, there is a huge opportunity cost incurred as the money could have been allocated to other critical national needs such as healthcare and national defence. Additionally, adults are often reluctant to attend training for various reasons such as disinterest and time constraints. This reduces the effectiveness of the policy. Supply-side policy may also be limited because it will take time to show its effects. This is because it takes time for R&D or education & training to have impact on productivity and costs reduction. As such, supply-side policies can only contribute to long run growth but not to short run growth. Hence, supply side policies may be limited in achieving sustained economic growth.

BP-381

Conclusion	In conclusion, each individual policy has its limitation and the best policy that any government should adopt to overcome the challenges and achieve its aims should be a combination of expansionary monetary policy and supply-side policies to generate EG and to increase employment. And, if it's inflation, it would be contractionary monetary policy. This combination is best as they are complementary in terms of time period as expansionary monetary policy works in the short run while supply-side policies work in the long run. However, i/r MP would not work in Sg as it is a small and open economy dependent on international financial services, thus an interest rate price-taker.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation and analysis of the extent to which a change in interest rates can help the government of an economy overcome these challenges. (Answer must include one other policy.)	8 - 10
L2	Limited explanation of the extent to which a change in interest rates can help the government of an economy overcome these challenges but economic analysis is not sufficiently rigorous. OR Thorough explanation on i/r policy alone with clear economic analysis.	5 - 7
L1	Cursory explanation of how a change in interest rates can help the government of an economy overcome these challenges.	1 - 4
	Evaluation	
E3	A well-reasoned conclusion that clearly addressed the question.	4 - 5
E2	Some attempt to make conclusive judgements about the overall impact but not well substantiated and rather generic.	2 - 3
E1	A judgement that is unsupported.	1

5. India's trade deficit hit a high of $31 billion in July and it isn't easing soon. India's Commerce Secretary says the country's trade deficit surged in July as elevated commodity prices and depreciating rupee inflated its import bill. Its export sales also fell because of a reduction in its exports of petroleum products and other commodities due to domestic demand increase.

Source: The Print, 4 August, 2022

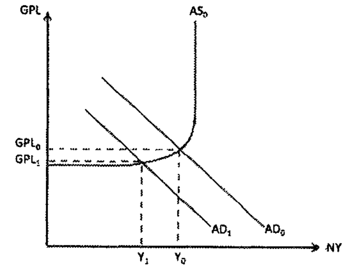
(a) Explain how a country's trade deficit in its balance of payments could affect its standard of living. [10]

(b) Discuss how best a government should address potential concerns arising from a persistent deficit in its trade balance. [15]

Suggested Answer
Part (a)

Question Requirements
Command words: Explain
Content/concept words: effects of BOT deficit on SOL
Context: an economy - general (can use context given in preamble)

Requirement	Suggested Answer
Introduction	The balance of trade is the difference between the export revenue and import expenditure on goods and services. A trade deficit means that export revenue earned is less than import expenditure for that period of time.
Body 1: Negative Impact on EG & employment	***Trade deficit leading to lower economic growth and higher unemployment & resultant fall in SOL*** If a country's balance of trade position worsens such that it has a balance of trade deficit, then the reduction in X-M would have caused AD to fall as AD=C+I+G+(X-M), causing a fall in NY and also a rise in demand-deficient unemployment.

	 As illustrated in the Figure above, the trade deficit will lead AD to fall from AD0 to AD1, leading to a fall in NY from Y0 to Y1 via the reverse multiplier effect. With a fall in NY, there will be a fall in material SOL. Furthermore, the fall in output and production will lead to a fall in employment as less labour resources is required. This causes demand deficient unemployment and if that is large enough, unemployment leads to a fall in material SOL as disposable income has fallen and a fall in non-material SOL as unemployment leads to stress and strife of finding the next job. However, assuming the economy is at or near full employment, this fall in aggregate demand, ceteris paribus, will cause a fall in the general price level from GPL0 to GPL1 which can improve SOL as real income rises.
Body 2: Trade-off of future welfare (Negative impact)	***Trade deficit leading to trading off of future welfare*** Also, if a country has a balance of trade deficit, it means that M exceeds X. Since M is a form of consumption (imports are consumed) while X is a form of production (exports are produced to be sold abroad), M exceeding X means that the country is actually consuming more than it is producing. So the present generation may be better off materially as they enjoy more goods and services with the trade deficit. However, when this happens, we say that the country is living beyond its means. This will mean that future welfare is traded off. This is because when M exceeds X, domestic consumers have obtained more foreign currency from the forex market to purchase the imports than the foreigners' supply of the foreign currency when they purchase X. This difference must have either come from the foreigners' supply of foreign currency on the forex when they purchase assets (e.g. FDI or short-term capital flows into the domestic economy) or from the domestic central bank selling the foreign currency from the foreign reserves on the forex market. In both cases, there is a trade-off of future welfare. If the central bank is drawing down foreign reserves to sell on the forex market, it would eventually run out of these reserves and would then need to borrow foreign currency from the International Monetary Fund (IMF) or other financial institutions. If they do so, there would be accumulation of foreign debt. The interest on this foreign debt would need to be paid by future generations, reducing the welfare of future generations.

Body 3: Positive impact	But, if the trade deficit was due to large import expenditure on capital goods, the LRAS might shift to the right, bringing about potential growth. For example, developing countries might import machines and technology to increase production. The increase in productive capacity means that the future standard of living would increase as the potential amount of goods and services that can be produced and enjoyed in the future would increase. The fall in economic activity in the economy due to be trade deficit may mean that unemployed workers might see an increase in leisure time which might improve their non-material standard of living temporarily, as they spend more time with family and friends, reducing the stress levels related to work. Another possible positive impact is that the fall in economic activity in the economy might also lead to a fall in pollution levels as factories reduce their production levels and hence, their emissions. This might also lead to improvement in non-material standard of living.
Conclusion	Thus the SOL of an economy is likely to be negatively impacted by a trade deficit in the SR & LR although there may be some positive effects.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation that makes use of economic analysis to show the consequences of a BOT deficit and its impact on material & non-material SOL. The answer recognises that a BOT deficit could both positively and negatively impact SOL. If current and future SOL are considered, rather than negative and positive impact, can be credited at this level too.	8 - 10
L2	Answer shows some understanding of effects (e.g. considers material and non-material aspect of SOL, or positive and negative impact on SOL, or current and future SOL) OR Answer explains the consequences of a BOP deficit but might not have made clear links to SOL.	5 - 7
L1	Answer shows some knowledge of BOT but might not have recognised that the question is on the consequences of a BOT deficit. There may be basic errors in theory, inadequate explanations or answer is mostly irrelevant or inaccurate.	1- 4

Part (b) Discuss how best a government should address potential concerns arising from a persistent deficit in its trade balance. [15]

BP-383

Question Requirements
Command words: Discuss
Content/concept words: Policies to address BOT deficit
Context: An economy - general (can use context given in preamble)

Requirement	Suggested Answer
Introduction	In view of the possible detrimental effects on the macro-economy and hence, standard of living, as explained in (a), governments generally adopt the following types of policies: (i) Expenditure-Reducing Policies, (ii) Expenditure-Switching Policies, (iii) Supply-Side Policies, to improve the BOP so as to address potential concerns. Expenditure reduction is about reducing expenditure on imports by reducing consumers overall expenditure. Expenditure switching is about reducing expenditure on imports by causing consumers to switch their expenditure from imports to domestically consumed goods. Supply-side policies can increase competitiveness of exports or reduce cost of production and prices of domestic goods to substitute import dependence.
Body 1: use of expenditure reducing method eg contractionary FP	Trade balance deficit can arise due to rising import expenditure (in excess of export revenue). One possible reason is *because of rising domestic incomes. With higher disposable incomes, the consumers will spend more on good and services including imports.* In this case, an expenditure reducing policy aims to reduce the demand and limit spending on imports by reducing overall expenditure in the economy. This results a fall in aggregate demand and in turn, national income falls. When national income falls, the demand for imports will also fall, since import expenditure is income induced. This in turn reduces the balance of payments deficit. For example, contractionary fiscal policy might be adopted. Taxes (e.g. personal income taxes, corporate income taxes) might be raised and government expenditure reduced. An increase in personal income taxes will lead to a fall in disposable income. This will lead to a fall in the level of consumption expenditure (C). An increase in corporate income taxes will lead to a fall in post-tax profits which results in a fall in the level of investment (I). The fall in the level of government expenditure (G), consumption expenditure (C) and investment expenditure (I) will reduce the level of aggregate demand (AD), resulting in a fall in national income. This will induce a fall in demand for imports as well, hence leading to a fall in total import expenditure. Balance of trade deficit would thus be reduced. In the longer term, the reduction in AD is deflationary and would reduce the general price level especially if the country is near full employment level of income. The downward pressure on general price level improves the price competitiveness of exports and increases demand for exports. Assuming the demand for exports is price elastic, a rise in export earnings will reduce the balance of trade as well.

	Evaluation However, this policy would not be appropriate if the economy was not operating at full employment and there are concerns about falling national income and rising unemployment. This policy would further worsen these concerns ie this expenditure reducing policy will conflict with EG & employment objectives. So it is unlikely to be adopted if the economy is not doing well internally.
Body 2: Use of expenditure switching measure eg depreciation	Trade deficit may be due to fall in exports due to loss of competitiveness of exports *because of increasing price competitiveness of foreign goods relative to domestic goods.* The aim of this expenditure switching policy is to change the relative price of domestic goods including exports and foreign goods (imports) so that people will substitute foreign goods with domestic goods. An example of such a policy is to depreciate the currency. This would make country's exports cheaper in terms of foreign currency and imports more expensive in terms of the domestic currency. Since imports are more expensive in domestic currency, people will switch away from imports to consume more domestically produced goods and services. At the same time, this makes exports more competitive and the demand for exports would rise. Assuming Marshall Lerner condition (i.e. PEDX + PEDM>1), balance of trade and current account deficit would be reduced, thereby improving the BOP position. *Evaluation* However, this policy might not be appropriate if there are concerns about inflation in the economy. Currency depreciation would result in imported inflation (especially if the country is highly dependent on imported raw materials) as in India's situation. This policy would also only be appropriate if Marshall Lerner condition holds. If the demand for both their exports and imports were very price inelastic and the summation of elasticities was less than 1, then the BOP would not improve. Currency depreciation should also be a short term policy because a continual fall in the value of the currency could lead to a fall in investor confidence, resulting in a withdrawals of FDI. This would worsen the KFA deficit and also lead to a fall in LRAS, worsening the initial concerns of slower actual and potential growth.
Body 3: Use of ss-side policy	Another way to increase export competitiveness, particularly if the fall is due to *falling labour productivity.* For example, investment in training could improve the quality of the labour force and raise the labour productivity and hence lead to a rise in LRAS. Government could provide subsidies to encourage firms to upgrade the skills of their workers. Assuming the increase in labour productivity brings about a fall in per unit labour cost, cost of production decreases and

	this causes an increase in SRAS. This would bring about a fall in the general price level of domestically produced goods and services and in turn lead to a rise in the price competitiveness of exports. Additionally, the quality of exports might also rise due to innovation arising from a higher quality labour force. This will increase export revenue and reduce the current account deficit. Furthermore, as domestically produced goods and services are more attractive relative to foreign goods and services. There could be a reduction in import expenditure as consumers switch from imported goods and services to domestic goods and services. The balance of trade deficit will, thus, be reduced. At the same time, foreign investors might be encouraged to invest because of the high labour productivity, this would also increase LRAS as well as improve the capital and financial account, improving the BOP position. *Evaluation* Supply-side policies are not easily implemented as firms might not be willing to send workers for training as there will be loss of output during training. Firms may also underestimate the true benefits of education and training. Hence, the amount of training undertaken may be less than socially optimal. Workers also face difficulties in learning new skills, especially the older workers. In most cases, the government needs to increase its spending on subsidies on training and incentives for research and development. As such, these policies can drain the government's resources, diverting resources away from other areas of competing needs. There is a time lag in the implementation of supply-side policies, which may compromise its effectiveness as economic conditions are very dynamic.
Conclusion	The best policies a government should adopt to address potential concerns arising from the deficit would depend on the root cause of the deficit. Depending on the root cause of the deficit, the concerns arising from a trade deficit could be very different. If the trade deficit is persistent and is a result of a loss of export competitiveness of the country, structural changes might be required in the economy. Otherwise, the detrimental effects on actual and potential growth, and current and future SOL, as outlined in (a), would be a serious cause for concern. In such instances, supply-side policies to improve productivity would likely be the best policy. Expenditure reducing policy would not be appropriate as it would further reduce actual growth. Expenditure switching policy could help in the short term but would probably not be sustainable in the long run. Taking the example of currency depreciation, it would not be possible for a currency to keep depreciating as investors might lose confidence in the economy, causing withdrawals of FDI and fall in economic growth for the economy. However, if the trade deficit is due to large import expenditure on capital goods, then as outlined in (a), there might not be a cause for concern as the country's productive capacity might grow. This could

	lead to an increase in export competitiveness in the future as prices fall and quality increases. In this case, the government might choose not to adopt any policy to correct the BOP deficit. So it's important to know the exact cause of the trade deficit to decide on the appropriate policy to adopt.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation with economic analysis to show at least 2 policies to correct a trade deficit, in view of the specific concerns arising from the deficit. There should be a clear explanation of how the policies would address those concerns and hence, a recognition that the best policy would depend on the cause of the trade deficit.	8 - 10
L2	Limited explanation to show at least 2 policies to correct a trade deficit, in view of the specific concerns arising from the deficit but economic analysis is not sufficiently rigorous.	5 - 7
L1	Cursory explanation of some policies to address concerns of trade deficit	1 - 4
	Evaluation	
E3	A well-reasoned conclusion that shows evaluation of the policies discussed and justification of stand made. Recognition that the best policies would depend on the concerns arising from the trade deficit, which in turn, depends on the cause of the trade deficit.	4 - 5
E2	Some attempt to make conclusive judgements about the policies but not well substantiated and rather generic.	2 - 3
E1	A judgement that is unsupported.	1

---

6. Singapore has climbed back up to become the world's 3rd most competitive economy, after having slipped to 5th place in 2021 following 2 straight years at the top.

Source:The Business Times, 15 June 2022

(a) Explain how competitiveness amongst countries might change over time. [10]

(b) Discuss measures that a government can adopt to improve its global competitiveness. [15]

Suggested Answer
Part (a)

Question Requirements Command words: Explain

Content/concept words: Factors that will affect competition amongst economies Context: The international economy

Requirement	Suggested Answer
Introduction	Competitiveness depends on the comparative advantage an economy has over production of a good with other countries and it changes based on changes in resource allocation in the country. Relative competitiveness depends on the advancement in other countries' comparative advantage too. A country has comparative advantage when that country is able to produce a good at a lower opportunity cost compared to its competitor. Opportunity cost refers to the next best alternative forgone.
Body 1: Depletion of factor endowment	An economy's comparative advantage may change due to depletion of factor endowment. For example, Middle Eastern countries has the world's largest oil reserves. Hence, they are able to produce crude oil at a lower opportunity cost due to their factor endowment advantage. However, crude oil is a non-renewable resource. If crude oil available runs low, Middle Eastern countries will lose their comparative advantage in the production of crude oil. This is especially true if other countries (its competitors) start to find their own sources of oil.
Body 2: Competition from other countries	An economy can lose its comparative advantage due to increase competition from other countries. For example, China has a large supply of labour, which translates to cheap labour cost. Labour-intensive basic manufacturing becomes an industry of comparative advantage for China. However, there is rising competition from other countries such as Vietnam. Vietnam also boasts a cheap labour force. In addition, China has an increasingly urban population that has higher expectations of wages. The increase in wages in China leads to increased cost of producing basic manufacturing goods in China. If it is cheaper to produce the same good in Vietnam than China, then we can say that Vietnam is able to produce at a lower opportunity cost. This means that Vietnam has a comparative advantage in basic manufacturing and China has lost its comparative advantage to Vietnam.
Body 3: Developments of new technology	An economy can lose its comparative advantage due to technological advancements. For example, Middle Eastern countries will lose its comparative advantage in the production of crude oil because of technological advancements in other countries. US and Canada developed technologies such as fracking which allows them to extract shale oil from rock formations. If technical advancements improve efficiency of extracting shale oil, the cost of extracting shale oil will fall. If cost of extracting shale oil is lower than the cost of producing crude oil, Middle Eastern countries will lose their comparative advantage in crude oil production.
Conclusion	Thus, competitiveness amongst countries can change over time based on the factors that affect the quantity and quality of the goods and services that a country produces relative to that of other countries

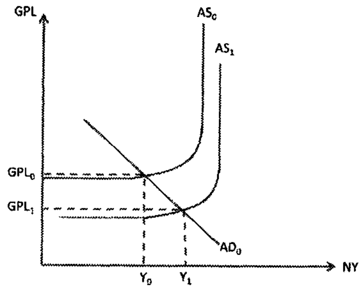
	ie when the country's comparative advantage changes over time as explained above.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation (i.e., makes use of economic concept of comparative advantage) of at least 2 factors that determine how competitiveness amongst countries might change over time.	8 - 10
L2	Adequate explanation of 2 factors that determine competitiveness amongst countries might change over time OR Thorough explanation of 1 factor only	5 - 7
L1	Identification of a few factors with cursory explanation without context or examples.	1 - 4

Part (b) Discuss measures that a government can adopt to improve its global competitiveness.
[15]

Question Requirements Command words: Discuss Content/concept words: explanation and evaluation of measures that a government can adopt to improve its global competitiveness. Context: Any economy (can use Singapore as example - context given in preamble)

Requirement	Suggested Answer
Introduction	Global competitiveness refers to the ability and performance of a country in relation to the ability and performance of another country. Global competitiveness will affect the amount of foreign direct investment (FDI) that flows into an economy eg Singapore as well as the ability to export vis-à-vis competition from other economies.
Body 1: Measures that can be adopted 1) Strong focus on education / skills development	A government, for example, the Singapore government places strong emphasis on education. Education is the second largest component of Singapore's budget. Singapore's education system aims to equip every student with the relevant knowledge and skills to prepare them for the workplace. For example, Singapore is planning to expand university places to increase the number of graduates to 40% by 2020. Another example on lifelong learning is introducing the SkillsFuture programme. SkillsFuture is a national movement to provide Singaporeans opportunities at every stage in life to develop to their fullest potential. For example, every Singaporean aged 25 will receive an initial $500 of SkillsFuture Credit that can be used on a range of government supported courses. This allows individuals to acquire new skills and deepen skill sets. A highly-skilled and sophisticated workforce will increase productivity and lowers COP in Sg which will make Singapore attractive to FDI. The lowering of COP also leads to more competitive exports.

	The increase in productivity would reduce the average COP in the economy as fewer inputs would be needed to produce each unit of output. This would cause the SRAS to increase (shifts down). It would also increase the productive capacity as more output can now be produced with the same amount of input. This increases the LRAS (shifts right). The increase in both SRAS and LRAS would cause an outward shift of the AS curve. This increases the equilibrium NY. As illustrated in Figure 3 below, the increase in AS from AS0 to AS1 increases NY from Y0 to Y1.  Thus, the use supply-side policy can achieve greater competitiveness for Sg. <u>Limitations:</u> However, subsidising education and training has its limitations. Heavy government expenditure is required in education and training. Hence, there is a huge opportunity cost incurred as the money could have been allocated to other critical national needs such as healthcare and national defence. Additionally, adults are often reluctant to attend training for various reasons such as disinterest and time constraints. This reduces the effectiveness of the policy.
Body 2: Measures that can be adopted 2) World-class infrastructure	Next, a government can develop world-class infrastructure to boost its competitiveness. For examples, Singapore boasts world-class infrastructure such as road and port facilities. Singapore also boasts world-class air transport facilities. Changi airport has won the world's best airport. In addition, Singapore is planning to build terminal 4 and 5, which will double Changi Airport's current capacity by mid 2020s. World class infrastructure will increase in efficiency of delivering of goods and services which again lowers cost of operating business in Singapore. This makes Singapore attractive to FDI as cost of business operation is lower given the efficiency of the system. A fall in transportation can impact export sales positively too. <u>Limitations:</u> Long term planning and a clear foresight is needed for the government to achieve this world-class infrastructure. Furthermore, the government must have enough budget to undertake such a course of action. These may pose as limitations for some governments that are unstable and poor as shown by some recent examples eg Sri Lankan or Argentinian government debt crises.

Body 3: Measures that can be adopted 3) Sound macroeconomic environment and fiscal management	Another measure a government may adopt is a sound macroeconomic environment and fiscal management. Singapore government remains prudent in their spending and has accumulated budget surpluses over the past years. Inflation rate has been kept at a low and stable rate for the past few years. Sound macroeconomic environment and prudent spending give investors confidence in Singapore's economy which makes Singapore attractive to FDIs. The strong Sing $ policy also shows that the government uses its exchange rate monetary policy to keep out imported inflation which lowers COP in Sg. This will help to maintain our export competitiveness. The strong and stable Sing $ also makes Sg a sound centre for financial and banking services which encourages FDI as well. <u>Limitations:</u> A strong Sing $ policy is a double-edged sword as the strong currency may erode competitiveness of our exports due to the fact that when converted in the foreign currency, Sg's export price will be higher. Thus, there should be quality improvement to distinguish our exports from the goods of other countries.
Conclusion	Data shows that the measures taken by the Singapore government are working (moving back to 3rd position). However, Singapore is facing increasing competition from other Southeast Asian economies. This means that Sg needs to stay ahead of the competition and adopt changes in policy when necessary to maintain its competitive edge. If we do not improve our productivity levels, we cannot justify our higher labour costs and we will not be able compete with countries with lower labour costs. However, Sg cannot depend on lowering costs to compete but may have to innovate and create new opportunities for growth and export to compete in the global economy as cost advantage cannot be solely relied upon to improve global competitiveness.

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	Thorough explanation and analysis of the measures that a government can adopt to improve its global competitiveness.	8 - 10
L2	Limited explanation of the measures that a government can adopt to improve its global competitiveness. Economic analysis is not sufficiently rigorous.	5 - 7

BP-387

L1	Cursory explanation of measures that a government can adopt to improve its global competitiveness. Misconceptions shown.	1 - 4
	Evaluation	
E3	A well-reasoned conclusion that clearly evaluates the measures that a government can adopt to improve its global competitiveness.	4 - 5
E2	Some attempt to make conclusive judgements about the measures that a government can adopt to improve its global competitiveness but not well substantiated.	2 - 3
E1	A judgement that is largely unsupported.	1