ANGLO-CHINESE JUNIOR COLLEGE

2022 JC2 PRELIMINARY EXAMINATIONS

ECONOMICS **9757/01**

Higher 2 23 August 2022

Paper 1 2 hours 15 minutes

Additional materials: Writing papers
and
2 cover sheets

READ THESE INSTRUCTIONS FIRST

Write your exam index number and name on all the answers you hand in.
Write in dark blue or black ink pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid / tape in your answers.

Answer **all** questions.

Begin Question 2 on a **fresh** sheet of writing paper.

At the end of the examination, arrange your answers in order.
Fasten your answers for Question 1 and Question 2 **separately** using the cover sheets provided.

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

This document consists of **6** printed pages (including this page).
Please check that your question paper is complete.

Answer **all** questions.

Question 1: The Nitrogen Fertilizers Crisis

Table 1: Employment and consumption data on fertilisers

	2015	2016	2017	2018	2019
Number of workers employed in US fertilizers industry	19 133	19 580	20 058	20 837	22 179
Fertilizers consumed in US (in million tons)	22.46	23.14	23.44	21.68	22.40
Fertilizers consumed globally (in million tons)	213.27	215.13	217.42	213.77	215.37

Sources: IBISWorld *and ourworldindata.org*

Extract 1: The US fertilizer production industry

Fertilizers are critical input for crop production and represent a major variable cost for several US crops. Farmers represent the end users in the fertilizers' supply chain, and the prices they pay for fertilizers depend on several factors including local demand, product type, retailer mark-ups, and transportation costs.

The US fertilizers sector has undergone substantial changes. Between the 1980s and mid-2000s, the combination of lower fertilizers demand and higher input costs for fertilizers production caused the fertilizers sector to contract from 59 to 22 production facilities. The assumption is that highly concentrated industries are synonymous with market power, which can be detrimental to the society. Whether that will happen in reality rely on many factors, one of which is the level of government regulation in the fertilizers market.

Source: Choices and the Agricultural & Applied Economics Association, *2020*

Extract 2: USDA announces plan to support US farmers

The US Department of Agriculture (USDA) will support American farmers by increasing the fertilizers production so as to address its rising costs. It is offering a $250 million new grant to encourage greater production of fertilizers.

Additionally, to address growing competition concerns in the agricultural supply chain, USDA will launch a public inquiry, seeking information regarding agricultural fertilizers and the impact of concentration and market power on agriculture farmers. The inquiry aims to enhance fairness and competition across America's economy.

"Concentrated market structures and potentially anti-competitive practices leave America's farmers, businesses, and consumers facing higher costs, fewer choices and less control about where to buy and sell, and reduced innovation—ultimately making it harder for those who grow our food to survive," said Agriculture Secretary of the United States.

Source: US Department of Agriculture, *11 March 2022*

Extract 3: Fertilizer costs: what is driving the increase?

Significant increase in the cost of fertilizers over the past year has caused a lot of concern among farmers in the United States. Given that the cost of fertilizers now account for approximately 15-20% of total costs for corn production, fertilizer prices and its availability are a major concern for farmers planning for the 2022 growing season. Farmers in some areas are reporting prices more than 300% higher than last winter, and delivery times seems to be anyone's guess. The price increase was driven by strong domestic and global demand for crops, low fertilizers inventories, and very slow adjustments in production by the US fertilizers industry.

As fertilizers are global commodity, its prices can be influenced by various market factors beyond the control of US producers. Countries that import fertilisers are also exporters of the raw materials needed to produce these fertilisers. Hence, this means that fertilizers prices are more volatile as it is subjected to both the cost of factor inputs as well as the production costs of the country producing it. Another factor is that two-thirds of global fertilizers demand is driven primarily by the production of crops, of which corn, wheat, and soybeans constitute about 36% of that total demand. So, as large producers of corn, soybeans, and wheat, the US is a large consumer of fertilizers.

Trades disputes and disruptions have also played a big role in fertilizers availability and cost. The US have restricted imports of selected factor inputs such as potash from Belarus. Potash is an essential raw material used to produce fertilisers, and Belarus is a country which contributes to about 20% of the global production of potash. The uncertainty of Russian actions against Ukraine creates further volatility since Russia is also one of the top global exporters of all three fertilizers raw materials — nitrogen, phosphate, and potash.

Price of fertilizers in the US can also be influenced by internal factors such as increased domestic transport costs due to labour shortages in the freight industry which the fertilizers industry relies on for transportation. Domestic weather conditions like hurricanes, ice storms, as well as infrastructure breakdowns, have caused several production and distribution disruptions.

Source: Institute of Agriculture and Natural Resources, *8 February 2022*

Questions

(a) With reference to Table 1, identify the difference in the trend of number of workers employed in the US fertilizers industry and the consumption of fertilizers in the US from 2016 to 2019. State one possible reason for the difference. [2]

(b) **(i)** With reference to Extract 1, explain how the lower demand for fertilizers and higher input costs could cause firms to exit the US fertilizers industry. [4]

(ii) Explain how market dominance could lead to an inefficient allocation of resources in the US fertilizers market. [6]

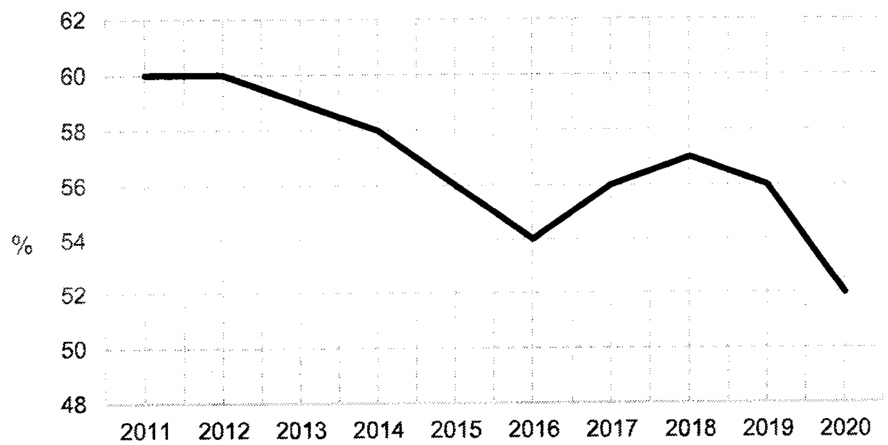
(c) Discuss how improving the level of competition in the US market for fertilizers can affect dynamic efficiency. [8]

(d) Discuss whether demand or supply factors have a greater impact on the price of fertilizers in the US. [10]

[Total: 30]

Question 2: The Impact of a Global Pandemic on Globalisation

Figure 1: Global Trade Volume as a Percentage of GDP, 2011 - 2020



Source: World Bank

Extract 4: MAS eases monetary policy as economy reels from impact of COVID-19

Singapore's central bank eased monetary policy as the economy reels from the impact of a novel coronavirus pandemic. In its statement, it said the COVID-19 pandemic has led to a severe contraction in economic activities in Singapore and globally, due to the combination of supply chain disruptions, travel restrictions imposed in many countries and a sudden decline in demand.

In its half-yearly monetary policy statement, the Monetary Authority of Singapore (MAS) said the Singapore dollar nominal effective exchange rate policy band has "depreciated to a level slightly below the mid-point of the policy band". It added that MAS will adopt a zero per cent per annum rate of appreciation of the policy band.

Research firm Capital Economics described the central bank's latest decision as a "complement" to fiscal policy, which will remain the key form of support for the economy.

They added that there could be a limit in terms of what more the MAS could do further down the road. With global growth collapsing, a much weaker currency probably wouldn't make much difference to export prospects.

Several other economists have also said that further monetary easing is unlikely. A note from Fitch Solutions Country Risk and Industry Research explained that this is because further easing will risk amplifying any spikes in import prices of essentials including food and medical supplies.

Source: Channel News Asia, *30 March 2020*

Extract 5: Hoarding won't help: export restrictions will backfire on Asian countries

Asian countries that have implemented export restrictions to protect local supplies amid the COVID-19 pandemic will harm their commodity prices and damage their trade reputations, according to an expert from the Food and Agricultural Organisation of the United Nations (FAO). Countries such as Vietnam and Cambodia have elected to implement such protectionist measures and ban exports of goods such as rice and other essential raw materials to ensure ample domestic supply and to keep costs low.

Although export restrictions may be a knee-jerk reaction to a crisis, in the long run, this sort of policy is highly likely to hurt the countries implementing these instead, particularly local producers and traders.

Firstly, this will bring down the domestic prices of the commodity, rice in this case, and hurt local farmers. Secondly, it will benefit competitors on international markets by giving others a chance to steal market share. Thirdly, this would hurt the exporter's reputation as all countries that normally buy from it would think twice about that trade. If the exporter is always going to react this way in a crisis, buyers will feel they need to be self-sufficient instead and move away from trade.

To build resilience and minimise the impacts of such crises on food supply chains in the future, the FAO calls for governments to focus on science, technology and the right policies moving forward.

Source: foodnavigator-asia.com, 21 July 2020

Extract 6: The COVID-19 economy: does it mean the end of globalisation?

After decades of growth for world trade, global tourism and international cooperation, globalisation hit a couple of roadblocks in recent years, as the re-emergence of nationalism and protectionism have undone some of the progress made in the past. After global trade growth slowed significantly in 2019, due in large part to trade tensions between the US and China, the COVID-19 pandemic is expected to cause an unprecedented fall in world trade.

Having reminded many companies of the vulnerabilities of global supply chains, both the pandemic and the trade war between the US and China could lead companies towards a more domestic approach to production and sourcing, which might result in a sustained reduction of global trade.

New York-based Delta Children, which makes cribs in China for retailers such as Walmart, briefly studied moving production back to the US as supply shortages caused by the COVID-19 pandemic added to its hefty bill from US import tariffs. Analysts predicted that the pandemic would help accelerate this type of re-shoring[1] of jobs to the US, while some policymakers even spoke of a wider retreat of globalisation as companies dealt with severed supply chains.

The Delta chief executive finally ruled out the move due to higher labour costs and a lack of suppliers. The company still plans to diversify its supply chain - but by moving some production to South East Asia. Reshoring would only work if the products are of the same quality and competitively priced, which is not the case at the moment.

Consultants at McKinsey & Co say supply chain issues have grabbed the attention of chief executives and board rooms with COVID delivering the biggest and broadest value chain shock in memory, albeit only the latest in a series of disruptions. Instead of focusing solely on procurement costs, companies are starting to consider stability and resilience.

Sources: World Economic Forum, *29 May 2020 and* Reuters, *7 October 2020*

[1] the practice of transferring a business operation that was moved overseas back to the country from which it was originally located

Extract 7: Globalisation the cause and the cure for COVID-19

Social scientists around the world are taking stock, as the impact of COVID-19 has brought international travel to a standstill, obstructed global supply chains, created tsunamis of unemployment, brought key industries to a grinding halt, and isolated individuals and communities in the midst of a rapidly rising death toll.

And while some would say the pandemic will catalyse the end of globalisation, some argue that COVID-19 has in fact highlighted the power and potential of our increasingly globalized world.

Amid today's terrifying human devastation, we have also witnessed a surge of digital information which has turbocharged virtual networks and the flow of ideas in everything from healthcare to business. Even more fundamentally, widespread digital interdependence has accelerated innovative responses to the pandemic - whether among individuals, institutions or nations – and such reactions have relied on our global connectivity.

When we look at the two key dimensions the situation is impacting, both how we work and how we live, the virus has acted to accelerate both the digital revolution and our virtual connectivity. Working from home is now unlikely to be considered a 'second-best' option, as home-based virtual workstations are supporting thousands of workers around the world to work efficiently, away from their physical offices. Even the hardest hit sectors, such as hospitality and restaurants have been quick to start planning for a different future – one where digital ordering and contactless payment are the norm and where social distancing becomes a rule of thumb for good restaurant design.

While we cannot rush to predict the post COVID-19 future, it is clear globalisation in its fullest sense is not a casualty.

Source: University of South Australia, *7 May 2020*

Questions:

(a) Describe the trend in global trade as a percentage of GDP from 2011 to 2020. [2]

(b) With reference to Extract 4,

(i) Using AD/AS analysis, explain how Singapore's monetary policy can increase national output. [4]

(ii) Explain one possible unintended consequence of "further monetary easing". [2]

(c) **(i)** Using the concept of price elasticity of demand, explain the impact of imposing rice export restrictions on a domestic rice producer's revenue. [4]

(ii) Discuss the impact on the economy in countries such as Vietnam and Cambodia of imposing export restrictions. [8]

(d) Discuss whether the COVID-19 pandemic will slow down or accelerate the rate of globalisation. [10]

[Total: 30]

End of paper

ANGLO-CHINESE JUNIOR COLLEGE

2022 JC2 PRELIMINARY EXAMINATIONS

ECONOMICS	**9757/02**
Higher 2	26 August 2022
Paper 2	2 hours 15 mins

Additional materials: Writing papers
3 cover sheets

READ THESE INSTRUCTIONS FIRST

Write your exam index number and name on all the answers you hand in.
Write in dark blue or black ink pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid / tape in your answers.

Each essay question is worth 25 marks. Answer **a total of 3** essay questions. You are to answer **one** from **Section A**, **one** from Section **B** and the third from **either** Section.

Begin each essay question on a **fresh** sheet of writing paper. You will be submitting your essay answers **separately**.

At the end of the examination, arrange your answers in order.
Fasten your answers for each essay question **separately** using the cover sheets provided.

This document consists of **3** printed pages (including this page)
Please check that your question paper is complete.

Answer **three** questions in total

Section A

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

1 Sri Lanka faced its worst economic crisis ever, and there have been huge concerns about the affordability of fuel. The lack of foreign reserves to import resources has worsened the shortage situation. The government has responded with price control to counter the rising fuel costs.

(a) Explain why a shortage of fuel can still exist in Sri Lanka after a rise in the price of fuel. [10]

(b) Discuss whether price control is the most effective government policy to maintain the affordability of fuel in Sri Lanka. [15]

2. Evidence has shown that the workers' participation rate for skills upgrading workshops is generally low, mainly due to 'short-sightedness' by both firms and employees. Firms are worried that trained workers quit to join the competitors. Training subsidies provided are also unevenly distributed to different industries.

(a) Explain how the market for skills training may fail. [10]

(b) Discuss the view that government intervention in the skills training market may create more problems than it solves. [15]

3. Over the last two years, the food and beverage (F&B) industry in Singapore was among the hardest hit sectors amidst the poor business climate and manpower shortages.

(a) Explain the determinants of a rational F&B owner's decision on whether to increase the number of outlets in Singapore. [10]

(b) Discuss the extent to which firms in highly competitive industries are more vulnerable to closure than firms in less competitive industries during a recession. [15]

Section B

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

4. As part of the Singapore's economic restructuring plans, grants are provided to encourage companies to invest in more energy-efficient processes and adopt digital technologies. At the same time, large emitters will have to pay a higher carbon tax from 2024.

Adapted from The Straits Times, 28 Feb 2022

(a) Explain the link between a country's economic growth, unemployment and inflation. [10]

(b) Discuss the extent to which the above-mentioned economic plans will lead to a rise in living standards for Singapore. [15]

5. When faced with negative economic growth, governments often turn to fiscal stimulus to support their economy. Some governments provide transfer payments such as cash vouchers, while others spend on building infrastructures.

(a) Explain **one** possible demand-side cause and **one** possible supply-side cause of falling national output for a country. [10]

(b) Discuss whether transfer payments are the most appropriate policy tool to overcome negative economic growth for all economies. [15]

6. To ensure that international trade remains smooth, open and reliable, one must resist the temptation to turn inwards, protectionism is not viable, especially for small states.

(a) Explain how a country's balance of trade may worsen over time. [10]

(b) Discuss the view that the pursuit of a healthy trade balance leaves no room for the use of protectionism. [15]

End of Paper

Answer all questions.

Question 1: The Nitrogen Fertilizers Crisis

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Source: US Department of Agriculture, *11 March 2022*

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Trades disputes and disruptions have also played a big role in fertilizers availability and cost. The US have restricted imports of selected factor inputs such as potash from Belarus. Potash is an essential raw material used to produce fertilisers, and Belarus is a country which contributes to about 20% of the global production of potash. The uncertainty of Russian actions against Ukraine creates further volatility since Russia is also one of the top global exporters of all three fertilizers raw materials — nitrogen, phosphate, and potash.

Price of fertilizers in the US can also be influenced by internal factors such as increased domestic transport costs due to labour shortages in the freight industry which the fertilizers industry relies on for transportation. Domestic weather conditions like hurricanes, ice storms, as well as infrastructure breakdowns, have caused several production and distribution disruptions.

Source: Institute of Agriculture and Natural Resources, *8 February 2022*

Question 1: The Nitrogen Fertilizers Crisis

Suggested Mark Scheme:

(a) With reference to Table 1, identify the difference in the trend of number of workers employed in the US fertilizers industry and the consumption of fertilizers in the US from 2016 to 2019. State one possible reason for the difference. [2]

Suggested Response:
- From 2016 to 2019, number of workers employed is generally increasing while the consumption of fertilizer in the US was decreasing [1m]
- The increase in number of workers employed could be a result of US requiring more factor inputs to producing a larger share for export to the global market although domestic demand for fertilizer was decreasing [1m]

Mark Scheme:
1 difference in the trend of the two stated variables – 1m
1 reason to account for the difference – 1m

(b) (i) With reference to Extract 1, explain how the lower demand for fertilizers and higher input costs could cause firms to exit the US fertilizers industry. [4]

Suggested Response:
- A fall in demand results in a fall in the market price. The existing firms in the fertilizer industry would have to charge a lower price than before. As such, existing firms' average revenue (AR) would fall.
- A higher input costs implies that a firm's average costs (AC) would increase
- In the long run, the firm's AR could be lower than its AC. Firms exit the industry because of earning subnormal profit

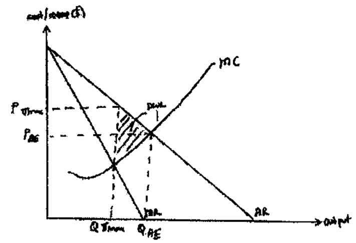
Alternative response
- A fall in demand results in a fall in the market price. The existing firms in the fertilizer industry would have to charge a lower price than before. As such, existing firms' average revenue (AR) would fall.
- A higher input costs implies that a firm's average variable costs (AVC) would increase
- In the short run, a firm is unable to cover fixed costs and part of their variable costs if AR < AVC (or total revenue < total variable costs). Firms would then choose to shut down to minimize losses.

Mark Scheme:
Explain impact on average revenue – 1m
Explain impact on AC – 1m
Explain exit/shutdown decision – 2m

(ii) Explain how market dominance could lead to an inefficient allocation of resources in the US fertilizers market. [6]

Suggested Response:
- Efficient allocation of resources is achieved where MB = MC i.e. P = MC given that price reflects MB. Therefore, social welfare is maximised if the firm produce the good up to Q_{AE} where P = MC.
- However, market dominance implies that a firm is a price setter i.e. the firm has the power to set price by restricting output. For example, a profit maximizing firm would

produce up $Q_{\pi max}$ where MC = MR. At this point, the profit maximizing price $P_{\pi max}$ is greater than MC.
- Society incurs a deadweight loss as a result of the firm not producing the amount $Q_{\pi max}$ to Q_{AE}. This is because the marginal benefit to society is larger than the marginal cost to society of producing additional unts of fertilizer from $Q_{\pi max}$ to Q_{AE}
- Therefore, market dominance could lead to inefficient allocation of resources in the US fertilizers market.



Mark Scheme:

	Knowledge, Application, Understanding, Analysis	
L2	• Accurate and clear explanation of inefficient allocation of resources arising from market dominance • An analytical response that can: o Establish point of allocative efficiency o Explain why a firm with market power can deviate from allocative efficiency o Explain implications of deviating away from allocative efficiency	4 - 6
L1	• Smattering of points • Several concept flaws	1 – 3

(c) Discuss how improving the level of competition in the US market for fertilizers can affect dynamic efficiency. [8]

Suggested Response:

Body Paragraph 1/Requirement 1: Improve dynamic efficiency
- Improving the level of competition would increase the threat of competition
- The profits of incumbent firms may be eroded by the entry of new firms
- Assuming profit-maximising objective, incumbent firms may attempt to safeguard their profits by becoming less complacent and working towards dynamic efficiency.
- Firms may engage in both product and process innovation
- Product innovation allows a firm to experience an increase in AR
- Process innovation allows a firm to experience a fall in AC
- An increase in AR and a fall in AC would help the firm to retain its profits in light of competition.

Body Paragraph 2/Requirement 2: Does not improve dynamic efficiency
- Improve the level of competition would result in a fall in level of profit

- The average revenue of firms would fall as the market share is split among many more firms
- Moreover, the fall in output by each individual firm would mean that the firms may not be able to exploit internal economies of scale as much as before; thus a firm's average cost would increase.
- Consequently, AR falls while AC increases; thus, profit falls.
- The fall in profits reduces a firm's capacity to engage in product and process innovation.

Conclusion:
- The overall impact on dynamic efficiency depends on how the government intends to improve the level of competition in the US market for fertilizers. The government may choose to promote competition by financially supporting innovative practices. Such a policy would minimize the concern of how a loss of market share could reduce a firm's capacity to be dynamic efficient. However, if the government promote competition by simply deregulating the market; then firms may be less able to engage in process and product innovation although they may be less complacent.

Knowledge, Application, Understanding, Analysis		

L2	• Breadth
	  o Explains how dynamic efficiency may and may not be achieved
	• Depth
	  o Rigorous and relevant economic analysis used in explanation
		4 - 6

L1	• Smattering of points • Several concept flaws	1 – 3

Evaluation		
E2	• For an answer that builds on appropriate analysis to evaluate critically and arrives at well reasoning judgements and/or decisions	2
E1	• Unsupported evaluative statement(s) • Unsubstantiated / generic conclusion • Statements supported with very weak/incorrect/unrealistic/illogical reasoning (therefore making the judgement unconvincing)	1

(d) Discuss whether demand or supply factors have a greater impact on the price of fertilizers in the US. [10]

Suggested Response

Body Paragraph 2/Requirement 2: Impact of supply factor on price of fertilizers
- **Fall in supply of fertiliser** could explain why price of fertilizer in the US is high
- Based on Extract 3, the US have restricted imports of potash – a factor input of fertilizer. This creates a shortage of potash thus exerting an upward pressure on price of potash. Moreover, the price of transportation has also increased Consequently, the **cost of producing fertilizer would increase.**
- With that, suppliers are willing and able to sell fewer units of fertilisers. As such, **supply of fertilizer falls.**
- The fall in supply of fertilizer arising from both domestic and foreign factors would create a **large shortage** at the original price. The shortage exerts an upward pressure on price. Given the large shortage, a **large increase in price is required to sufficiently reduce quantity demanded and increase quantity supply.**
- As such, fall in supply of fertilizer results in **a large increase** in price of fertilizers in the US.

Body Paragraph 1/Requirement 1: Impact of demand factor on price of fertilizers
- **Strong demand for fertilizers** could explain why price of fertilizers in the US is high
- Based on Extract 3, the US is a major producer of agricultural products such as corn, soybeans, and wheat. Such agricultural products rely heavily on fertilizer.
- **Higher demand results in higher market equilibrium price**. This is because consumers of fertilizers are willing and able to pay a much high price for each unit of fertilizers demanded.
- Moreover, the **demand for fertilizer is likely to be price inelastic** given that it is a necessity for producing agricultural goods.
- Consequently, the previously mentioned fall in supply would result in a large increase in price. This is because an increase in price would result in a less than proportionate decrease in quantity demanded. Therefore, a large increase in price is required to clear the abovementioned shortage arising from the fall in supply.
- As such, the strong demand for fertilizers coupled with demand that is price inelastic could explain the **high price of fertilizer in the US.**

Conclusion:
- Based on the above analysis, it is likely that supply factors have a greater impact on the price of fertilizers in the US.
- This is because the US agricultural sector have been one of its engines of economic growth thus the high domestic demand for fertilizer is perpetual and would not have resulted in any significant increase in price i.e. price have been and would remain high.
- However, the fall in supply of fertilizers as described in Extract 3 is unprecedented – at least in recent history. As such, the fall in supply exacerbates any shortage that could have persisted due to high demand. Moreover, the fall in supply is also severe as it stems from multiple causes that are also evolving. As such, the shortage is not only likely to be large, but it could also be growing. Consequently, a sharp increase in price is required to sufficiently reduce quantity demanded and an increase in quantity supplied.

A+A 7
- Explain price adjustment process
- **AND** Explain how PED and PES affects extent of change in price

A+C 6
- Explains price adjustment process well but did not use PED and PES
- **OR** explains PED AND PES well but not price adjustment process (although this combi is quite impossible to write)

C+C or A 5
- Explains dd factor and supply factor without price adjustment process
- Explains PED/PES concepts without link to how price is affected

C 4

Knowledge, Application, Understanding, Analysis		
L3	• Breadth	5 – 7

	○ Explains how demand and supply factors affect price of fertilizer ○ Considers PED and/or PES as part of demand and/or supply factor • Depth ○ Rigorous and relevant economic analysis used in explanation	
L2	• Lacking any L3 criterion	3 – 4
L1	• Smattering of points • Several concept flaws	1 – 2

	Evaluation	
E2	• For an answer that builds on appropriate analysis to evaluate critically and arrives at well reasoning judgements and/or decisions	2-3
E1	• Unsupported evaluative statement(s) • Unsubstantiated / generic conclusion • Statements supported with very weak/incorrect/unrealistic/illogical reasoning (therefore making the judgement unconvincing)	1

[Total: 30]

Question 2: The Impact of a Global Pandemic on Globalisation

Suggested Mark Scheme:

(a) Describe the trend in global trade as a percentage of GDP from 2011 to 2020. [2]

General trend: Global trade as a percentage of GDP is decreasing from 2011 to 2020. [1]
Refinement: However it increased from 2016 to 2018. [1]

(b) With reference to Extract 4,

(i) Using AD/AS analysis, explain how Singapore's monetary policy can increase national output. [4]

- Singapore adopted a zero percent appreciation, allowing the Singapore dollar to depreciate. [1]
- The depreciation of Singapore dollar would make exports cheaper in terms of foreign currency. [1]
- This increases exports competitiveness, leading to an increase in export revenue and aggregate demand. [1]
- As aggregate demand increases, firms respond by increasing production, resulting in an increase in GDP. [1]

Note: impact on imports not needed for this question. Use of elasticity concepts also not required.

(ii) Explain one possible unintended consequence of "further monetary easing". [2]

- Further monetary easing involves further depreciation of the Singapore dollar, which would increase the price of imports in terms of Singapore dollars. [1]
- As the price of imports increases, imported raw materials become more expensive. This leads to an increase in cost of production and imported inflation. [1]

(c) (i) Using the concept of price elasticity of demand, explain the impact of imposing rice export restrictions on a domestic rice producer's revenue. [4]

- Rice export restrictions prevent rice producers from exporting to other countries, and thus increase the domestic supply of rice [1]
- Increase in supply of rice → surplus of rice at the current prices → downward pressure on price [1]
- The demand is price inelastic (PED < 1) since food is a necessity in most rice producing countries [1]
- The decrease in price due to the rising supply leads to a less than proportionate increase in quantity demanded.
- The loss in revenue due to decrease in price outweighs the gain in revenue due to increase in quantity sold, thus there is an overall decrease in revenue for rice producers. [1]

Note: for answers that explain a fall in demand due to a smaller market, maximum of 2 marks since PED concept is not used.

(ii) Discuss the impact on the economy in countries such as Vietnam and Cambodia of imposing export restrictions. [8]

__Introduction:__

- The export restrictions are imposed with the main objective of lowering the prices of commodities and food for the domestic economy.
- Such restrictions can have both positive and negative effects on an economy.

__Requirement 1: Positive impact of export restrictions__

- As explained in (ci), export restrictions increase the supply of important commodities and food in a domestic economy. This helps to reduce prices of food and other raw materials.
- Thus food and commodities will be more affordable to domestic households. With an increase in purchasing power, material standard of living improves.
- In addition, with cheaper raw materials, cost of production for firms is reduced. As firms are more willing and able to produce at each price, there is an increase in SRAS. Firms pass on the cost savings to consumers resulting in a lower general price level. → Lower and more stable inflation rate

__Requirement 2: Negative impact of export restrictions__

- As firms are not allowed to export overseas, they have a smaller consumer base to sell to. They are only able to sell domestically at a lower price, leading to a loss in revenue.
- Thus firms may experience a loss of profits.
- With lower export revenue, there is also a fall in AD, especially if the country is reliant on exports. The fall in AD results in an unplanned increase in stocks for firms. Firms respond by cutting down production, leading to a fall in GDP.
- With lower output, firms demand less labour, especially in export industries. Some workers may be laid off and there may be an increase in demand deficient unemployment.
- In the long run, market share may be lost as other countries that produce the same commodities can increase production to meet the global demand. The country's trade reputation may also be damaged. Other countries may choose to find more stable sources to import from. Thus, export revenue may remain lower even after the export restrictions are removed.

__Evaluation:__

- As extract 5 mentions, export restrictions are a "knee jerk" reaction to a crisis. They may be necessary in the short run to ensure a stable supply of food and other necessities in a country.
- However, export restrictions are likely to be more harmful in the long term as it leads to a loss of export revenue.
- The extent of harm depends on the nature of the country. For a country that is reliant on exports for economic growth, export restrictions are likely to be more harmful for the economy.

Level	Descriptors	Marks
L2	• Balanced answer that considers both the positive and negative impacts of export restrictions. • Answer uses economic analysis and tools such as AD/AS analysis to explain the impact on the economy. • Both requirements should be analytical to score 6 marks. • Good use of evidence and reference to the extracts.	4 - 6
L1	• Answer may be one sided, explaining either positive or negative impacts.	1 - 3

	• Answer may have insufficient economic analysis / be more descriptive. • Answer may be theoretical and lack application to the context.	
E2	Well-reasoned judgement using at least one criteria, such as short / long term or nature of the economy	2
E1	Judgement is not well substantiated / the substantiation and reasoning is not convincing.	1

(d) Discuss whether the COVID-19 pandemic will slow down or accelerate the rate of globalisation. [10]

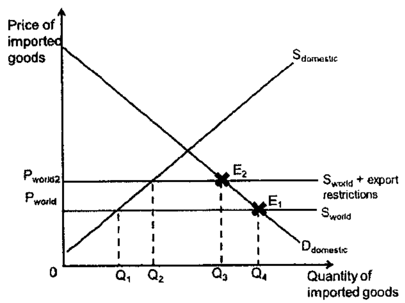
Note to markers: Students are expected to explain <u>why</u> and <u>how</u> globalisation may slow down, with analytical explanation.

Introduction:

Globalisation refers to the development of an increasingly global economy, characterised by increases in trade of goods and services, international flows of capital, and labour mobility. Given the trend in global trade, globalisation has slowed down in the past decade. The COVID-19 may have further slowed down the rate of globalisation.

Requirement 1: The COVID-19 pandemic may have slowed down the rate of globalisation.

- Why countries may trade less: Countries are wary of vulnerable global supply chains. With disruptions to the global supply chain, countries are not able to import important commodities and necessities from their usual sources. This could lead to high imported inflation due to the decreased supply of commodities. Thus, countries may switch to domestic production for increased stability instead of relying on trade for such commodities.
- How global trade may be reduced: Use of measures such as export restrictions will reduce total world trade (as shown by figure 1).



Export restrictions decrease the world supply and increase the price of imports. Thus the world supply curve shifts to S_{world} + export restrictions. This reduces the quantity of imports from Q_1Q_4 to Q_2Q_3.

- Why investments may fall: In addition, to reduce vulnerability to external shocks, firms may decide to re-shore their businesses. For example, US firms such as Delta Children (Extract 6) considered moving their production back to the US to avoid supply shortages caused by COVID-19 measures implemented in China. The shortages result in higher cost of production and loss of profits for the firms. If more firms re-shore their businesses to stabilise their profits, there could be a decrease in FDI globally.
- Why labour movements may fall: The COVID-19 restrictions have also "brought international travel to a standstill" (Extract 6). With travel restrictions in place to prevent the spread of the virus, people are less able to travel and take up job opportunities overseas.

Evaluation of above points:

- Countries may choose not to use export restrictions in the long term, since it would reduce export revenue and result in slower economic growth. Thus the export restrictions may only lead to a short term, temporary, fall in global trade.
- Firms may choose to diversify and shift their production to different countries rather than re-shore. For example, Delta Children chose not to re-shore as the US has high labour costs and lack of suppliers. Instead, firms may choose to move some production to South East Asia. Thus, while the direction of FDI may change, there will not be a fall in the flow of investments globally.

Requirement 2: The COVID-19 pandemic may have accelerated the rate of globalisation.

- The pandemic has accelerated digitalisation: Use of technology will make it easier to invest and work in other countries. For example, the virus has sped up the adoption of communication technology so that workers are able to work from home or remotely. With such technology and better internet connections, cost of communications are lower and international transactions can occur more easily, thus increasing foreign direct investments.
- The pandemic may increase free trade: As COVID-19 caused contractions in many economies, some economies may rely on trade to recover from the recession and ensure a more stable economy. For example, some import reliant countries may diversify their supply chains to prevent future supply chain disruptions. To do so, they may sign free trade agreements with more countries, leading to an increase in trade. In addition, free trade will allow export reliant countries to increase export revenue, aggregate demand, and economic growth to recover from the recession.
- Thus, once the pandemic stabilises, trade and investments are likely to increase, accelerating the rate of globalisation.

Overall Evaluation

- COVID-19 may slow down the rate of globalisation, especially in the short run. In the short run, countries adopt stricter measures as they prioritise public health over economic growth. However, in the long run, the development of vaccinations and the stabilisation of the virus will allow more countries to open up once again. As countries relax their COVID-19 restrictions, trade, investments, and labour flows are likely to continue increasing.
- Short term measures such as export restrictions or travel bans are likely to be very detrimental to economies, and are likely to be removed in the long term.
- While countries are wary of supply chain disruptions, the lower cost of obtaining goods overseas significantly outweighs the risk of supply chain disruptions. Countries may increase domestic production or diversify to reduce the risk to external shocks, but are unlikely to reduce trade significantly.
- As seen from figure 1, global trade was already on a downward trend before the pandemic hit. Thus, the slowdown in globalisation is likely caused by other factors, such as trade wars and conflicts between countries.

Level	Descriptors	Marks
L2	• Balanced answer that discusses the possibilities of globalisation slowing down and accelerating as a result of the pandemic. • Answer uses economic analysis and tools to explain the impact on globalisation. • Good use of evidence and reference to the extracts.	4 - 7
L1	• Answer may be one sided, explaining either a slow down or acceleration of globalisation.	1 - 3

	• Answer may have insufficient economic analysis / be more descriptive. • Answer may be theoretical and lack application to the context.	
E2	Well-reasoned judgement using at least one criteria, such as short / long term	2 - 3
E1	Judgement is not well substantiated / the substantiation and reasoning is not convincing.	1

1 Sri Lanka faced its worst economic crisis ever, and there have been huge concerns about the affordability of fuel. The lack of foreign reserves to import resources has worsened the shortage situation. The government has responded with price control to counter the rising fuel costs.

(a) Explain why a shortage of fuel can still exist in Sri Lanka after a rise in the price of fuel. [10]

(b) Discuss whether price control is the most effective government policy to maintain the affordability of fuel in Sri Lanka. [15]

Suggested Responses

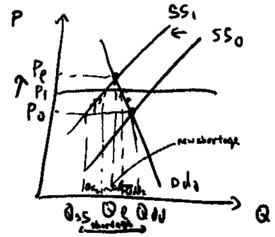
(a) Explain why a shortage of fuel can still exist in Sri Lanka after a rise in the price of fuel. [10]

Question analysis	
Command Word	"Explain" – requires student to explain why there is currently a shortage of fuel in Sri Lanka and why the market cannot reach an equilibrium even after price adjustment process
Context	Sri Lanka's market for fuel
Concept	Demand and supply, shortage and price adjustment process

Introduction:
Fuel is a necessity for society has they are mainly needed to run vehicles. There are no substitutes to fuel, especially in Sri Lanka, where majority of vehicles are still fuel-powered instead of electric. As Sri Lanka is going through an economic crisis due to its political problems, there is a lack of foreign reserves to import fuel. To make matters worse, price of fuel has increased greatly due to other reasons such as the Russian-Ukraine war.

Foreign reserves are the amount of foreign currency the central banks holds. Typically, they are used to manage the country's exchange rate relative to foreign currencies. As there is a lack of foreign reserves available in Sri Lanka, the Sri Lankan government are unable to manage their depreciating currency due to their economic problems. This makes price of imported oil become very expensive in foreign currency. This would cause the supply of fuel in Sri Lanka to decrease from SSo to SS1. At current price P0, there is a shortage of oil in the market of Qdd-Qss, assuming all other things remain constant.

According to the price mechanism, a price pressure upwards is expected in order to reach the new equilibrium and clear the shortage at Qe. As fuel has a lack of substitutes and a necessity, the demand for fuel is price inelastic. This would mean that the expected new equilibrium price would increase sharply and by more than proportionate to the decrease in Qdd.



Fuel market in Sri Lanka

Body Paragraph 2: *Explain why the shortage still exists due to price controls*
According to the pre-amble, a price ceiling is implemented to keep the price of fuel affordable for households. A price ceiling is the maximum price that can be legally charged by producers. This price is lower than the equilibrium price. Due to the price control set by the government, the price pressure upwards due to the fall in supply will stop at Pmax. As a result, the shortage caused by the fall in supply will not fully be resolved. There is now new shortage is now at Qdd2-Qss2 and the market has not cleared at expected Qe.

OR

Body Paragraph 2: *Explain why the shortage still exists due to PED & PES < 1*
While the shortage is expected to be cleared due to the price pressure upwards to Pe and Qe, this might not be expected in Sri Lanka as sellers of fuel may not be able to increase the quantity supplied of fuel due to their inability to import the oil resources. This may be exacerbated due to supply of oil being price inelastic. While the shortage might reduce from Qdd-Qss due to some increase in price, it may not clear fully. A shortage of Qdd2-Qss2 could still remain at least till Sri Lanka manages its economic problems and have resources to import fuel again.

Conclusion:
The lack of foreign reserves in Sri Lanka has affected the supply of oil to be sold in Sri Lanka. While the price mechanism theory expects the shortage to clear due to price pressures, this may not happen due to other factors in Sri Lanka.

Knowledge, Application, Understanding, Analysis		
L3 A + A = 10 A + C = 8 - 9	▪ Accurate and clear analysis of o Why there is a shortage and the expected new equilibrium price to clear shortage due to PED AND o Why the shortage does not clear due to either a price ceiling set by the government or the inability to import for fuel ▪ Answer provides relevant examples of market for fuel in Sri Lanka	8 – 10
L2 C + C / A + K = 7 A + 0 = 6 C + K = 5 - 6	▪ Undeveloped / One-sided or some inaccuracies of o Either why there is a shortage (due to SS falls) o OR PED or PES or Price Control used but insufficiently to explain why shortage still exists. ▪ Answer only explains one of the above requirements ▪ Answer provides some examples of market for fuel in Sri Lanka	5 - 7
L1 C + 0 = 4 K + K = 2 – 4 K + 0 = 1 - 2	▪ Inaccurate and minimal analysis or descriptive answer ▪ Answer is largely irrelevant	1 – 4

Commented [LSS1]: A must have:

R1: Supply shock - both to explain shortage and why it still exists (not just shortage exist as originally proposed)
1. Explanation of shortage (S fall, at P0, Qtd D > qty S)
2. And PED and/or PES analysis (value, reason, implication on shortage existing)

R2: Price control - both to explain shortage and why it still exists
1. unpack price ceiling + where the Pceil is (below the new higher equilibrium Price
2. explain why it prevents price from rising further

NOTE:
- If not price control, only R1 (one sided) award up to 6m (A + 0)
- R1 just needs PED <u>or</u> PES to explain the reason shortage persists (in addition to supply shock)
- R2, answers that explain market originally at equilibrium, but with P ceiling now shortage exists – get C. (rationale: the context is that price is increasing to eliminate the shortage that already exists. The starting point of R2 should be already having a shortage. Price must increase, but increase less, not fall.)
- To remind students to USE diagram / aligned to their answers in prose

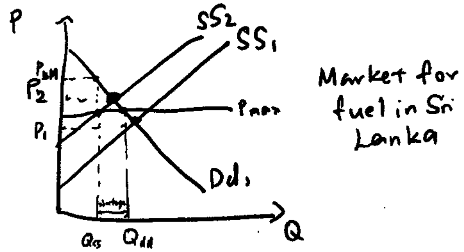
(b) Discuss whether price control is the most effective government policy to maintain the affordability of fuel in Sri Lanka. [15]

Question analysis	
Command Word	"Discuss" – requires student to analyse and evaluate 2 government policies (inclusive of price control) to keep prices of fuel affordable in Sri Lanka
Context	Sri Lanka's market for fuel
Concept	Government intervention – price ceiling, policies to increase supply of oil (extraction of own oil, diversifying trade),policies to decrease demand by exploring alternative sources of energy

<u>Introduction:</u>
Sri Lanka is a developing country where the average income of citizens are low. Moreover, there are a huge number of businesses, coach and tuk-tuk drivers that are highly dependent on fuel to survive. Fuel is also a necessity to generate energy. Hence, it is important for the government to maintain the affordability of fuel.

The government has implemented a price ceiling in order to keep prices low. There are also other policies that could be implemented to influence the demand and supply for fuel to keep price affordable in the long run.

<u>Body paragraph/Requirement 1: Price control can keep prices of fuel in Sri Lanka affordable</u>
Define price ceiling
A price ceiling is the maximum price that sellers can legally charge. This price is below the equilibrium price and the government decides on this price depending on the country's needs. Due to the falling supply of fuel in Sri Lanka, prices of oil have increased to P2. With the price ceiling at Pmax, prices are now more affordable to Sri Lankans.



<u>Evaluation: Price ceilings creates shortages and may lead to a black market. It also only works in the short run</u>

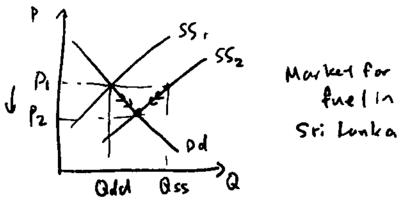
However, when a price ceiling is implemented, the quantity demanded (Qdd) for fuel is higher than quantity supplied (Qss) and creates a situation of a shortage. This may result in a black market, where those who managed to purchase the fuel at Pmax could resell the fuel at the black market price of up to Pbm. If this problem is extensive, it defeats the purpose of the price ceiling, making price of fuel even less affordable. This problem may be exacerbated in Sri Lanka where there is poor governance and there is likely to be limited enforcement and monitoring efforts.

A price ceiling can be an immediate approach to keep prices low, but may not be a sustainable strategy as the root cause of the problem has not been tackled.

<u>Body paragraph/Requirement 2: Policies to increase supply of oil through technology or trade diversification are also needed to keep the price of fuel affordable</u>

The Sri Lankan government may need to consider alternative ways to increase the supply of oil in Sri Lanka to keep prices from spiking.

The government can invest in technology to lower the cost of production of extracting oil from its own country or by inviting foreign firms with expertise to do so. This will increase the supply from SS1 to SS2. At current price P1, there is a surplus of Qss-Qdd, causing a downward pressure in price to new affordable price P2. Alternatively, the government can also start sourcing to purchase fuel from different countries to always have cheaper options to compare to or minimise supply shocks by not over-relying on one source.



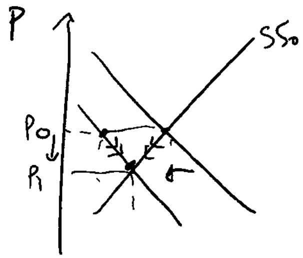
<u>Evaluation: Policies to increase supply are costly for the government and a long term strategy.</u>
However, strategies to increase the supply of fuel in Sri Lanka is costly for the government and is also dependent on the land and resource constraints in the country. In addition, the development of technology takes a long time to see effect, therefore it may not improve the affordability in the immediate term.

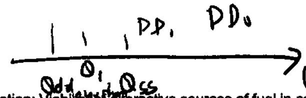
OR

<u>Body paragraph/Requirement 2: Policies to reduce demand for fuel through exploring alternative sources can keep prices low</u>

Explain how encouraging the use of substitutes may lower demand for fuel

With the recent developments of alternative modes of energy such as electric cars and hydrogen and natural gases, there are now more substitutes available. The Sri Lanka government can also start pushing its industries to rely less on fuel and on these alternatives. This would reduce the demand for fuel from DD0 to DD1. At current price P0, there is now a surplus of Qss-Qdd, leading to a price pressure downwards to P1.





<u>Evaluation: Viability of alternative sources of fuel in context of Sri Lanka</u>
However, this may be a long term strategy and difficult to implement. The main mode of transport in Sri Lanka is on motorcycles, tuk-tuks and coaches which all use fuel to run. In addition, development and adoption of electric vehicles in developing countries are low because of the lack of charging infrastructure. Moreover, the development in alternative sources of fuel are still not fully materialised yet, and may considered to be still relatively expensive. This makes it difficult to shift the focus of industries to rely less on fuels to other sources of energy.

<u>Summative Conclusion:</u>
In conclusion, a price ceiling is almost an imperative policy the government needs to adopt to maintain affordability in the immediate term, especially with the unplanned supply shock issues. Nonetheless, the government needs to consider more sustainable approaches to leave the country less vulnerable to such shocks and spikes in fuel prices. These policies can either to reduce reliance on the use of fuel or increasing the supply through improving technology or diversifying its trade partners and where it sources for fuel. One important aspect to note about Sri Lanka though, is to consider raising the incomes of Sri Lankans. Pursuing healthy economic growth and raising the material SOL would certainly help the population cope with sharp rises in price of necessities in general, leaving them less susceptible to such challenges.

Knowledge, Application, Understanding, Analysis	
Level	**Description**
L3 **A + A = 10** **A + C = 8 - 9**	• Breadth o Explains **two policies in the market for fuel** (inclusive of price ceiling) that can be implemented by the government to keep prices affordable • Depth o Rigorous and relevant economic analysis used to explain how a price ceiling keep prices affordable o Rigorous and relevant economic analysis used to explain how another policy keep prices affordable o Well-contextualised to market of fuel in Sri Lanka.
L2 **C + C / A + K = 7** **A + 0 = 6** **C + K = 5 - 6**	• Lacking any L3 criterions.
L1	• Largely irrelevant response.

C + 0 = 4 K + K = 2 – 4 K + 0 = 1 - 2	• Largely descriptive response with non-existent or minimal or application of economic concepts or theories. • Serious and pervasive conceptual errors.

Level	Description
E3 (4 – 5m)	For an answer that builds on appropriate analysis to evaluate critically and arrives at **well-reasoned judgements*** and decisions using criteria. • Strong evaluative statements about the effectiveness/appropriateness of policies • Strong concluding paragraph • Strong reasoning to justify the judgement made (including the use of criteria)
E2 (2 – 3m)	• Provides an opinion accompanied with partial substantiation that: o May not be entirely convincing. o Seems overly reliant on assumptions that may not hold. o Lacks relevance to the context of the question. • Evaluates at least one of the points covered in the body or provides some insightful opinion(s) but the overall stand in unclear.
E1 (1m)	• Unsupported evaluative statement(s). • Or unsubstantiated / generic conclusion • Or supported with very weak/incorrect/unrealistic/illogical reasoning (therefore making the judgement unconvincing)

2. Evidence has shown that the workers' participation rate for skills upgrading workshops is generally low, mainly due to 'short-sightedness' by both firms and employees. Firms are worried that trained workers quit to join the competitors. Training subsidies provided are also unevenly distributed to different industries.

(a) Explain how the market for skills training may fail. [10]

(b) Discuss the view that government intervention in the skills training market may create more problems than it solves. [15]

Suggested Responses

(a) Explain how the market for skills training may fail. [10]

Question analysis	
Command Word	"Explain" – requires student to explain how the market for skills training allocate resources inefficiently – positive externalities and imperfect information
Context	Skills Training
Concept	Market failure – positive externalities, imperfect information

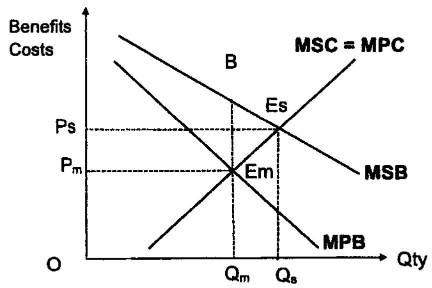
Introduction:
Consumers behaviour in the demand for skills training, is influenced by their objective of maximising self-interests (satisfaction). With upgrading of skills, there are possibilities of earning higher income, better promotion prospects in their career. From the perspective of employers, they are influenced by their objective of maximising their profits. When employees skills increase, there are possibilities of a higher productivity and higher profits.

<u>Body paragraph/Requirement 1: The market for skills training may fail due to positive externalities</u>

Explaining the market equilibrium (maximising self-interest):
In maximising their satisfaction, consumers only consider their marginal private costs (MPC) and marginal private benefits (MPB).

In this case,
- MPC = payment for skills training courses and opportunity costs incurred e.g. loss of income during the period of skills training.
- MPB = higher income that could be earned upon completion of these skills training programmes

Thus, consumers, based on their own benefits and costs, will decide to consume at the market equilibrium level Q_M, where they equate their MPC to MPB, at the equilibrium price Pm. They totally ignore the benefits to the third party.



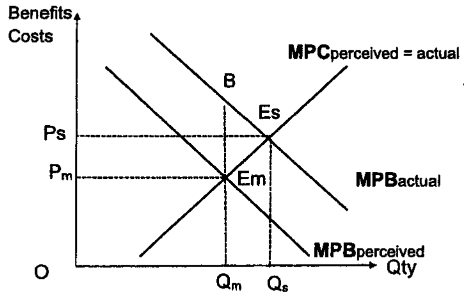
<u>Market for skills training</u>

Explaining the benefits to third parties (divergence between MSB and MPB):
The full extent of benefits include benefits to individuals and third parties i.e. firms and economy. Benefits to third parties are termed external benefits. Some examples include:
- Firms benefit from the rise in labour productivity as workers complete their skills training to undertake improved production techniques. These firms, with a more skilful workers, could adopt technology / automation in their production processes, enabling firms to become more efficient and earn higher profit margin.
- (In addition, *Countries with higher productive labour force would also attract overseas investment which would lead to job creation leading to higher economic growth in the country)*
- The full extent of benefits is measured by MSB which includes both MPB & MEB.

Explaining the market failure:
To society, the socially optimal level of consumption of skills training would be where society welfare is maximised. Thus, consumption should be at Q_S where MSC = MSB. For every unit of skills training consumed by worker from Q_M to Q_S, MSB > MSC. Hence there is a net potential welfare gain by society with additional consumption QmQs. For every unit consumed beyond Q_m, society benefits from the potential welfare gain (area B Es Em). Thus, when consumers are left to pursue only their self-interest, there will be under-consumption Q_MQ_S,, resulting in inefficient allocation of resources in the market for skills training.

<u>Body paragraph/Requirement 2: The market for skills training may fail due to imperfect information</u>

Due to imperfect information, consumers' perceived benefits from skills training may be lower than their actual benefits. Consumers may not have the knowledge of how the new / upgraded skills acquired through training (formal or informal) would enable them to have better career progression leading to higher future income. They may only perceive the short-term benefits e.g. how information technology coding courses or management courses would lead to a rise in their current salary. Their actual benefits would include rise in their occupational mobility, employability or even career advancement, promotion to managerial positions with even much higher future income. Their actual benefits of such skills training would thus be much higher than the perceived benefits. Hence when left to pursue their self-interests, workers, will consume at Qm where MPBperceived=MPCperceived. However, the satisfaction would have been maximized at MPBactual=MPCactual at Qs. There is an underconsumption of Qs-Qm, resulting in an efficient allocation of resources in the market for skills training. As they would have benefited more than it costs them every unit from Qm to Qs, a welfare loss of BEsEM.



Market for skills training

OR

Body paragraph/Requirement 2: The market for skills training may fail due to moral hazard

The market for skills training may also fail due to moral hazard. Moral hazard is the situation in which asymmetric information results in economic agents taking greater risks than they normally would because the resulting costs will not be borne by them. In the case of skills training, the employer may not know the actions of the worker during and after training. Unless the employer can observe the workers' progress during the training and worker is bound by a contract, the employer might not know if the worker would skive during training or change the company he/she works at upon completion of training. This is detrimental to the employer's profits. There is a wastage of resources and firms may also be less incentivized to send their workers for skills training, leading to an inefficient allocation of resources.

Knowledge, Application, Understanding, Analysis		
L3	▪ Accurate and clear analysis of two types of market failure o Positive externalities o Imperfect information (either inaccurate information or moral hazard) o ▪ Answer provides relevant examples of market for skills training	8 – 10
L2	▪ Undeveloped or some inaccuracies when explaining market failure due to o Positive externalities o Imperfect information (either inaccurate information or moral hazard) Or ▪ Answer only explains one of the above requirements ▪ Answer provides some examples of market for skills training	5 - 7
L1	▪ Inaccurate and minimal analysis or descriptive answer ▪ Answer is largely irrelevant	1 – 4

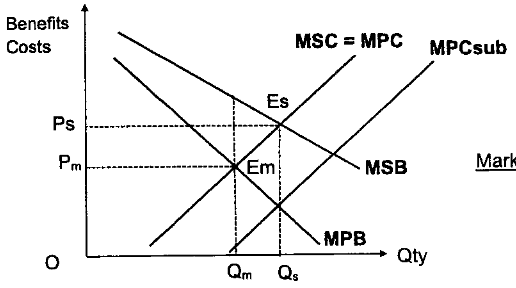
(b) Discuss the view that government intervention in the skills training market may create more problems than it solves. [15]

Question analysis	
Command Word	"Discuss" – requires student to analyse the problems that may be created when government intervene in the skills training market and evaluate the extent to which this is likely
Context	Market for skills training
Concept	Government intervention – government failure, unintended consequences of government intervention

Introduction:
Governments aim to maximize society's welfare. Given that the market for skills training fails due to positive externalities and imperfect information, the government has to intervene in order to bring the market to the social equilibrium level. However, due to government failure, this may result in problems and unintended consequences in the market.

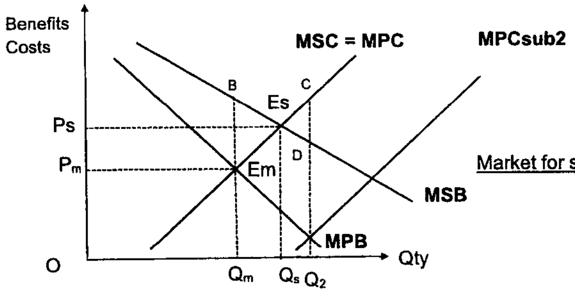
Body paragraph/Requirement 1: Government intervention may result in inefficient allocation of resources due to inaccurate information on amount to subsidize

To solve the underconsumption in the market for skills training, the government may intervene by implementing subsidies. Subsidies are pay-outs by government to defray the costs of consuming or producing skills training. This forces consumers to internalise the external benefits (amount of subsidy = MEB at Qs) lowering the MPC to MPCsub, where social equilibrium Qs is reached.



Market for skills training

However, governments may over or underestimate the value of external benefits, resulting in an over or under subsidy. This leads to an efficient allocation of resources. In the market for skills training, it is difficult to value of the external benefits, at is difficult to quantify exactly how much productivity of 3rd parties grow due to the consumption of skills training. Moreover, there are many factors which cause productivity growth in workers, making it challenging to attribute it as external benefits of skills training on 3rd parties alone. In addition, the quality of the skills training would also influence the extent of that benefit.
As a result, the government may over subsidize in the market where MPC increases to MPCsub2. This would cause the market to be at new equilibrium Q2. This means that the market is still not at socially efficient level at Qs and results in a new deadweight loss of triangle EsCD.



Market for skills training

Evaluation: New equilibrium point after intervention may still be better than without intervention/Government may adjust amount of subsidy with more data available over time.

Despite the fact that governments may not subsidize the right amount to reach social efficiency, society might still be better off than without the subsidy in the first place. In the example above, even though the government had oversubsidized and caused an overconsumption in the market, the deadweight loss is still smaller than before the subsidy was implemented (BEsEM vs EsCD). In addition, with more data about the market collected over time, governments can still adjust the level of intervention to reach closer to the social equilibrium point.

Body paragraph/Requirement 1: Government intervention may result in unintended consequences such as income inequality

Government intervention may also result in unintended consequences as they intervene in the market for skills training. For example, government joint provision or subsidies requires a huge budget. This could result in the government having a budget deficit, leading to opportunity costs. In Singapore, spending more on increasing the production and consumption of skills training could mean that there are lesser government revenue to implement policies to cope with the problems of an ageing population (e.g. health policies or elderly friendly infrastructure).

In the pre-amble, it also mentions that the level of subsidies for skills training are of different extents in different industries. Workers in the industries receiving fewer subsidies, may receive less training, resulting in bigger wage differences between income groups, worsening income inequality in Singapore.

Evaluation: Government can complement with other policies
In order to manage some of these unintended consequences, the government can complement them other policies. For example, the government can provide transfer payments to the lower income to limit the effects of income inequality. In addition, the government can use public education to help workers from sunset industries understand the importance of developing new skills in relevant areas and remain employable. As skills training would lead to more potential growth in Singapore due to the improvement in quality of resources, more tax revenue can be collected in the long run.

Summative conclusion:

In summary, government intervention in the market for skills training may potentially cause problems due to government failure. Therefore, it is important to perform market research and analyse the optimal extent of intervention in the market. In addition, with the development of technology and data collection, more precise estimates can be used to refine the level of intervention in the long run. To mitigate the unintended consequences of intervening in markets, governments should consider a myriad of policies to complement and support the market in allocating resources efficiently. Needless to say, much of this also depends on the competence and reliability of the government in addressing the market failure problem.

Knowledge, Application, Understanding, Analysis	
Level	**Description**

L3 (8 – 10m)	• Breadth
	  o Explains **two** negative consequences of government intervention in the market for skills training
	• Depth
	  o Rigorous and relevant economic analysis used to explain how government failure might result in an inefficient allocation of resource
	  o Rigorous and relevant economic analysis used to explain how unintended consequences might result due to government intervention.
	  o Well-contextualised to the market for skills training.

L2 (5 – 7m)	• Lacking any L3 criterions.
L1 (1 – 4m)	• Largely irrelevant response. • Largely descriptive response with non-existent or minimal or application of economic concepts or theories. • Serious and pervasive conceptual errors.

Level	Description
E3 (4 – 5m)	For an answer that builds on appropriate analysis to evaluate critically and arrives at **well-reasoned judgements*** and decisions using criteria. • Strong evaluative statements about the significance of the problem created by government intervention • Strong concluding paragraph • Strong reasoning to justify the judgement made (including the use of criteria) * in the context of this question, judgement made should be whether more problems are created than solved

E2 (2 – 3m)	• Provides an opinion accompanied with partial substantiation that:
	  o May not be entirely convincing.
	  o Seems overly reliant on assumptions that may not hold.
	  o Lacks relevance to the context of the question.
	• Evaluates at least one of the points covered in the body or provides some insightful opinion(s) but the overall stand in unclear.

E1 (1m)	• Unsupported evaluative statement(s). • Or unsubstantiated / generic conclusion • Or supported with very weak/incorrect/unrealistic/illogical reasoning (therefore making the judgement unconvincing)

3. Over the last two years, the food and beverage (F&B) industry in Singapore was among the hardest hit sectors amidst the poor business climate and manpower shortages.

(a) Explain the determinants of a rational F&B owner's decision on whether to increase the number of outlets in Singapore. [10]

(b) Discuss the extent to which firms in highly competitive industries are more vulnerable to closure than firms in less competitive industries during a recession. [15]

Question analysis	
Command Word	"Explain" – requires student to explain the different factors that guide decision making for a firm i.e benefits, costs, constraints, other information about market
Context	F and B
Concept	Decision-making framework, firms and decisions

<u>Introduction:</u>
A rational F&B owner will consider his/her self-interest in the decision, which will be based on the consideration of only the private cost and private benefit. The objective of the owner is to maximize and increase profits.

The factors that need to be considered are the additional benefit and additional costs of each additional outlet opened. An assumption in this answer is that the F&B owner has the financial resources to open additional outlets in Singapore.

<u>Body Paragraph/Requirement 1: Explain the marginal benefits in increasing the number of outlets in Singapore</u>

The additional benefits that an F&B owner would need to consider is the additional revenue can be earned from opening a new outlet in a new location. This additional revenue would be from the number of dishes that are sold in the new outlet. Some factors that would influence how much the additional revenue is are the number of potential patrons in the area. In areas which are densely populated, the potential to earn revenue is also higher. One thing to consider is also the economic climate. Due to the pandemic, incomes of citizens have fallen and may result in a fall in demand for F&B dining in general. Nonetheless, this depends on how income elastic the F&B outlet is. If the F&B outlet is income inelastic or negatively income elastic, the potential revenue earned could still increase.

<u>Body Paragraph/Requirement 2: Explain the costs (explicit and implicit costs) in increasing the number of outlets in Singapore</u>

The costs that the F&B owner needs to consider are the explicit and implicit costs. Explicit costs in the F&B market are such as the costs of ingredients, labour costs and infrastructure of the F&B outlet. Due to the supply disruptions and manpower constraints due to the pandemic and other economic challenges, the explicit costs would have been considered to increase. Implicit costs refer to the opportunity costs, which is the benefit of the next alternative forgone. As an F&B business owner, these funds to open an additional outlet could have been used for marketing its current outlet more aggressively to attract more customers to the current outlet. The opportunity costs in such an example could be the potential revenue that could have been earned due to the increase in marketing strategies.

<u>Final analysis on whether to open an additional outlet:</u>

The 2 main factors that the F&B owner needs to consider are the marginal revenue and the marginal costs. Profit can still increase by opening an additional outlet if the marginal revenue outweighs the marginal costs. The F&B owner will maximize his/her profit with the total number of outlets where marginal revenue = marginal costs.

Knowledge, Application, Understanding, Analysis		
L3	▪ Accurate and clear analysis of whether to open an additional outlet weighing the o Marginal revenue o Marginal costs ▪ Answer provides relevant examples of the F&B industry	**8 – 10**
L2	▪ Undeveloped or some inaccuracies of whether to open an additional outlet weighing the o Marginal revenue o Marginal costs Or ▪ Answer only explains one of the above requirements ▪ Answer provides some examples of the F&B industry	**5 - 7**
L1	▪ Inaccurate and minimal analysis or descriptive answer ▪ Answer is largely irrelevant	**1 – 4**

(b) Discuss the extent to which firms in highly competitive industries are more vulnerable to closure than firms in less competitive industries during a recession. [15]

Question analysis	
Command Word	"Discuss" – High level of market competition' suggests the market structure of monopolistic competition while the 'less competitive industries' refer to oligopolistic market. Students need to bear in mind the typical characteristics of firms in these markets, students will need to examine/ compare their vulnerability to closure during recession.
Context	Recession faced by oligopolistic vs monopolistic firms
Concept	Shut-down condition, factors determining survivability of firms

<u>Introduction: Identifying the different market structures and briefly explain how a recession may lead to closure</u>

During a recession, the demand for goods and services in the economy would decrease in general due to falling incomes. This may impact the revenue earned for firms and lead to a situation of subnormal profit.

When the demand for a firm's goods or services decrease, the average revenue earned would decrease. Assuming costs remains the same, firms would have to reassess if staying in the market is the optimal decision. If the firm is earning a subnormal profit, the firm would need to assess if it fulfils the shut-down condition in the SR and LR. If AR is less than the AVC the firm should shut down. If the AR is at least more than the AVC in the SR, it can minimize losses by staying in the market.

The characteristics of firms faced by high level of competition vs low levels of competition influence how likely they are to fulfil the shut-down condition. However, there are also other possible factors such as the type of good sold that need to be considered.

<u>Body paragraph/Requirement 1: Firms with higher levels competition are more likely to shut-down during a recession</u>

Firms faced by high level of competition are typically in monopolistic competition (MC). There are many small firms with weak market power as each firm contributes a very small proportion of industry's output/sales. Examples are markets in retailing and services. The size of firms tends to be small. They sell slightly differentiated goods and production or business is mainly labour intensive in nature. The weak market power is represented by a demand which is price elastic for their products. As MC firms have a low price setting, a small market share and a long run profit which is normal, they are more likely to be in a situation of a subnormal profit when demand decreases during a recession.

On the other hand, firms with less competitive markets are in oligopolistic market. There are only a few big firms, and each firm contributes a large proportion of the overall industry's output. Firms are typically capital intensive and it is because of the need for capital and technology intensity in production that leads to the growth of large firms in this industry. Each firm tends to have strong market power but they are interdependent in their business decisions due to the presence of the few of them only. Manufacturing and telecommunication industries are examples of oligopolistic markets. As oligopolies have a high price setting ability due to the high barriers to entry, a large market share and a long-run profit which is supernormal, they may still be earning a supernormal profit when demand decreases during a recession. Even if the drop in demand was significant, there are higher chances that the AR outweighs the AVC, leaving it less vulnerable to closure compared to an MC firm.

<u>Evaluation:</u>

While the characteristics of a firm in a highly competitive industries influence how likely they are to close down during a recession, the extent of their vulnerability may vary across different firms. Some MC firms may have successfully created niche markets or adjust their strategies accordingly to maintain profitability. Oligopolies may have less flexibility to adjust quickly to changing demands due to bureaucratic structures of a large firm.

That being said, oligopolistic firms tend to have large reserves due to extensive supernormal profits. These firms are more likely to absorb losses longer during a recession and they can also utilize reserves to embark on more aggressive marketing and longer run innovation initiatives to stem declining demand as opposed to MC firms.

<u>Body paragraph/Requirement 2: Vulnerability is also dependent on nature of income elasticity of demand for good/service, not necessarily the extent of competition in market</u>

Income elasticity of demand refers to the extent of change in demand arising from a change in income. With positive income elasticity, demand for goods will fall with falling income during recession.

There are monopolistically competitive markets in which firms are resilient during recession due to low income elasticity of demand. Hawker stall business in Singapore is one such example. Their food prices are relatively much lower than restaurants and they are located in high-density residential areas. While their revenue may fall during recession, it is likely to be insignificant due to low pricing and necessity in meal consumption of population. Moreover, some of these firms may produce goods or services which have a negative income elasticity, where the demand for goods will increase with falling income during recession. These could be sellers of inferior products such as unbranded t-shirts.

<u>Conclusion:</u>

In conclusion, firms operating in highly competitive industries are more prone to closing down during a recession because the likelihood of earning a subnormal profit is much higher due to having a small market share and normal profits to begin with. However, how vulnerable any firm is to shut-down also depends on how flexible they are to come out with new strategies and the amount of resources to do so. Other factors that need to be considered are also the nature of good that is being sold, brand loyalty and how the firm has positioned it in a time of recession making use of income elasticity of demand.

Knowledge, Application, Understanding, Analysis	
Level	**Description**
L3 (8 – 10m)	• Breadth o Explains **two factors** why either firms in more competitive industries or less competitive industries are more likely to close down during a recession • Depth o Rigorous and relevant economic analysis used to explain how characteristics of different market structures increase the vulnerability to shut down o Rigorous and relevant economic analysis used to explain how other factors such as type of good sold increase the vulnerability to shut down o Relevant examples to substantiate
L2 (5 – 7m)	• Lacking any L3 criterions.
L1 (1 – 4m)	• Largely irrelevant response. • Largely descriptive response with non-existent or minimal or application of economic concepts or theories. • Serious and pervasive conceptual errors.

Level	Description
E3 (4 – 5m)	For an answer that builds on appropriate analysis to evaluate critically and arrives at **well-reasoned judgements*** and decisions using criteria. • Strong evaluative statements about the extent of firms in high vs low competition are more likely to shut down • Strong concluding paragraph • Strong reasoning to justify the judgement made (including the use of criteria) * in the context of this question, judgement made should be whether firms in more competitive industries are likely to shut down during recession as compared to those in less competitive industries
E2 (2 – 3m)	• Provides an opinion accompanied with partial substantiation that: o May not be entirely convincing. o Seems overly reliant on assumptions that may not hold. o Lacks relevance to the context of the question. • Evaluates at least one of the points covered in the body or provides some insightful opinion(s) but the overall stand in unclear.
E1 (1m)	• Unsupported evaluative statement(s). • Or unsubstantiated / generic conclusion • Or supported with very weak/incorrect/unrealistic/illogical reasoning (therefore making the judgement unconvincing)

Suggested answers to JC2 Preliminary Exams H2 Paper 2

4. As part of the Singapore's economic restructuring plans, grants are provided to encourage companies to invest in more energy-efficient processes and adopt digital technologies. At the same time, large emitters will have to pay a higher carbon tax from 2024.

Adapted from The Straits Times, 28 Feb 2022

(a) Explain the link between a country's economic growth, unemployment and inflation. [10]

(b) Discuss the extent to which the above-mentioned economic plans will lead to a rise in living standards for Singapore. [15]

(a) Explain the link between a country's economic growth, unemployment and inflation. [10]

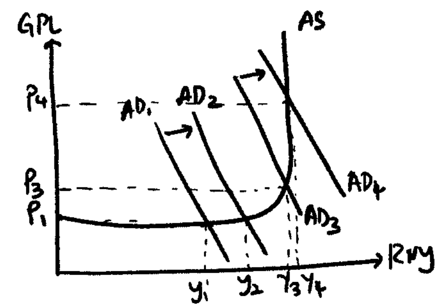
Command word	Explain the links – use economic reasoning (Students are to identify 2 causal links to explain)
Concepts	AD-AS
Context	Open context

Introduction:

- Explain the definitions for economic growth, unemployment and inflation.
- Economic growth → measured by changes in real national income / national output. National output is the total goods and services produced within a geographical boundary of a country, within a period of time. Aim is to keep economic growth sustainable and inclusive over time.
- Unemployment is the proportion of labour force that is willing and able to work but is unemployed.
- Inflation measures the changes in general price level and the aim is to keep inflation rate low and stable.

Requirement 1: Higher economic growth is often associated with lower unemployment.

- Assuming the country is **not producing near full capacity**, a higher economic growth refers to the increase in production of goods and services. This is usually due to higher aggregate demand.
- Example: An increase in consumers' and investors' confidence can boost C and I of AD. This confidence can come from higher expected future income and higher returns on investments for firms.
- Higher AD as seen from AD1 to AD2 → firms **react by producing more goods and services seen by increase in RNY from Y1 to Y2. To produce more goods and services, the firms will hence utilize more available resources** (FOPs) such as labour. As more labour is utilized, the unemployment could fall.
- Hence, a higher economic growth (Y1 to Y2) due to higher AD can lead to lower unemployment.



Requirement 2: Higher economic growth with lower unemployment can then lead to higher inflation.

- As AD continues to increase from AD3 to AD4, but **not accompanied with a corresponding increase in AS** (or the growth in AD is much faster than the expansion of AS), the available resources will get more limited.
- As firms continue to expand production, the **competition for the FOPs is higher**, leading to **higher cost of production** for most goods and services. As a result, the firms **pass on the higher COP** in terms of **higher general price level** as seen by P3 to P4, leading to higher inflation for the country.

(Note to students: other acceptable responses include:

1) **Lower unN can lead to higher EG and hence, higher inflation**
2) **Higher inflation can lead to slower EG and higher unN)**

Conclusion:

Overall, the macroeconomic objectives of a country are often inter-related. It is important that a country puts in place policies to achieve its various macroeconomic objectives, so as to improve the standard of living of its people.

Level	Descriptors	Marks
L3	**Any 2 links** are well-analysed (e.g. economic growth and unN, economic growth and inflation) **Well-analysed** includes:	8-10

	- Correct start and end point - Correct use of AD-AS framework - Diagram(s) is/are used in explanation - No major conceptual errors	
L2	**Only** one link is well-analysed or Two links are somewhat explained but **not** well-analysed Explanation includes: - Some gaps in explanations - Inconsistent / inaccurate use of concepts - Diagrams drawn but are not used in explanations	5-7
L1	Major conceptual inaccuracies Irrelevant use of concepts	1-4

(b) Discuss the extent to which the above-mentioned economic plans will lead to a rise in living standards for Singapore. [15]

Command word	Discuss the extent: Balanced argument – Start point: event / triggers End point: SOL of Singapore Extent: how it may lead to rise, how it may not and a summative conclusion provided on the overall extent
Concepts	Standard of living AD-AS
Context	Singapore

Introduction

Define living standards and its respective measurements:

- Material SOL measured by real GDP per capita – purchasing power
- Non-material SOL measured by various indicators such as pollution index, gini coefficient, literacy rate and life expectancy rate.

What do the economic plans entail?

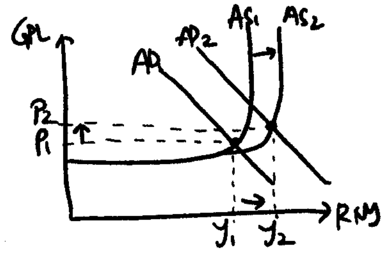
- More funding to restructure economy including more investment in carbon-lite production process, adopt digital technologies
- Higher carbon tax

Requirement 1: The economic plans can lead to a rise in SOL for Singapore in terms of higher economic growth, lower GPL and hence, better access to education and healthcare

Grants from the govt to encourage more innovation and adoption of digital technologies can be used to **absorb part of the firms' investment costs** → lower costs for investments means likely to **have greater rates of returns to investments** → increase investment spending (I) → higher AD as it increases from AD1 to AD2 → actual growth

Increase LRAS from AS1 to AS2 from higher investment spending (I) and investing in technology ⇒ quantity and quality of resources improve → potential growth.

As the **country experienced both actual and potential growth → RNY increases from Y1 to Y2.** As the firms get more productive, the increase in output is likely to be greater than the increase in the total cost, hence the **average cost per unit of output produced is lower →** which means the price of each output can be kept low and stable, seen by the **smaller increase in price from P1 to P2.**



With higher RNY from Y1 to Y2 → more production of output → greater job opportunities → **reduce demand-deficient unN** → more people with jobs and earning income higher national income, **coupled with smaller increase in GPL → greater purchasing power →** better material SOL

With more income and higher purchasing power → able to access **better quality education / healthcare → improve literacy rate and reduce mortality rate →** improve non-material SOL

<u>Requirement 2: May not lead to a rise in SOL for selected workers and part of the economy due to structural unN and higher COP for some companies – short term cost-push inflation; rising income inequality</u>

As economy restructure towards the use of more digital technologies → rely on these rather than manual labour for the production → **lesser demand for the low-skilled workers** as their jobs are being replaced by the technology (e.g. cashiers)

As they are laid off, they also lack the skills to be employed in the available jobs as they are all requiring specific higher skills set → **Structural unN for some (low-skilled workers)** as industry transforms to adopt more digital solutions.

(Part of Evaluation) *(In-para ev: this can be worse off for **certain sectors that can transform** themselves away from manual labour towards digitalization → e.g. banking/finance/retail sectors → the no. of employees laid off from this sector could be higher compared to the other sectors.)*

For these group of low-skilled workers → they do not receive the benefits of economic growth as they will see their **wages falling** (due to lower demand) and hence, if the fall in wage growth is higher than the fall in GPL → they face lower purchasing power → lower m. SOL

At the same time, higher demand for high skilled workers → higher wages for this groups of workers → poor gets poorer, rich gets richer → **rising income inequality → non-material SOL is worse off for Singapore**

Higher carbon tax ⇒ higher COP ⇒ especially for those who are more reliant on coal/fuel, e.g. electricity generators companies → **pass on the carbon tax as higher prices of these goods such as electricity prices, transport prices** etc → higher prices for these essential goods.

(Part of Evaluation) *(In-para ev: lower-income families will be more affected by rising cost of living, as they tend to have a higher proportion of their income spent on transport, electricity and other necessities.* **Coupled with the falling income for the low-skilled workers →** they may face even lower purchasing power. ***High-income earners** are **less impacted** due to their higher income growth, as long as it is higher than the rise in prices for these goods.)*

(Part of Evaluation) **<u>Overall extent:</u>**

Whether there is an overall increase in standard of livings is depending on:

1) whether / what the govt is doing to **overcome the undesirable effects**: cash vouchers to offset the rising GPL, upskilling/ retraining to help the low-skilled workers and expand productive capacity. Government could make use of the extra revenue collected from the carbon tax to fund these expenditures.

2) **Time frame:**
- **Short-run in the transition phase:** for certain sectors e.g. service industry that relies mostly on manual labour is likely to see a drop in SOL for its workers
- **Long run** when the restructuring is **successful** coupled with the intervention by government (e.g. use tax revenue collected to subsidise labour training), should lead to overall higher SOL for all in the long term.

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

[redacted]

Level	Descriptors	Marks
L3	**Both requirements** are well-analysed Either 1) may lead to AND may <u>**not**</u> lead to **OR** 2) <u>**improve both**</u> M. and non-M. SOL) **Well-analysed** includes: - Correct start and end point - Correct use of AD-AS framework - Diagram(s) is/are used in explanation - No major conceptual errors	**8-10**

	Answers is applied to Singapore's context and preamble	
L2	**Only** one requirement is well-analysed or Two links are somewhat explained but **not** well-analysed Cursory explanations refer to: - Some gaps in explanations - Inconsistent / inaccurate use of concepts - Diagrams drawn but are not used in explanations	**5-7**
L1	Major conceptual inaccuracies Irrelevant use of concepts	**1-4**
Evaluation		
E3	Both requirements are well evaluated and a summative conclusion on the overall extent is provided	**4-5**
E2	Evaluating both requirements but only one requirement is supported with reasoning AND NO summative conclusion on the overall extent is provided.	**2-3**
E1	A brief attempt at evaluating but no supporting reasons given	**1**

Suggested Response for Essay Question 5

5. When faced with negative economic growth, governments often turn to fiscal stimulus to support their economy. Some governments provide transfer payments such as cash vouchers, while others spend on building infrastructures.

(a) Explain **one** possible demand-side cause and **one** possible supply-side cause of falling national output for a country. [10]

(b) Discuss whether transfer payments are the most appropriate policy tool to overcome negative economic growth for all economies. [15]

(a) Explain one possible demand-side cause and one possible supply-side cause of falling national output for a country. [10]

Command word	Explain – use economic reasoning Start point: AD-AS causes End point: falling national output
Concepts	AD-AS
Context	Open context

<u>Introduction</u>: Framing – unpacking slowdown in economic growth rate as well as the challenges facing Singapore

- National output is measured using real Gross Domestic Product. It is the monetary value of goods and services produced in a country, in a given period of time.
- Falling national output suggests negative economic growth rate
- It can be due to changes in the aggregate demand which measures the total demand of all goods and services by economic agents within a country at each price level, as well as aggregate supply which shows the total output of goods and services (national output) that all firms in a country could produce at each general price level, given the current level of resources and technology.

<u>Requirement 1: Explaining how demand-side factors could have caused a drop in national output.</u>

<u>Changes in domestic government policies (e.g. tax rates or interest rates hikes)</u>

Government may implement contractionary monetary policies such as raising interest rates. Higher i/r leads to higher cost of borrowing and greater returns to savings. This means that households may be more inclined to save, rather than spend, **leading to a fall in consumption expenditure (C) → lower AD**

At the same time, a higher interest rates could lead to previously profitable investments to be less profitable now since a greater proportion of revenue needs to be paid as higher i/r. This may cause firms to invest less → **lower investment expenditure (I) → lower AD.**

<u>Weak global demand / foreign countries' govt policies</u>

Globally, countries are still grappling with the COVID-19 virus and are slow to recover in terms of tourism and production. Countries like the United States of America (USA) are also suffering from a higher unN rate due to massive job losses → poorer income growth

Weaker income growth in foreigners → less likely for foreigners to spend on imports (assume M is positive XED) → this would **affect a country (trading partner)'s export revenue** significantly (X) → fall in AD.

The fall in AD will see **firms cutting back on production** in reaction to the falling revenue earned. As such, they **cut back on hiring of workers** and even retrench workers to cut losses → higher unN → **lower demand for workers hence lower wages → further reduce** consumption spending, AD falls even more and the reverse multiplier process will continue until no further reduction in C. This means that the **national output will fall by a multiplied amount.**

<u>Requirement 2: Explaining how supply-side factors could have caused a drop in national output</u>

Supply-chain disruptions leading to rising cost of production or/and low productivity improvement

Supply-chain disruptions in terms of labour markets as well as raw materials → higher unit COP → lower SRAS

Pass on higher costs to consumers in terms of higher GPL

Cuts back production as they have difficulties securing labour and essential FOPs like food, commodities and even oil.

<u>Conclusion</u>

- Falling national output can be caused by a drop in both AD and AS, often time, these factors are inter-related.
- Falling national output have severe implications on other macro objectives such as unemployment and balance of trade position, hence it is important that governments put in place policies to reduce the fall.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	• **Well-developed analysis** on **both** the demand **and** supply factors that caused a fall in national output including: - Good use and explanation of AD/AS as conceptual framework - No major inaccuracies - Content is relevant	8-10

	- Start and end point is clearly explained, no missing elaboration.	
L2	• **Developed but one-sided** explanation on **either** the demand **or** supply factors that caused a fall in national output. Or • **Under-developed** analysis on **both** the demand **and** supply factors: - Conceptual framework of AD/AS is used but there are several inaccuracies - start and end point not entirely clear, some incoherence in the answers	5-7
L1	• Descriptive answer without any conceptual framework • Answer contains many inaccuracies.	1-4

(b) Discuss whether transfer payments are the most appropriate policy tool to overcome negative economic growth for all economies. [15]

Command word	Discuss whether – use economic reasoning to provide balanced argument on the **appropriateness** of the use of transfer payments to increase RNY across **all economies** Start point: transfer payments End point: raise national output
Concepts	AD-AS
Context	Open context – all economies To consider the differing characteristics of the economies

Introduction:

Define what is transfer payments. Cash vouchers, subsidies that are not linked to economic transactions, but part of government's planned expenditure (part of the government budget)

When economic output is falling → country is in recession, loss of jobs and a possible fall in national and household income → worsens standard of living, hence the government needs to implement policies to help overcome this.

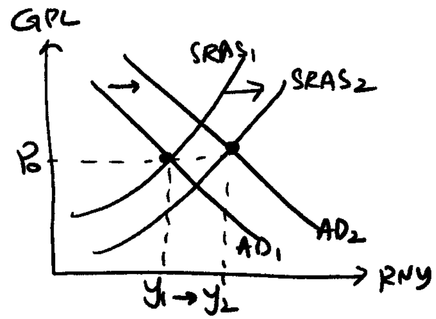
Requirement 1: Transfer payments can be appropriate for some economies to increase real national output

Transfer payments can also include subsidies to firms to **offset the rising unit cost of production** (e.g. Wage Supplement Schemes) → **lowering unit COP → increase SRAS from SRAS1 to SRAS2** and hence, increase RNY since firms are able to produce more with a lower unit COP.

Transfer payments can also include **grants on innovation** (e.g. to offset firms' innovation/ R&D costs) → greater ability to earn more profits since costs is lower → higher ability to invest → I increases

Transfer payments: **subsidies to households** (e.g. GST vouchers , Rediscovery Vouchers, CDC vouchers) → greater ability to consume as **the out-of-pocket expenses is lower** → higher C

(multiplier process●)Both the increase in C and I can lead to an increase in AD, from AD1 to AD2 → firms react by producing more → increase in real national income → as they require more FOPs to increase production, they pay more for the FOPs → leading to higher income earned by FOPs → stimulate further induced consumption → AD increase further and hence, RNY increase further. This multiplier process will lead to a multiplied increase in RNY from the increase in transfer payments by government.



(Part of Evaluation) This policy tool will be **appropriate** for:

1) **Countries with larger multiplier size** → RNY increase by a **bigger** amount → **faster** to get out of recession and government **does not need to spend as much** to raise RNY sufficiently. Countries with small multiplier size will need to spend more on transfer payments in order to raise the RNY to the same extent.

2) **Countries whose government budget in a healthy surplus** → transfer payments require government budget → without the budget, governments may have to borrow to finance the transfer payments → leading to accumulation of public debt, which means that any economic growth benefits are likely reduced as part of it has to go towards repaying the debt. (Accepted response include crowding out effects too → negate by the fall in C and I due to higher interest rates)

(Part of Evaluation) **Transition / Limitations of Transfer Payments linking it to its appropriateness:**

However, the use of transfer payments requires substantial amount of government budgets and is likely to be **unsustainable in the future**, without raising direct taxes to fund this spending. Therefore, **regardless of the type of economies, the use of transfer payments is unlikely to be the only policy tool that is appropriate to use for all economies.**

At the same time, for countries with smaller multiplier size due to their relative openness to trade and/or with less government budget, transfer payments are even less appropriate, hence other expansionary tools such as exchange rates or interest rates may be more appropriate.

(Note to students, the limitations of the policy need to be associated with the appropriateness of the policy, and marks are awarded based on the linkages, rather than stating the limitations)

Requirement 2: Other alternative policy tools such the use of exchange rates may be more appropriate for some economies.

Alternative would be to **depreciate the currency**, in order to raise RNY

Depreciation → **cheaper X prices** in terms of foreign currencies and more expensive M prices in terms of local currency → **assume ML condition holds**, the qty demanded for X will increase more than proportionately while qty demanded for M will drop more than proportionately → (X-M) increase and hence, increase AD.

(OR: to reduce interest rates → lower COB and higher returns to savings → stimulate C and I since the rates of returns to investments likely to be higher with lower COB for firms and households have greater ability to return the loans with lower COB → AD increases, and hence RNY.)

With an increase in AD → RNY will increase by a multiplied amount via the multiplier process.

(Part of Evaluation) The alternative policy will be more appropriate for:

1) **more open economies** → tend to be **more trade reliant** → rely on external markets to grow economy → % of (X-M) as GDP is relatively higher than C and I (as a percentage of GDP). This means that the increase in (X-M) is able to increase AD more and hence RNY more and faster.

2) Countries **whose RNY falling is due to weak external demand** → targeting the root cause of negative economic growth

Note: Supply-side policies may not be so suitable in this case as it tends to take a longer time to see effects. In cases where economic growth is negative → this is a relatively severe macro issue, cannot afford to implement such a long term policy.

(Part of Evaluation) **Limitations of Exchange Rate depreciation and link to appropriateness of the policy**

(Note to students, the limitations of the policy need to be associated with the appropriateness of the policy, and marks are awarded based on the linkages, rather than stating the limitations)

However, a depreciation in the currency may not be so feasible for economies that rely on external imports for FOPs. The cheaper currency can raise its unit COP, which reduces the exports competitiveness and hence, the increase in RNY may not be so significant.

Overall conclusion: (note to students: limitations of transfer payments can be used in the conclusion)

Transfer payments alone cannot be the best policy tool for all economies as it is not sustainable in the long term and different economies face different constraints and different characteristics. Furthermore, transfer payments do not guarantee that AD will surely increase as firms and households may be hit by negative pessimism, which limits how much they invest and spend respectively. That said, it will still be an effective and appropriate tool for countries in the **short term**, especially for those government budgets that are in **surplus** and have a relatively higher domestic consumption and investment as a proportion of their GDP.

However, **open economies** whose trade component plays a bigger role, manipulating the exchange rates can be a more appropriate policy tool as it is able to achieve the increase in RNY faster.

In most countries, governments would rather **increase more components of the AD as much as possible**, hence a more effective and appropriate approach will be to **combine both** transfer payments and the other expansionary monetary policy tools to ensure that the national output can be increased **faster. In the long term,** governments also need to implement supply-side policies once the AD and SRAS start to increase, to ensure that the economic growth is sustained.

Level	Descriptors	Marks
L3	**Both requirements well-analysed** **1. how transfer payments can be appropriate** to increase RNY **and** **2. how an alternative policy may be more appropriate** to increase RNY **Well-analysed** includes: - Correct start and end point (policies – to overcome falling national output) - Correct use of AD-AS framework - Diagram(s) is/are used in explanation - No major conceptual errors	8-10
L2	**Only** one requirement is well-analysed or Two links are somewhat explained but **not** well-analysed Explanation includes: - Some gaps in explanations - Inconsistent / inaccurate use of concepts - Diagrams drawn but are not used in explanation	5-7
L1	Major conceptual inaccuracies Irrelevant use of concepts	1-4
Evaluation		
E3	Both transfer payments and alternative policy are evaluated (i.e. appropriateness are considered using limitations and/or context of countries) AND a summative conclusion / recommendation is provided on both requirements.	4-5
E2	Both transfer payments and alternative policy are evaluated (i.e. appropriateness are considered using limitations and/or context of countries) but **no** summative conclusion / recommendation is provided.	2-3

E1	A brief attempt at evaluating the policy but stated, rather than explained No comparison made at all	1

Suggested Response for Essay Question 6

6. To ensure that international trade remains smooth, open and reliable, one must resist the temptation to turn inwards, protectionism is not viable, especially for small states.

(a) Explain how a country's balance of trade may worsen over time. [10]

(b) Discuss the view that the pursuit of a healthy trade balance leaves no room for the use of protectionism. [15]

(a) Explain how a country's balance of trade may worsen over time. [10]

Command word	Explain – use economic reasoning Start point: factors affecting X and M End point: worsen BOT
Concepts	Macroeconomic concepts
Context	Open context

Introduction:

- Defining balance of trade: X-revenue minus M-spending on all goods and services (visible and invisible trade balances)
- Worsen BOT: falling X-revenue and rising M-spending
- Causes of the worsening can be internal or externally driven.

Students are expected to give at least 2 factors, of which at least one factor must link to both X-revenue reduction and M-spending increasing. The factors can include either of the following:

1) <u>Poorer foreign economic growth or national income</u>

The changes in relative economic growth rates across countries may lead to changes in demand for the country's exports or its demand for imports.

For example, a fall in national income of a trading partner's economy, relative to domestic would lower the foreign residents' purchasing power, hence **reducing their demand for imports**. This could **reduce the X-revenue of the domestic country**. The **fall will be more significant if the trading volume is larger and the country is a close trading partner**. Therefore, with the fall in X-revenue relative to the import-spending, this may worsen a country's BOT.

2) <u>Exchange rate</u>

Appreciation of the country's exchange rate will make the **country's exports become more expensive in its trading partner's currency.** At the same time, its imports are relatively cheaper in its own domestic currency. **If demand for both export and import are price elastic,** the higher price of the country's exports (in foreign currency) will **lower the country's export revenue** while its cheaper imports (in its domestic currency) will increase its import expenditure, leading to worsening of BOT.

3) <u>Relative inflation rates</u>

If domestic costs of a country rise faster than costs abroad, its **exports will be relatively more expensive than before and imports relatively cheaper.** Assuming that demand for exports and imports are both price elastic, the increase in domestic costs will lead to a more than proportionate fall in the quantity demanded for exports, hence, reducing X-revenue. At the same time, its **domestic residents may turn towards cheaper imports, leading to higher demand for imports, increasing M-spending.** The fall in X and rise in M will lead to a worsening of the BOT.

4) Loss of comparative advantage due to lack of technological progression

Countries which do not invest in expanding its production capacity may face higher production costs, especially if domestic resources are tight (e.g. labour market). This could mean **losing our relatively lower opportunity cost** in the production of some goods. This will worsen when other countries invest in building their infrastructures and R&D capabilities → allowing them to enjoy relatively lower opp cost (than us) in the production of **the same good.**

Therefore, the domestic country loses its CA → becomes an importer rather than exports.

Foreign households buy less from the domestic country (due to more expensive prices) and local households also buy more from cheaper import sources → X-revenue falls due to weaker DD and higher M-spending due to higher demand.

(X – M) drops and worsens.

Conclusion

Causes of BOT worsening can be due to many domestic or external factors or both. BOT worsening can lead to other macroeconomic implications such as economic growth and unemployment issues. Hence, it is important that government put in place policies to improve the BOT.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	• **2 factors are well-analysed to account for the worsening of BOT** • Must explain the impact on <u>both</u> X-revenue and M-spending to qualify for 9m and 10m - Good use of economic concepts and tools of analysis (e.g. AD-AS) - No major inaccuracies - Content is relevant - Start and end point is clearly explained, no missing elaboration.	8-10
L2	• **Developed but one-sided** explanation on **either** X-revenue **or** M-spending can worsen the BOT Or • **Under-developed** analysis on **both** the X-revenue **and** M-spending factors: - Use of economic concepts but contains several inaccuracies	5-7

	- start and end point not entirely clear, some incoherence in the answers	
L1	• Descriptive answer without any conceptual framework • Answer contains many inaccuracies.	1-4

(b) Discuss the view that the pursuit of a healthy trade balance leaves no room for the use of protectionism. [15]

Command word	Discuss – balanced argument Req 1: how the use of protectionism can help to improve a country's trade balance Req 2: How the use of protectionism may not help Start point: protectionistic tools End point: Balance of Trade
Concepts	Protectionism, BOT
Context	Open context – contextualise by considering different economies' characteristics

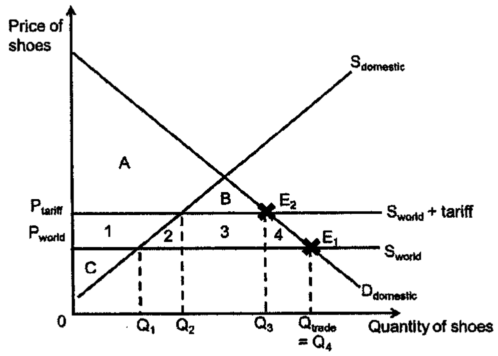
Introduction

- Defining protectionism: use of tariffs, export subsidies, import quota
- Aim: to switch spending on imports to domestic goods and increase competitiveness of domestic exports → Improve balance of trade
- **Whether there is room for the use depends on 1) causes of worsening BOT and 2) country's characteristics and 3) time.**

Requirement 1: <u>How the use of protectionism can help to improve a country's trade balance</u>

Protectionism such as a tariff may help to raise import prices and hence, reducing the spending on foreign imports and hence, improving balance of trade. Tariffs is a tax that is imposed on imported goods. The imported good will now face a higher selling price due to the imported tax, as seen from how the supply curve shifted upwards by the amount of the tax, from Sworld to Sworld + tariffs.

Figure 4: Market for Shoes with Tariffs



After the tariff is imposed, the imported good prices will therefore increase from P_{world} to P_{tariff}. **Importers will now pay a higher price of P_{tariff} for imports.** At this higher price, **domestic quantity demanded for shoes falls from Q_4 to Q_3.** At the same time, **more domestic firms are willing and able to sell shoes, and domestic production increases from Q_1 to Q_2.** As a result, the **volume of imports will fall** from Q_1-Q_4 to Q_2-Q_3. So, assuming that the **PED for imports is more than 1,** the higher price of imports lead to a **more than proportionate fall** in qty demanded for M ➔ **M spending will fall.** Ceteris paribus, **BOT improved** with the fall in M-spending.

The use of import tariffs, coupled with exports subsidies can further improve a country's BOT. The government collects the tax revenue from tariffs to use to subsidise the exports' production.

Export subsidies ➔ **reduce the cost of production** for the exported goods and services ➔ **price** of these **exports fall** ➔ assuming **PEDx > 1**, the rise in Qty demanded for these X is **more than proportionate** ➔ X-revenue increase

Higher X and lower M improves BOT position.

Requirement 2: How the use of protectionism may not be able to improve a country's trade balance and/or bring about unintended consequences & hence no room for the use of protectionism

(Note to markers: Should students interpret R2 to be the use of other policy tools such as Supply-side policies / FTAs to improve BOT, WITHOUT addressing why there is no room for use of protectionism ➔ this is counted as a Knowledge Answer (L1), max of L2 5m)

Imposing protectionism such as import tariffs may bring about unintended consequences to the domestic economy:

The tariffs have also resulted in a welfare loss to society.

- With tariffs imposed, domestic consumers now consume fewer shoes than before (Q_3 instead of Q_4), so there is a welfare loss of area 4 due to the loss of consumer surplus from lower consumption.
- Although domestic producers are able to produce and sell more shoes as seen from Q_1-Q_2 pairs of shoes, these domestic firms are likely to be **relatively more inefficient** since they **do not have the comparative advantage** in the specialization of this good in the first place. Therefore, there is a welfare loss of area 2 due to this inefficiency.

Protectionism may not be effective when the reason for worsening BOT is the loss in comparative advantage:

- A worsening BOT position can be due to a loss in CA either from higher X price or poorer quality of X (e.g. shrinking labour force results in higher wages and hence, higher prices).
- Hence, even with import tariffs and exports subsidies ➔ it may not be enough to bring down the price of domestic goods and X sufficiently enough and so, domestic consumers may not find domestic products cheaper or foreigners may not be attracted to our exports ➔ does not necessarily improve the competitiveness of the exports and BOT position.
- Hence **in the long term, protectionism is at best a symptomatic relief but not a cure.**

For countries like Singapore that rely on imported FOPs, protectionism can worsen our BOT position instead.

- **PEDm < 1**, tariffs will in fact **increase M-spending** as the qty demanded fall with a price increase is **less** than proportionate.
- Since M-spending increases, assuming that the X-revenue cannot increase enough to offset the higher M-spending, it could **worsen BOT** instead. It is likely that our X prices can increase as well since our COP is now higher with the use of more expensive FOPs.
- Furthermore, higher COP translates to higher cost of living for these countries, SRAS falls, lower RNY coupled with higher GPL ➔ **slower economic growth & cost-push inflation as the negative unintended consequence.**

When protectionism invites retaliation from the foreign trading partners:

- Trading partners can also impose similar tariffs on goods and services
- Our exports can also become more expensive when tariffs are imposed
- The X-revenue may not increase, and could fall **even more than the fall in import spending** ➔ BOT does not necessarily improve and could in fact worsen.

When the effect of beggar-thy-neighbour takes place:

- By reducing the import-spending to improve our BOT position also means that trading partners' BOT position worsens ➔ reduce in their national income ➔ less ability to spend on our exports ➔ X-revenue could fall **even more than the fall in import spending** ➔ BOT does not necessarily improve and could in fact worsen.

(Part of Evaluation) **Overall conclusion (to include the possible use of other more effective policy to improve BOT):**

Protectionism is likely **only useful for the short term and for bigger countries** with the capacity to produce self-sufficiently. With less demand for imports, the **domestic production can be increased** to make up for the shortages caused by fewer imports. At the same time, cheaper X prices can attract more foreigners to buy the exports. However, using subsidies to lower X prices does not always guarantee higher X-revenue, especially if the government budget is tight and if the quality of X is poorer than competitors.

Therefore, for countries like Singapore that **rely heavily on trade for growth and resources,** protectionism **will not** work. Instead, to ensure **sustained competitiveness** in the globalized world, these governments should focus on **long term strategy** such as spending on **improving labour productivity,** so as **to lower unit cost of production and ensure a more sustainable improvement in the exports' competitiveness.** At the same time, smaller nations should always **embrace free trade and diversifying import sources,** so as to ensure continuous growth in X-revenue and competitive import prices. **Resorting to protectionism will bring more harm than good to most economies, hence there is indeed little room for the use of protectionism to improve a country's balance of trade.**

Level	Descriptors	Marks
L3	Both requirements are well analysed: 1. how protectionism can help with trade balance and 2. how protectionism may worsen trade balance and/or have unintended economic consequences *(Other acceptable response include:* *Req 1: how protectionism can reduce M spending* *Req 2: how protectionism can increase X-revenue* *Evaluation: how protectionism can worsen M-spending and/or X-revenue for some)* **Well-analysed** includes: - Correct start and end point (protectionism solving trade imbalances) - Correct use of AD-AS framework - Diagram(s) is/are used in explanation - No major conceptual errors	**8-10**
L2	**Only** one requirement is well-analysed or Both requirements are **somewhat explained** but <u>**not**</u> well-analysed Explanation includes: - Some gaps in explanations - Inconsistent / inaccurate use of concepts - Diagrams drawn but are not used in explanation	**5-7**
L1	Major conceptual inaccuracies Irrelevant use of concepts	**1-4**
Evaluation		
E3	Both requirements are considered and evaluated AND a summative conclusion is provided, considering the context of different economies and hence, the role protectionism plays.	**4-5**
E2	Both requirements are considered and evaluated (the degree / extent) but <u>no</u> overall summative conclusion / recommendation provided (e.g. on whether there is any room for the use of protectionism)	**2-3**
E1	A brief attempt at considering the effectiveness of protectionism in pursuing healthy BOT	**1**