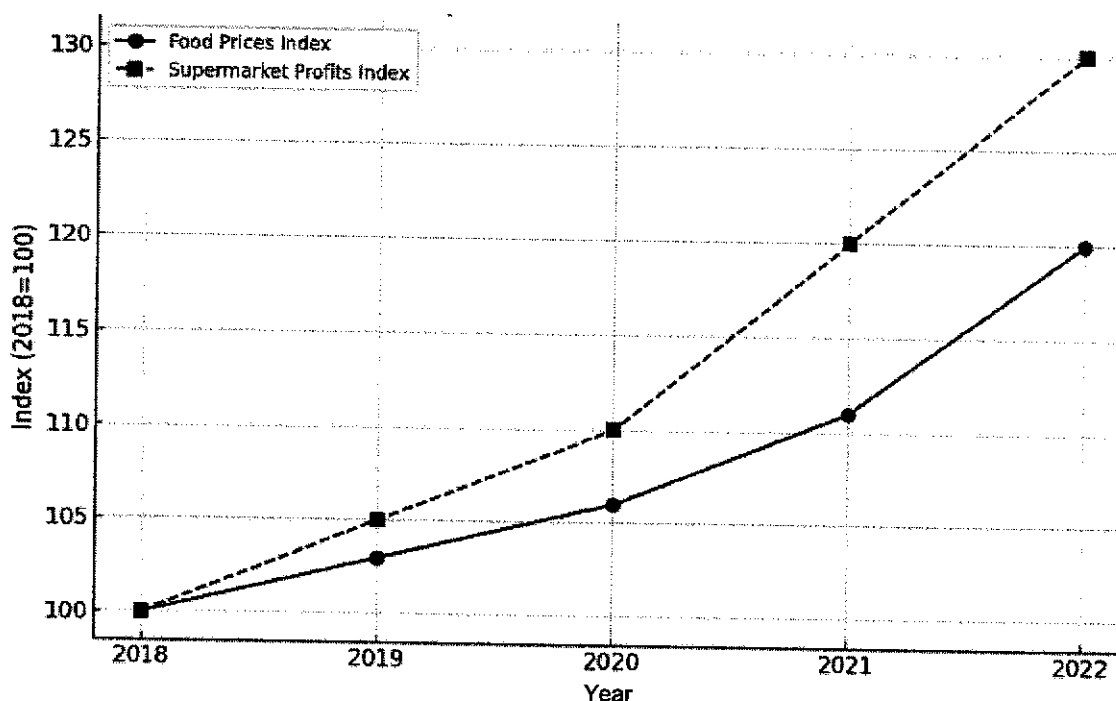


Adapted from 2024 VJC Prelims Paper 1

Question 1: Food! We need it but can we pay for it?

Figure 1: Food prices and supermarket profits in Australia, 2018 – 2022 (2018 = 100)



Source: Australia Bureau of Statistics

### Extract 1: Is your trolley getting lighter?

It is no surprise that the cost of filling up your trolley costs more in 2022 than it did three years ago. According to official numbers from the Consumer Price Index, the prices of groceries have risen by 4.2 per cent between December 2019 and December 2021 alone.

The chairman of SPC – one of Australia’s biggest food manufacturers – also warned that the cost of all supermarket products would increase by 10 to 20 per cent. He said the price increases were due to a “double whammy” of disrupted global supply chain issues, as well as food production and rising oil costs. “You’ve got the war between Russia and Ukraine, which impacted the oil, and means the oil price has gone up ... and impacted the food because Ukraine used to produce a lot of the food that went into Europe” he continued. “In a globalised economy, when you have a war in Europe like this, it is bound to have an impact on the rest of the planet.”

Source: [www.news.com.au](http://www.news.com.au), 4 April 2022

### Extract 2: Breaking the breadbasket

Ukraine has long been a land of natural bounty, not just for its own population but also for people around the world. Products made from its wheat, corn and sunflowers can be found in markets and kitchens from Estonia to Egypt. Its farmland is cheaper to run than that in Europe and the US, and its deep seaports have given it easy access to international markets. The combination has allowed Ukraine to become a key exporter of agricultural commodities, and to be described as the breadbasket of Europe.

Now the basket has been overturned. With swaths of farmland turning into battlefields and Ukraine's road and port infrastructure being attacked by Russian missiles and bombs, the country's food supply chain has stalled.

The war has also left a global supply gap. Ukraine accounts for 8 per cent of global wheat exports, 13 per cent of corn flows, and more than one third of the sunflower oil trade. Normally the country exports 40 to 50 million tonnes of cereals every year, but Russia's invasion has meant export volumes in March were a quarter of those in February, according to the agriculture ministry.

*Source: The Financial Times, 27 April 2022*

### **Extract 3: Two titans down under**

Coles and Woolworths are household supermarket names in Australia. Over the years, this concentrated supermarket sector has faced criticism and scrutiny, and it has been reaching fever pitch again in recent months, with a number of investigations underway into their business practices during the current cost-of-living crisis.

Starting in the 1950s, Coles and Woolworths began to buy up the competition, in an intense period of growth leading to a combined share of 31 per cent of the grocery market in the 1960s, peaking at 65 per cent in 2022. In 2008, the Australian Competition and Consumer Commission had an inquiry into the competitiveness of retail prices for standard groceries. It found that grocery retailing in Australia was workably competitive. But there were several factors that were limiting the level of price competition. One of these was the exclusive lease agreements that Coles and Woolworths were able to obtain in shopping centres, which was making it very hard for new players to secure sites.

German chain Kaufland backed out of their plans to open stores at the last minute. One of the reasons Kaufland pulled out was because major suppliers – especially in fresh food – refused to supply them.

*Source: Adapted from Australian Broadcasting Corporation, 22 February 2024*

### **Extract 4: Your prices are too high!**

Supermarkets like Coles and Woolworths have not only used the pandemic and recent inflationary period to sell more goods, but also profit more from each sale, expanding their margins. While the problem may exist across industries, it is exacerbated in sectors with muted competition, such as supermarkets, because they have fewer rivals ready to undercut them.

When products and services rise in price by amounts outpacing any additional costs businesses face, there is a good chance that profiteering – the practice of making or seeking to make an excessive or unfair profit – is happening. This is especially concerning in uncompetitive sectors, such as supermarkets, where there is no increased demand for a particular product or service. Rod Sims, the former head of the competition watchdog, said Australia's big supermarkets have likely taken advantage of limited competition and used their market power to increase prices higher than necessary.

Coles and Woolworths deny they are profiteering, and say it is actually improved productivity that has led to bigger profits. Specifically, Coles cited cost savings such as faster checkouts and distribution centre improvements, while Woolworths has said it improved the way it manages stock loss, referring to markdowns and items it cannot sell. Profiteering is not illegal, although there are regulations designed to prevent companies misleading consumers about the reasons for price rises.

Supermarkets are not the only ones expanding profit margins. Qantas has dramatically increased its air fares from pre-pandemic levels, citing rising costs such as jet fuel, after its revenue was curtailed during border closures. It has not significantly dropped prices even after jet fuel prices halved. A key difference between airlines and supermarkets, however, is that companies such as Qantas could argue they are taking advantage of pent-up travel demand to maximise profit. When it comes to supermarkets, there is no surge in demand; it is just that people need to eat.

*Source: The Guardian, 27 July 2023*

#### **Extract 5: Supporting innovation in the agrifood sector**

According to the Economic Outlook 2023 report, the rising price of food is the main contributing factor to Malaysia's higher inflation, from 2.2 per cent in March 2022 to 4.7 per cent in August 2022.

In response, the government implemented short-term measures to reduce the impact of food inflation including price controls, additional subsidies and cash assistance. The report noted that the projected consumption subsidies, which include subsidies for fuel, cooking oil, flour, electricity, chicken and eggs, have increased from RM5.2 billion to reach RM52 billion.

Accordingly, the government would have provided subsidies and social assistance of an estimated RM80 billion in 2022 – the largest in Malaysia's history. But the Economic Outlook 2023 report also noted that increased subsidies came at an expense to allocations to the country's productive capacity such as in developing public infrastructure, especially in the health and education sectors.

For longer-term sustainability, the report said the government was cognisant of undertaking reforms to strengthen food security. "Efforts to increase productivity will be undertaken to ensure producers have the ability and competitiveness to produce their products in the local market, as well as on a global scale, while helping to stabilise supply. "In this regard, the government will support the agrifood business in enhancing its productivity through the adoption of Fourth Industrial Revolution technologies such as precision farming drones and smart algorithms," the report said.

*Source: Adapted from The Star, 8 October 2022*

**Questions**

- (a) (i) Compare the changes in Australian food prices and the profits of Australian supermarkets from 2018 to 2022. [2]
- (ii) Using Extract 1 and a demand and supply diagram, account for the sharp change in food prices in Australia in 2022. [4]
- (b) Using economic theory, explain why Ukraine specialises in the production of agricultural products in the global supply chain. [2]
- (c) (i) Using Extract 3, explain two reasons that account for the level of competition faced by firms in the Australian supermarket industry. [4]
- (ii) Discuss the extent to which the Australian government should introduce greater competition in the supermarket industry. [8]
- (d) Discuss the case for and against the Malaysian government's decision to intervene in the agrifood business to improve productivity in this sector. [10]

[Total: 30]

**Question 2: Staying resilient amidst global headwinds****Table 1: Singapore: Year-on-year growth in merchandise trade (%) vs GDP growth rate (%)**

Year	Year-on-year growth in merchandise trade (%)	GDP growth rate (%)
2017	11	4.5
2018	9	3.8
2019	-3	1.3
2020	-5	-3.9
2021	20	9.7
2022	18	3.8

Sources: World Bank and Statista, accessed 24 July 2024

**Extract 6: MAS stance amid growing fears about global growth and ebbing inflation**

Since the second half of 2022, global economic activity has been experiencing a broad-based and sharper-than-expected slowdown, with inflation higher than seen in several decades. The cost-of-living crisis, tightening financial conditions in most regions, Russia's invasion of Ukraine, and the lingering COVID-19 pandemic all weigh heavily on the outlook.

Global growth is forecast to slow from 6.0 per cent in 2021 to 3.2 per cent in 2022 and 2.7 per cent in 2023. Global inflation is forecast to rise from 4.7 per cent in 2021 to 8.8 per cent in 2022 but is expected to decline to 6.5 per cent in 2023 and to 4.1 per cent by 2024.

In Singapore, the Monetary Authority of Singapore (MAS) had assessed that it was prudent to tighten monetary policy further and lean against price pressures becoming more persistent. This was its fourth tightening move since October 2021.

In the quarters ahead, the drag on economic activity from the globally synchronised tightening in monetary policy will intensify. While inflation should moderate, it will remain high for some time. At the same time, growth in Singapore's major trading partners will slow to below trend but stay positive in 2023. However, further shocks, including from geopolitical tensions, could drive cost higher and cause full-year recessions in some key economies.

Sources: Channel NewsAsia, July 2022 and IMF, Oct 2022

**Extract 7: Income inequality in China**

China's labour market is beginning to face the challenges of other middle-income and some advanced economies. In cities, as employment opportunities in manufacturing and construction decline due to slowing growth, more people are entering the labour-intensive service sector, where wage growth is stagnant and where workers' time and skills are not efficiently being utilised.

That said, inequality in access to education and healthcare means that employees increasingly lack the capabilities needed to excel in the high-skilled, high-wage jobs that are appearing as China's economy seeks to reach high-income status. The increasing use of automation could reduce employment opportunities for a sizeable portion of the workforce in future.

These trends may, however, be counteracted by the creation of more employment opportunities, especially for high-skilled workers. If more workers were to find high-skilled service jobs, this would likely enable the country to progress forward in its economic development goals. Unfortunately,

shortfalls in education mean lower-skilled workers may currently have trouble attaining the skills to fill higher-skilled jobs.

Moreover, rural income has declined since the pandemic and survey responses indicated that government initiatives reached very few villagers. For example, 98 per cent of rural workers surveyed were not covered by unemployment insurance, and 81 per cent of villagers reported no government training programmes. In short, the survey indicates that rural workers are struggling, and that state support is far from adequate to meet their needs. This is despite China having a Common Prosperity plan, which aims to narrow the country's income gap after decades of capital-fuelled growth. Some expect that further redistribution of economic resources between income groups and regions, through tax reforms and welfare policies, will be implemented, but at a gradual pace.

*Source: Adapted from CSIS.org, May 2022*

### **Extract 8: A two-pronged approach to reducing income inequality**

To tackle inequality, policies need to focus both on market income (income before taxes and transfer payments, or predistribution) and disposable income after redistribution through taxes and transfers. Predistributive policies aim to narrow differences in market incomes at their source, such as through a future-ready education system and a robust skills training ecosystem. While necessary, such policies are not sufficient to limit inequalities. Countries that spend more on social sectors (including education, health, and social protection) and have more redistributive tax systems tend to be more successful in reducing inequality.

Some economies choose to lean more on one rather than the other. A key feature of Singapore's approach to policymaking in general is its heavy reliance on human capital investment.

In recent years, emphasis has been placed on providing greater support to low-income families, such as providing enhanced subsidies for pre-school education, to enable children to have a good start in life. Emphasis has also been placed on adult learning through SkillsFuture, which aims to build a culture of lifelong learning and skills mastery to prepare workers for rapid transformations taking place across all industries. Redistributive measures exist in various forms including a progressive tax system, rebates such as utility rebates targeted at lower-income households, as well as the Workfare Income Supplement (WIS) scheme, which tops up the earned incomes of low-income individuals in employment.

*Sources: Various*

### **Extract 9: Driving sustainable growth in the face of global uncertainties**

Speaking at the Peterson Institute for International Economics, Finance Minister Lawrence Wong emphasised the need for governments to drive inclusive and sustainable growth in response to today's deep structural challenges.

Mr. Wong noted that the lingering effects of COVID-19 and challenges due to the war in Ukraine are exacerbating existing structural challenges related to growth, inclusion, and sustainability. Addressing these challenges requires strategic spending and an active state role in achieving long-term goals such as raising productivity, tackling inequality, enhancing social mobility, and catalysing the green economy.

With rising reliance on coal as a result of the Russia-Ukraine conflict, the urgency of climate change action has increased. Mr. Wong advocated for setting the right carbon prices, regulating emissions, and investing in cleaner technologies.

Digitalisation can also play a pivotal role in addressing the challenges highlighted by Mr Wong. According to the World Economic Forum, digital technology can help to cut global greenhouse gas emissions (GHG) by 15 per cent. From the consumption point of view, e-commerce and online purchasing can lessen the need for physical storefronts and reduce energy use and waste production. Digital communication tools like video conferencing can also reduce the need for business travel, significantly reducing carbon emissions. From the production side, the adoption of emerging technology services such as precision agriculture, smart grids, and energy-efficient buildings can help improve resource efficiency while boosting economic productivity. The digitalisation of business operations can facilitate sustainable supply chains and assist industries to monitor their business risks and suppliers efficiently.

However, the rapid adoption of the digital economy can have an impact on infrastructure sectors that produce significant GHG emissions, particularly the power generation sector and logistics. The energy needed to power (and cool) data centres, for instance, is massive. The use of fossil fuels like coal and gas to power data centres contributes to climate change. While the digital economy can help businesses to decarbonise their operations, the need for logistical services like warehousing and shipping services will only increase, thus still releasing a vast amount of GHG emissions.

*Sources: The Straits Times, 18 April 2022 and Asean Focus, March 2023*

### Questions

- (a) With reference to Table 1, explain two possible reasons that may account for the relationship between GDP growth and merchandise trade growth in Singapore. [4]
- (b) Explain two factors the MAS is likely to have considered when deciding whether to further tighten monetary policy. [4]
- (c) With reference to Extract 7 and using a Production Possibility Curve diagram in each case, explain:
- (i) how the adoption of automation might affect the Chinese economy. [2]
- (ii) how having more people entering the labour-intensive service sector might affect the Chinese economy. [2]
- (d) Extract 8 discusses the roles that predistributive and redistributive policies play in reducing income inequality. Assess the relative importance of these policies in reducing income inequality in China. [8]
- (e) Discuss whether digitalisation of the Singapore economy is the key solution for Singapore to achieve sustainable growth. [10]

[Total: 30]





*Adapted from 2024 VJC Prelims Paper 1*

**Question 1: Food! We need it but can we pay for it?**

**Suggested Answers**

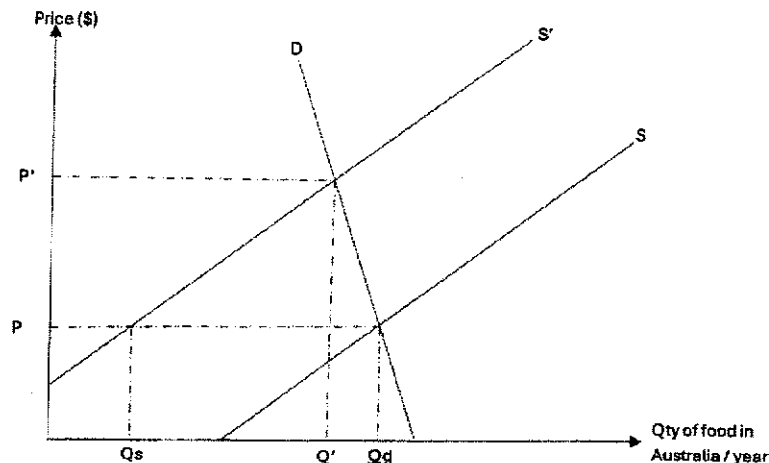
(a)	(i)	<b>Compare the changes in Australian food prices and the profits of Australian supermarkets from 2018 to 2022.</b>	<b>[2]</b>
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- **Similarity:** Both Australian food prices and supermarkets' profits in Australia rose. [1]
- **Difference:** However, Australian supermarkets' profits rose at a faster rate / by a larger extent than Australian food prices. [1]

	(ii)	<b>Using Extract 1 and a demand and supply diagram, account for the sharp change in food prices in Australia in 2022.</b>	<b>[4]</b>
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- The increase in oil prices from the Russian-Ukraine war (Ext 1, Para 2) has increased the marginal cost of production (MCOP) of food as energy costs contribute significantly to the cost of producing food.
- As the MCOP of food rises, the willingness and ability of farmers/food producers to supply food at every price level is expected to fall. This results in a fall in supply of food (from S to S' to Figure 1).

**Figure 1**



- In addition, there are few to no substitutes for food, given its broad definition. In particular, since Ukraine is a major food commodity producer (Ext 2), the war led to a significant reduction in the number of substitutes available.
  - Hence, demand for food is price inelastic, where a given rise in price will bring about a less than proportionate decrease in quantity demanded.
- Assuming that demand for food remains constant, the fall in supply of food will cause a shortage of  $Q_sQ_d$  units at the initial price level.
  - This creates an upward pressure on food prices in Australia. As prices rise, quantity demanded for food will fall while quantity supplied will rise.
- Given that demand for food is price inelastic, the increase in price will need to be significant in order to clear the shortage, leading to a sharp rise in food prices ( $P$  to  $P'$ ).

**Mark Scheme**

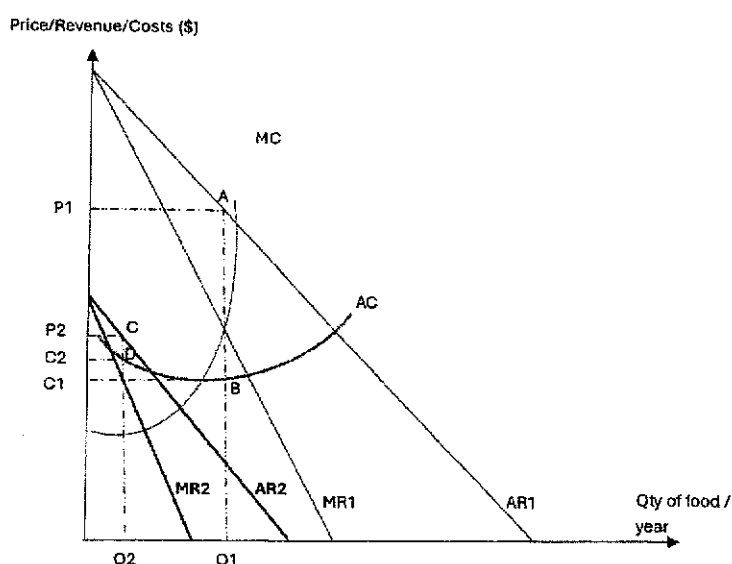
- 1 mark: Correct DD/SS diagram with appropriate labels
- 1 mark: Explanation of appropriate supply factor
- 1 mark: Explanation of PED factor/value
- 1 mark: Explanation of MAP

(b)	<b>Using economic concept, explain why Ukraine specialises in the production of agricultural products in the global supply chain.</b>	<b>[2]</b>									
<ul style="list-style-type: none"> <li>From Extract 2, Ukraine has factor endowment in agricultural products, given its cheaper farmland and deep seaports. [1]</li> <li>Therefore, it incurs a lower opportunity cost and hence has a comparative advantage in producing agricultural products as compared to other countries. Thus, it should specialise in producing agricultural products and export them to other countries in the global supply chain. [1]</li> </ul> <p><b>Mark Scheme</b>  1m to show factor endowment (farmland and deep seaports)  1m to show relatively lower opportunity costs → specialise in producing agriculture product + export</p>											
(c)	(i) <b>Using Extract 3, explain two reasons that account for the level of competition faced by firms in the Australian supermarket industry.</b>	<b>[4]</b>									
<ul style="list-style-type: none"> <li>State level of competition: <u>Low</u> level of competition in Australia's supermarket industry – inferred from the high market concentration ratio (65% for the largest two supermarkets in 2022).</li> <li>Caused by acquisitions – Extract 3 mentioned that “Coles and Woolworths began to buy up the competition, in an intense period of growth”. Through these acquisitions, existing firms face less competition as there are fewer firms remaining in the industry, meaning fewer substitutes for their products. [2]</li> <li>High barriers to entry – Extract 3 also mentioned “restrictive leases that Coles and Woolworths were able to obtain in shopping centres” and “couldn't reach supply agreements, because those suppliers were worried about retribution from Coles and Woolworths”. The control of essential resources (strategic deterrence) needed for supermarkets to operate (i.e. shop space and food supplies) serves as a barrier to entry that makes it difficult for new firms to enter and compete with existing firms. [2]</li> </ul>											
	(ii) <b>Discuss the extent to which the Australian government should introduce greater competition in the supermarket industry.</b>	<b>[8]</b>									
<p><b>Question interpretation:</b></p> <table border="1" data-bbox="279 1534 1316 1792"> <tr> <td><b>Command phrase</b></td> <td><i>Discuss the extent</i></td> <td>This question requires a <u>balanced approach</u> on the benefits and costs of stated policy before coming to a substantiated conclusion.</td> </tr> <tr> <td><b>Content</b></td> <td><i>Should introduce greater competition</i></td> <td>Stated policy can affect efficiency and equity</td> </tr> <tr> <td><b>Context</b></td> <td>Supermarket</td> <td>Apply to context of supermarket in Australia</td> </tr> </table> <p><i>Students should explain the considerations that will determine if the Australian government should introduce more competition in the supermarket industry, based on the various efficiency and equity concerns. Thereafter, their responses should weigh between the benefits and costs of introducing competition before making a substantiated stand.</i></p> <p><b>Introduction</b></p> <ul style="list-style-type: none"> <li>Given the high market concentration ratio of 65 per cent (Ext 3, para 2), we can consider Woolworths and Coles to be operating in an oligopolistic market structure. This can lead to prices that are higher than prices in a more competitive market. However, the decision to</li> </ul>			<b>Command phrase</b>	<i>Discuss the extent</i>	This question requires a <u>balanced approach</u> on the benefits and costs of stated policy before coming to a substantiated conclusion.	<b>Content</b>	<i>Should introduce greater competition</i>	Stated policy can affect efficiency and equity	<b>Context</b>	Supermarket	Apply to context of supermarket in Australia
<b>Command phrase</b>	<i>Discuss the extent</i>	This question requires a <u>balanced approach</u> on the benefits and costs of stated policy before coming to a substantiated conclusion.									
<b>Content</b>	<i>Should introduce greater competition</i>	Stated policy can affect efficiency and equity									
<b>Context</b>	Supermarket	Apply to context of supermarket in Australia									

introduce further competition in the supermarket industry must be considered by looking at the benefits and costs of increased competition.

**Thesis/Key Argument 1 – The Australian government should introduce greater competition in the supermarket industry**

- **Increased competition can improve the outcomes for consumers in the supermarket industry.**
- Increasing competition such as through deregulation can allow new entrants into the supermarket industry by reducing the barriers to entry. For example, the removal of exclusive agreements with suppliers or leasing of storefronts (Extract 3). The entry of more firms into the industry leads to an increase in the supply of food products sold in the supermarkets, resulting in greater competition and reducing market dominance by the incumbents.

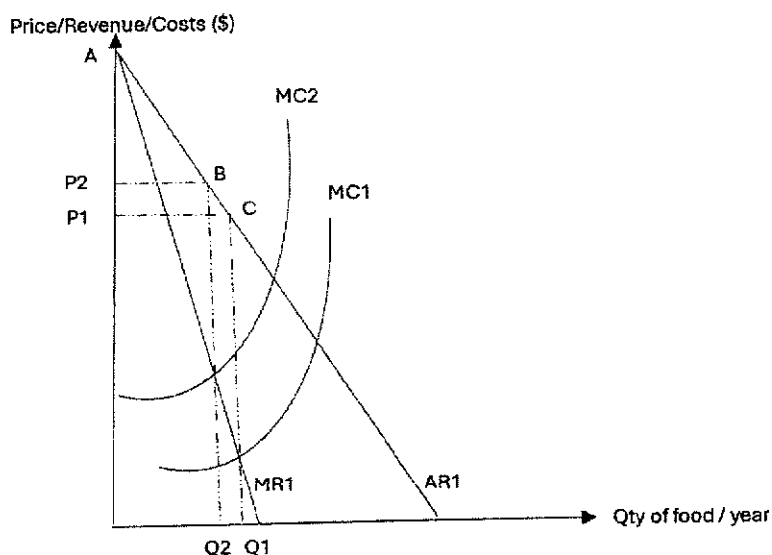


- Assuming market demand and costs remain unchanged, with new entrants into the industry, incumbent firms are likely to face a falling demand, i.e.  $DD=AR$  falls from  $AR_1$  to  $AR_2$ , and  $MR$  also falls from  $MR_1$  to  $MR_2$ .
- Demand also becomes more price elastic with more substitutes available.
  - The prices that incumbents can charge have fallen from  $P$  (where  $MC=MR_1$ ) to  $P'$  (where  $MC=MR_2$ ), making it more affordable (since price falls from  $P_1$  to  $P_2$ ) for consumers to purchase food items in supermarkets, hence improving consumer surplus and hence welfare.
- **Increasing competition can also improve equity within society by reducing the long run supernormal profits that the incumbents can earn.**
- With a low level of competition, Woolworths and Coles have a high price setting ability (price set at  $P_1$  where  $MC=MR_1$  in the above diagram). Coupled with the high barriers to entry, the incumbents can earn long-run supernormal profits of  $P_1ABC_1$ .
  - Furthermore, there is a likelihood of profiteering by the incumbents (Ext 4, Para 2), leading to a price level that is even higher than the profit-maximising price  $P_1$  and higher profits, given the price inelastic demand for food.
- As explained above, higher levels of competition will reduce the supermarkets' demand, leading to lower price and quantity of  $P_2$  and  $Q_2$  respectively.
  - As such, their supernormal profits would fall from  $P_1ABC_1$  to  $P_2CDC_2$ , improving the distribution of income from the supermarket owners (who were earning higher supernormal profits) to consumers, thus reducing inequity.

- *Alternative point: Reduction of allocative inefficiency (show that deadweight loss to society decreases as a result of greater competition).*
- *Note: For economic rigour, response should explain how the price, quantity and profits of the firm will change, rather than simply reading off the diagram.*

**Anti-thesis/Key Argument 2 – The Australian government should not introduce greater competition in the supermarket industry**

- **Increasing competition might lead to higher prices.**
- Increasing competition within the supermarket industry can lead to a loss of cost savings due to the lower ability to reap internal economies of scale (EOS) (Ext 4, Para 3).
  - Without the larger scale of production, the firms might not have the ability to reap these internal EOS and end up with higher unit costs. The inability to use technology/automation to manage their stock across the country might lead to an increase in the unit logistic costs.
  - Hence, we can expect a rise in the marginal cost (from MC1 to MC2). The new profit-maximising quantity falls from Q1 (MC1=MR1) to Q2 (MC2=MR1) price rises from P1 to P2.



- Similarly, consumers might face higher prices for supermarket food products, leading to a reduction of consumer surplus and hence welfare.
- There might be a rise in demand of fresh produce with higher levels of competition in the supermarket industry. This can increase the operating costs for supermarkets resulting in a higher marginal cost.
  - Furthermore, the higher prices will bring reduce consumer surplus from ACP1 to ABP2.
- *Alternative point: Possible reduction in dynamic efficiency (as lower profits earned means lower ability to engage in R&D – note that incentive to engage in R&D will still be high, given the level of competition).*

**Evaluative Conclusion**

- **[Stand]** Although more competition in an industry might not always benefit society, in light of the current situation in the supermarket sector, it is likely that introducing greater competition would have an overall net benefit to society.
- **[Situation]** Given the nature of the products sold, "when it comes to supermarkets, there is no surge in demand; it's just that people need to eat", it is likely that demand for food products is price inelastic given that they are necessities, so an increase in competition and supply in the industry would lead to a significant drop in price that would improve consumer welfare significantly.
- **[Situation]** That said, it is important to understand the root cause of the increasing prices in the supermarket industry. If the increase in prices of food in Australian supermarkets were due to adverse supply-side shocks such as the Russian-Ukraine war, the higher prices thus may not be driven by the price-setting abilities of a dominant firm but of market forces, which may then not warrant government intervention.

**Mark Scheme**

Level	Knowledge, Application/ Understanding, Analysis	Marks
L2	For a well-developed answer that has: <ul style="list-style-type: none"> <li>• <b>Good scope</b> – explains the benefits and costs of increasing competition in the Australian supermarket industry; and</li> <li>• <b>Good rigour</b> – supporting firm's analysis with accurate and well-labelled diagram(s); and</li> <li>• <b>Good application</b> to the Australian supermarket industry</li> </ul>	4-6
L1	For an answer that: <ul style="list-style-type: none"> <li>• <b>Lacks scope</b> – only explains either the benefits or costs of increasing competition in the Australian supermarket industry; and/or</li> <li>• <b>Lacks rigour</b> – there are gaps in using firm's analysis and/or explanation is not supported by accurate and well-labelled diagrams(s) where relevant; and/or</li> <li>• <b>Lacks application</b> to the Australian supermarket industry</li> </ul>	1-3
E	<ul style="list-style-type: none"> <li>• Up to 3 additional marks for a reasoned conclusion on whether the government should increase competition within the supermarket industry.</li> <li>• The evaluation should weigh the benefits and costs. Possible criteria for comparison include:               <ul style="list-style-type: none"> <li>○ Magnitude of benefits/costs</li> <li>○ Nature of the product (PED value of food)</li> <li>○ Root cause of the higher prices</li> </ul> </li> </ul>	1-2

(d)	Discuss the case for and against the Malaysian government's decision to intervene in the agrifood business to improve productivity in this sector.	[10]
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**Question interpretation:**

<b>Command phrase</b>	<i>Discuss the case for and against</i>	This question requires a <u>balanced approach</u> on the arguments for and against the stated decision before coming to a substantiated conclusion.
<b>Content</b>	<i>Intervention in the agrifood business to improve productivity</i>	Aim of improving productivity in the agrifood sector with the background of improving food security
<b>Context</b>	Agrifood sector in Malaysia	Apply to context of agrifood sector in Malaysia

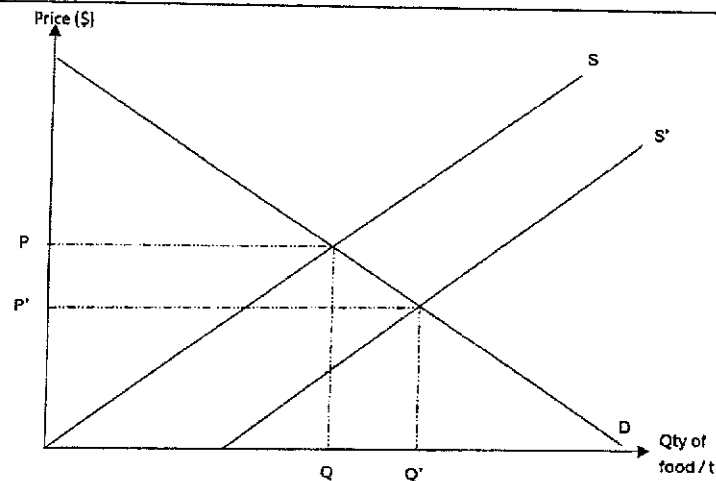
*Students should explain the benefits and costs of improving productivity in the agrifood business sector. Thereafter, their responses should weigh between the benefits and costs of improving productivity before making a substantiated stand.*

**Introduction**

- The Malaysian government's decision to intervene in the agrifood sector can be largely attributed to the increase in food prices caused by the Russian-Ukraine war and the global supply chain issues faced by the country.
- This essay seeks to use a cost-benefit analysis to present the case for the Malaysian's government decision to intervene to improve productivity in the agrifood business sector.

**Thesis – Benefits of improving productivity in the agrifood business sector**

- **Intervening in the agribusiness can strengthen food security in Malaysia and help reduce food prices through the improvement of productivity in the agrobusinesses.**
- The adoption of precision farming drones and other new farming technology (Ext 5, Para 4) can reduce the marginal cost of production for Malaysian farmers since the use of capital to replace labour as a factor input can bring about significant cost savings in the long run.
- In addition, the use of technology can potentially increase the yield of any given farm area, increasing the productivity of farmers.
  - This can lead to the increase in supply of domestically produced food (from S to S').
  - At the original price level P, there will be a surplus of food, thus creating a downward pressure on food prices.
  - As price falls, Qd rises and Qs falls, ultimately leading to a new equilibrium with a fall in food prices (from P to P') and an increase in quantity (from Q to Q').



- Hence, improving productivity in Malaysia's agrifood sector can not only help lower food prices and make food more affordable, but also increase the quantity produced, thereby helping Malaysia buttress its food security.
- **[Situation]** However, we will also need to consider that Malaysia has a sizeable labour pool. Hence, the cost of labour can be relatively cheaper than the cost of implementing drones and algorithms at scale.
  - The relatively high cost of new farming technology might deter most farmers from adopting the technologies or, worse, increase the cost of production for farmers who choose to adopt the technologies in the short run (i.e. there is a high fixed cost).
  - Hence, this benefit might not be fully realised, at least in the shorter term, given the possibility of a low adoption rate in the country.
- Intervening in the agribusiness can improve Malaysia's price competitiveness in the agriculture industry, which would contribute to economic growth.
- As mentioned above, improvement to productivity in agribusiness can lead to a fall in food prices in Malaysia.
  - This increase in price competitiveness of its agricultural products would lead to an increase in the quantity demanded for Malaysia's agricultural products.
  - If these products make up a significant enough proportion of Malaysia's export revenue (X), the increase in X could contribute to actual growth as the fall in unit cost of production for firms leads to an increase in AS, leading to an increase in real GDP, thus contributing to economic growth.

***Anti-thesis – Costs of improving productivity in the agrifood business sector***

- **The opportunity cost of the Malaysian government intervening to increase productivity in the agrifood sector is high.**
- A significant opportunity cost of intervening in the agrifood sector is the diversion of government spending away from other economic priorities such as education and healthcare or even transfer payments meant to improve the material standard of living (SOL) of lower income families (Extract 5, Paras 2 & 3).
  - As such, this could lead to a worsening of the current material SOL of Malaysian households, or could even hamper sustained growth due to the lack of improvement of factor productivity in the Malaysian economy.

- Intervention in the agribusiness might worsen the Malaysian government's fiscal balance in the short run.
- Given the significant amount already being spent by the Malaysian government on social assistance (Extract 5, Para 3), it is likely that further subsidies to improve productivity in the agrifood sector might worsen the Malaysian government's fiscal balance in the short run.
  - While this might not present much of an issue in the short run, a persistent fiscal deficit might worsen Malaysia's future material SOL as additional funds will be needed to finance the debt and interest payments.

### **Evaluative Conclusion**

- **[Stand]** The Malaysian government should proceed with improving productivity in the agrifood business sector as the economy stands to benefit significantly in the long run.
- **[Time/Situation]** It is likely that shocks to the global supply chain will persist in the longer term, given the increasing geopolitical tensions globally as well as climate change.
  - Hence, the strengthening of a country's ability to provide for its own nutritional needs will become more pertinent.
  - As such, there is a strong need to make structural changes to the agrifood business sector now in order to ready the Malaysian economy for further inevitable adverse supply shocks in the future. In doing so, Malaysia would be able to better "strengthen food security" (Extract 5, Para 4).
- **[Situation]** To do so, the Malaysian government can consider diverting existing subsidies in other areas (e.g. fuel subsidies) to finance the improvement of agrifood business sector productivity, thereby mitigating the fiscal burden in the short run.

### **Mark Scheme**

Level	Knowledge, Application/ Understanding, Analysis	Marks
L2	For a well developed answer that has: <ul style="list-style-type: none"> <li>• <b>Good scope</b> – explains the benefits and costs of intervening in the agrifood business sector; and</li> <li>• <b>Good rigour</b> – supporting DD/SS analysis with accurate and well-labelled diagram(s); and</li> <li>• <b>Good application</b> to the Malaysian agrifood sector</li> </ul>	4-7
L1	For an answer that: <ul style="list-style-type: none"> <li>• <b>Lacks scope</b> – only explains either the benefits or costs of intervening in the agrifood business sector; and/or</li> <li>• <b>Lacks rigour</b> – there are gaps the analysis and/or explanation is not supported by accurate and well-labelled diagrams(s) where relevant; and/or</li> <li>• <b>Lacks application</b> to the Malaysian agrifood sector</li> </ul>	1-3
E	Up to 3 additional marks for a reasoned conclusion on whether the Malaysian government should proceed with intervening in the agrifood business sector. Possible considerations: <ul style="list-style-type: none"> <li>• Magnitude of benefits/costs</li> <li>• Duration/persistency of benefits/costs</li> <li>• Future trends</li> </ul>	1-3



**Question 2: Staying resilient amidst global headwinds****Suggested Answers**

<b>(a)</b>	<b>With reference to Table 1, explain two possible reasons that may account for the relationship between GDP growth and merchandise trade growth in Singapore.</b>	<b>[4]</b>
<ul style="list-style-type: none"> <li>• [State relationship] There is a <u>positive relationship</u> between GDP growth and merchandise trade growth. <ul style="list-style-type: none"> <li>◦ (Optional) As seen in Table 1, from 2017 to 2020, as GDP growth rate fell, % change in merchandise trade also fell, same goes for the rise in 2020 to 2021.</li> </ul> </li> <li>• The merchandise trade balance consists of export revenue and import expenditure, i.e. <math>X+M</math>.</li> </ul> <p><u>Possible reasons (any two of the following):</u></p> <ul style="list-style-type: none"> <li>• When GDP growth rates are higher, it is likely to be brought about by export revenue (X), given Singapore's export-oriented economy where X is a large component of Singapore's GDP. Assuming the rise in X is greater than that of import expenditure (M) over time, an increase in merchandise trade (<math>X+M</math>) growth could lead to an increase in GDP growth. [2]</li> <li>• A higher GDP growth signifies an expanding economy, which boosts consumer and business confidence. This results in a rise in demand for consumer goods and capital goods by households and firms, some of which would be imported, resulting in an increase in M, hence contributing to a rise in (<math>X+M</math>). [2]</li> <li>• Higher GDP growth often leads to increased incomes and employment, augmenting the purchasing power of consumers. This increase in purchasing power allows for greater consumption of both domestic and foreign goods, resulting in an increase in M, hence contributing to a rise in (<math>X+M</math>). [2]</li> <li>• As Singapore relies heavily on imported factor inputs to produce goods for export, a faster rise in X that contributes to GDP growth necessarily implies a faster rate of increase in M as well, hence contributing to a rise in (<math>X+M</math>). [2]</li> </ul> <p><u>Notes:</u></p> <ul style="list-style-type: none"> <li>◦ Answers that explain the positive relationship between GDP and merchandise trade are also accepted, as one possible observation could be that when GDP growth rates are positive, merchandise trade growth rates also are generally positive.</li> <li>◦ 1m awarded if answer stated correct relationship, but explanations were wrong.</li> </ul>		
<b>(b)</b>	<b>Explain two factors the MAS is likely to have considered when deciding whether to further tighten monetary policy.</b>	<b>[4]</b>
<ul style="list-style-type: none"> <li>• One factor the MAS would have considered is the inflation rate in Singapore. If inflation rate is high and expected to persist, MAS could want to tighten monetary policy i.e. appreciate the SGD to lower inflation. This would result in the price of imported inputs falling, increasing the AS and causing GPL to fall, thereby lowering cost-push inflation. [2]</li> <li>• Another factor the MAS would have considered is that economic growth rate of SG as well as that in other economies. Allowing the SGD to appreciate against other currencies would result in a loss of export price competitiveness. Assuming the Marshall-Lerner condition (i.e. <math> PED_x + PED_m  &gt; 1</math>) holds, <math>(X-M)</math> falls, AD falls and real NY falls. If economic growth was already very low (or other countries growth expected to be negative, translating to a fall in Singapore's export demand and hence negative EG in Singapore), MAS would be more cautious of further tightening. [2]</li> </ul>		

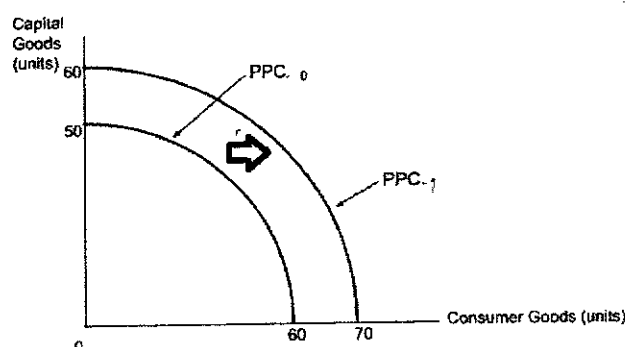
- Note: Answers that are framed as explaining the benefits (lowering cost-push inflation) and costs (negative effect on economic growth) of further tightening MP are also correct.

(c) With reference to Extract 7 and using a Production Possibility Curve diagram in each case, explain:

(i) how the adoption of automation might affect the Chinese economy. [2]

- Automation enhances the **productivity of factor inputs (capital and labour)** in China. If the quantity of resources is the same but each unit of labour has become more efficient with automation i.e. the **quality of resources improves**, the country's ability to produce goods and services and hence its productive capacity increases, causing an **outward shift of the PPC from PPC<sub>0</sub> to PPC<sub>1</sub>**, leading to potential growth. [1]

Diagram [1]

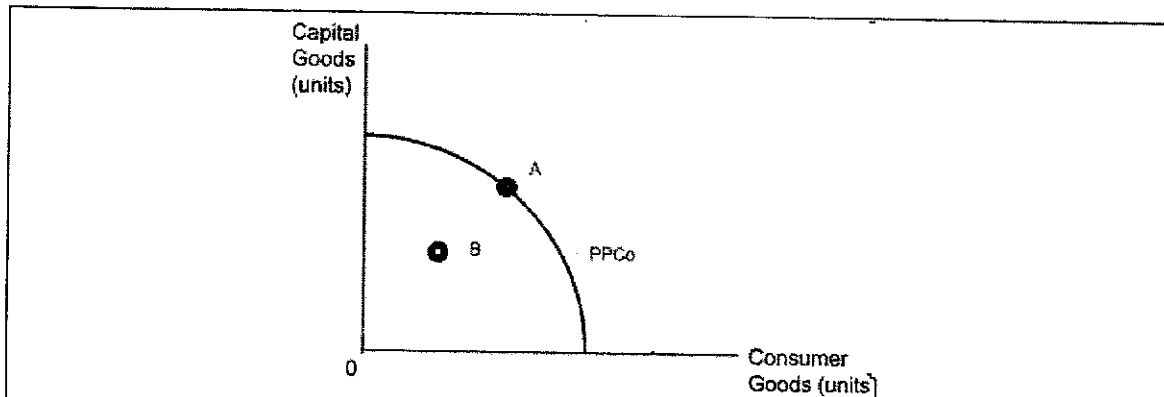


- Note: Answers that utilise Extract 7's "automation could reduce employment opportunities for a sizeable portion of the workforce in future" to explain how this could lead to increased unemployment (movement of point on PPC further in, not a shift in the PPC) are also accepted.

(ii) how having more people entering the labour-intensive service sector might affect the Chinese economy. [2]

- An increase in the number of workers entering the labour-intensive sector means that more resources (labour) are being used in a way where "labour-intensive service sector, where workers' time and skills are not efficiently being utilised". Resources are hence not being efficiently utilised such that there is underemployment of resources and the economy will not be operating at the highest possible level of output given its resources and technology. This inefficiency can cause the actual production point to be inside the PPC (from point A to point B). [1]

Diagram [1]



(d) Extract 8 discusses the roles that predistributive and redistributive policies play in reducing income inequality.

Assess the relative importance of these policies in reducing income inequality in China. [8]

**Question interpretation:**

<b>Command phrase</b>	<i>Assess the relative importance</i>	This question requires a <u>balanced approach</u> on the importance of these policies and come to a substantiated conclusive on the relative importance of these policies
<b>Content</b>	<i>These policies</i> <i>income inequality</i>	Refer to extract 8 – <i>predistributive policies and redistributive policies</i>  Objective of policies
<b>Context</b>	China	Apply to context of China

*Students are to explain how predistributive policies and redistributive policies work to reduce income inequality and come to a substantiated conclusive on which policies are more important for China given its aim of reducing income inequality.*

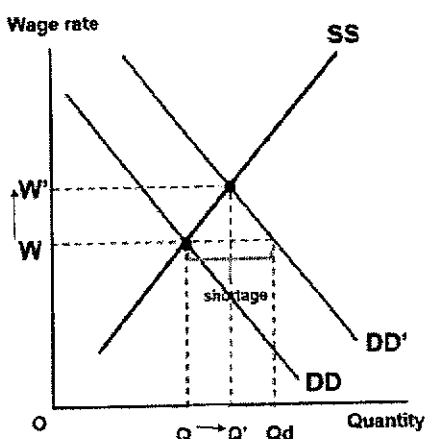
**Introduction**

- China faces rising income inequality due to widening income gaps between the fewer workers who now work in manufacturing and construction sectors and the increasing number of workers entering the services sector, as well as between the rural and urban workers.

**Body**

**Key Argument 1: Explain how predistributive policies can reduce income inequality**

- Predistributive policies can reduce income inequality before taxes and transfers take place. This would be attained through increasing the income of lower wage workers, and would be attained through human capital investment, which takes the form of both education, training and retraining.
  - Through higher education levels and skills training, relatively lower skilled workers are able to perform tasks more efficiently through the use of latest tools.
  - *Ceteris paribus*, this increases the demand for their labour as firms would want to hire the now more skilled labour (who can now contribute more to the firm's revenue) to increase their profits. The effects of this can be seen below.



**Figure 1: Effect of human capital investment on market for lower-skilled labour**

- With the rise in demand for lower-skilled workers who have now become more productive as a result of training, there would be a shortage of  $Q-Q_d$  units of workers at the initial wage rate  $W$ , resulting in upward pressure on wages and wages will rise to clear the shortage.
  - As wage rises, the quantity demanded for labour falls and quantity supplied rises until a new equilibrium is reached with higher wage rate  $W'$ .
- As such, this narrows the wage gaps between the higher-skilled workers and lower-skilled workers, who now more productive.
- In the context of China, this would mean rising wages for workers who are or were once in the service sectors (as they would move on to perform jobs in other sectors which require more skills) as well as in rural areas.
- *Note: Answers that explain how lower-skilled workers transiting to higher-skilled jobs as a result of skills upgrading, thereby leading to a reduction in the wage gap due to a rise in SS of higher-skilled workers and fall in SS of lower-skilled workers, are also accepted.*

**Key Argument 2: Explain how redistributive policies can reduce income inequality**

- Redistributive policies reduce income inequality by reducing the incomes of higher-income earners through taxes, while increasing the incomes of lower-income earners through transfer payments.
- Taxation takes the form of a progressive taxation system whereby higher income earners are taxed a higher proportion of their incomes than lower income earners.
  - This reduces the income gap between higher and income earners, as the after-tax income of higher-income earners is now closer to that of lower-income earners than before taxation.
  - Together with revenue raised from other sources of taxation such as corporate taxes and value-added taxes, tax revenue can then be redistributed to lower income earners in the form of transfer payments such as wage support, which tops up the wages of lower income earners.
- Hence, redistributive policies contribute to a reduction in the income gap after taxes and transfers.
- In the context of China, this could also take the form of redistribution between regions, since there are more higher income earners in urban areas and more lower income earners in rural areas.

**Evaluative Conclusion i.e. comparing relative importance of policies**

- **[Stand]** While both are important in reducing income inequality, predistributive policies in the form of retraining can be argued to be more important, in light of the fact that “the increasing use of automation could reduce employment opportunities for a sizable portion of the workforce in future” (Extract 7, Para 2).
- **[Situation]** Without sufficient emphasis on retraining, more workers will be forced to enter the lower-paying service sector jobs, resulting in an increase in the supply of labour in such sectors, resulting in further fall in wages. This would also mean that transfer payments would be increasingly unsustainable, given the large number of lower-income workers who would need to be supported.
  - In contrast, an emphasis on retraining would mean that the system of taxes and transfers would remain sustainable as there would be fewer lower-income workers to support and would be able to play a complementary role to retraining.
- *Note: An evaluative conclusion that uses time period to justify that predistributive policies are more important, but as this takes time, redistributive policies are also needed and more important in the short run, is also acceptable.*

**Mark Scheme**

Levels	Knowledge, Application/ Understanding, Analysis	Marks
L2	For a well developed answer that has: <ul style="list-style-type: none"> <li>• <b>Good scope</b> – explains how predistributive and redistributive policies can reduce income inequality in China; and</li> <li>• <b>Good rigour</b> – supporting DD/SS analysis with accurate and well-labelled diagram(s); and</li> <li>• <b>Good application</b> to the context of China</li> </ul>	4 – 6
L1	For an answer that: <ul style="list-style-type: none"> <li>• <b>Lacks scope</b> – only explains how predistributive or redistributive policies can reduce income inequality in China and/or</li> <li>• <b>Lacks rigour</b> – there are gaps in using DD/SS analysis and/or explanation is not supported by accurate and well-labelled diagrams(s) where relevant; and/or</li> </ul> <b>Lacks application</b> to the context of China	1 – 3
E	For an analytically well-reasoned and synthesised judgement as to which of these policies is more important in reducing income inequality in China, with reference to issues mentioned in the extracts.	1 – 2

- (e) **Discuss whether digitalisation of the Singapore economy is the key solution for Singapore to achieve sustainable growth.** [10]

**Question interpretation:**

<b>Command phrase</b>	<i>Discuss whether... is the key solution...</i>	This question requires a <u>balanced approach</u> on the workings and limitations/unintended consequences of this policy and a substantiated judgment.
<b>Content</b>	<i>Digitalisation</i>  <i>To achieve sustainable growth</i>	This is the cause/trigger where your analysis should begin with  Sustained economic growth without significant socioeconomic issues for future generation

<b>Context</b>	Singapore	Apply to context of Singapore
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Students are to explain how digitalisation of the Singapore economy can lead to sustainable growth and its limitations/unintended consequences and provide a reasoned judgement if this is a key solution for Singapore.

### Introduction

- Sustainable economic growth refers to growth that is sustained and that can be achieved without creating significant socioeconomic issues for future generations (e.g. environmental degradation and resource depletion).
- For sustained economic growth to take place in the first place, there needs to be both actual and potential growth, such that real GDP can continue to increase over time without accelerating inflationary pressures.

### Thesis/Key Argument 1 – Explain how digitalisation of the Singapore economy can contribute to sustainable growth

- **Digitalisation results in greater resource efficiency, leading to sustainable growth.**
- With digitalisation, there will “reduced needs for physical storefronts”, resulting in “reduced energy use”, “video conferencing” (Extract 9, Para 4) among other changes.
  - These result in increased factor productivity i.e. given inputs of firms in the economy can now be used to generate more output, resulting in decreased unit cost of production, which is represented by downward shift of the horizontal portion of the AS curve.
- This leads to actual growth, as real NY increases from  $Y_0$  to  $Y_1$ .
- With an increase in factor productivity (quality of capital) from the use of “emerging technology” on the production side, productive capacity of the economy also increases, and hence potential growth, as represented by the increase in the full employment level of national income from  $Y_0$  to  $Y_1$ .
  - As such, there is sustained economic growth, as real GDP can continue to increase over time without accelerating inflationary pressures.

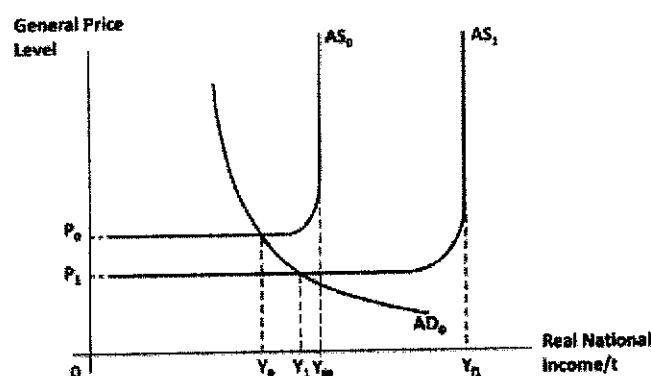


Figure 1: Effect of digitalisation on an economy

- As there is more efficient use of resources, less negative externalities are generated from the production of electricity needed for all economic activity such as manufacturing and retail operations.
  - This not only reduces the emissions of greenhouse gases and other harmful pollutants and hence slows down environmental degradation, but also reduces resource depletion, as more energy-efficient methods of production are being used.
- As such, with sustained growth as well as a focus on reducing the rate of exploitation of natural resources, sustainable economic growth can be achieved.

***Anti-thesis/Key Argument 2 – Explain how digitalisation of the Singapore economy may not lead to sustainable growth (limitations and unintended consequences)***

- **However, digitalisation may not be able to lead to sustainable growth.**
- Digitalisation requires data to be stored in data centres, which require a lot of energy to operate. This means that the demand for electricity will rise in tandem with the growth of digitalisation.
  - The generation of electricity in power plants requires the burning of fossil fuels, which generates greenhouse gases as well as other harmful pollutants, which adversely affect the health of residents living in the area, who are third parties not involved in the generation of electricity and they incur healthcare costs.
  - Since these external costs are not taken into account by producers when deciding how much electricity to produce, there is a tendency for the market to produce too much electricity (i.e. overproduction), leading to allocative inefficiency and hence market failure.
- This therefore hampers Singapore's pursuit of sustainable growth, as more negative externalities in the form of greenhouse gases and other pollutants are emitted, which leads to greater harm on the environment.
- **Digitalisation could also result in structural unemployment and greater income inequality.**
- Structural unemployment happens when there is a mismatch in skills possessed by jobseekers and those demanded by firms.
- With the increased efficiency of production processes, some workers would be made redundant (capital-labour substitution).
  - At the same time, more jobs would be created either directly in sectors supporting digitalisation such as software design and online inventory management, but many of those who are now unemployed may not have the skills for such roles.
- This skills mismatch is form of occupational immobility which prevents workers from being employed despite their being sufficient jobs to be filled.
- Furthermore, workers who have the necessary skills will see a rise in their wage rates as there will be greater demand for their services.
  - On the other hand, there will be a drop in demand and wage rates for workers who lack the expertise to cope with the technological changes.
- Given that digitalisation affects different sectors and industries, it could lead to significant structural unemployment and widening income inequality in the economy.

***Evaluative Conclusion***

- **[Stand]** Digitalisation is a key solution for Singapore to achieve sustainable growth, but it is unlikely to be sufficient.
- **[Situation/Magnitude]** Digitalisation is a promising way to attain sustainable economic growth due to its potential to affect every industry, and hence lead to significant overall efficiency gains to the economy as well as decreased resource use. This is especially important for Singapore, given our lack of natural resources.
  - Further, digitalisation is also key as it helps to keep the GPL low (via an increase in AS), hence enabling Singapore to remain export price competitive, which is particularly important for us because of the export-oriented nature of our economy.
  - However, there are current limitations, in particular the heavy use of energy to power data centres and the polluting nature of its accompanying logistical services.
- **[Alternative]** The government hence needs to complement digitalisation with policies such as funding R&D in the renewable energy sector to promote the development of clean technology or clean energy, which produces far lesser negative externalities.

- R&D can also be directed towards developing greater energy efficiency in sectors such as data storage and warehousing.
- The unintended consequence of structural unemployment will not be as big a concern as Singapore already has a comprehensive lifelong learning programme in the forms of SkillsFuture which is already being used to prepare workers for industry disruptions.

Levels	Knowledge, Application/ Understanding, Analysis	Marks
L2	For a well developed answer that has: <ul style="list-style-type: none"> <li>• <b>Good scope</b> – explained how digitalisation of the Singapore economy can bring about sustainable economic growth as well as its limitations/unintended consequences; and</li> <li>• <b>Good rigour</b> – supporting analysis with accurate and well-labelled diagram(s); and</li> <li>• <b>Good application</b> to Singapore</li> </ul>	4 – 7
L1	For an answer that: <ul style="list-style-type: none"> <li>• <b>Lacks scope</b> – only explains how digitalisation of the Singapore economy and can bring about sustainable economic growth without limitations/unintended consequences; and/or</li> <li>• <b>Lacks rigour</b> – there are gaps in analysis and/or explanation is not supported by accurate and well-labelled diagrams(s) where relevant; and/or</li> <li>• <b>Lacks application</b> to Singapore</li> </ul>	1 – 3
E	An analytically well-reasoned and synthesised judgement as to whether digitalisation of the Singapore economy would be the key measure to bring about sustainable economic growth.	1 – 3



**Adapted from 2024 VJC Prelims Paper 2 Suggested Answers**

- 1 In 2022, the Minister for Finance announced that the Goods and Services Tax (GST) rate will be raised in two steps, from 7 per cent to 8 per cent on 1 Jan 2023 and from 8 per cent to 9 per cent on 1 Jan 2024. The revenue from the increase in GST will go towards meeting our medium-term needs including supporting our healthcare expenditure, and to take care of our senior citizens.

Source: www.gov.sg, 1 Jan 2024

- (a) Using relevant elasticity concepts, explain how an increase in income levels and the GST hike can each affect consumers' expenditure on healthcare services. [10]
- (b) Discuss whether the provision of healthcare subsidies or the imposition of a price cap on healthcare services is a better measure to help senior citizens cope with the rising cost of healthcare in Singapore. [15]

**Part (a) Question Interpretation**

Command word/phrase	Explain how	Make clear the reasons and explain the theory behind the question. Cause and effect relationships must be explained thoroughly
<b>Content</b>	<i>Using relevant elasticity concepts</i>	
	<i>Increase in income levels</i>	Relevant elasticity concept of YED
	<i>GST hikes</i>	Relevant elasticity concept of PED as GST hikes will affect the supply
	<i>Consumers' expenditure</i>	Consumers' expenditure = price x quantity
<b>Context</b>	<i>Healthcare services</i>	Apply analysis to the context of healthcare service in Singapore

*This question requires an explanation of how a rise in income can lead to an increase in the expenditure for healthcare services by applying income elasticity concept – normal good and an explanation of how a GST hike can lead to an increase in the expenditure for healthcare services by applying price elasticity of demand concept.*

**Introduction**

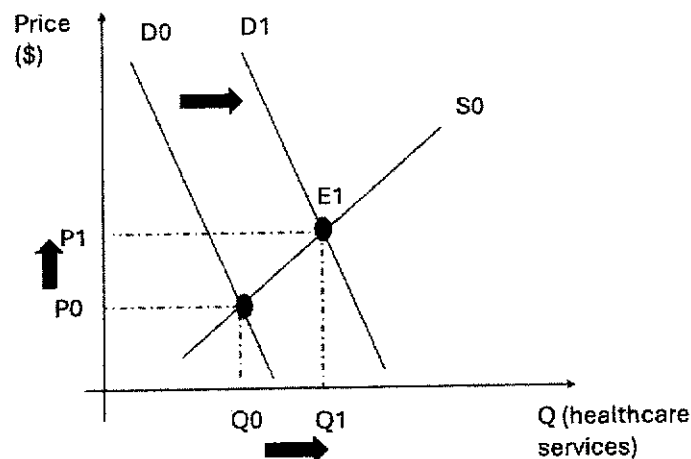
- The rise in income levels as well as GST hike will impact the market for healthcare services in Singapore.
- Using demand and supply analysis, as well as the concepts of income elasticity of demand (YED) and price elasticity of demand (PED), this essay will explain the impact of the two events on the total expenditure on healthcare services by consumers.

**Body**

**Key Argument 1: Explain how a rise in income can lead to an increase in the expenditure for healthcare services (apply income elasticity concept – normal good).**

- A rise in income will lead to an increase in consumers' expenditure on healthcare services.
- YED is the responsiveness of demand for a good or service to a change in income level, ceteris paribus.
  - When YED is positive, a rise in income results in a rise in the ability of households to consume more normal goods and services, which include luxury goods ( $YED > 1$ ) and necessities ( $0 < YED < 1$ ).
- Since healthcare services are considered normal services due to their necessity in people's lives (i.e. regular health check-ups to ensure people remain healthy, or doctor visits due to illness), this rise in income would cause the demand for healthcare services to increase.
  - This is illustrated by a rightward shift in the demand curve in Figure 1a below.

**Figure 1a. Rise in income on expenditure for healthcare services**

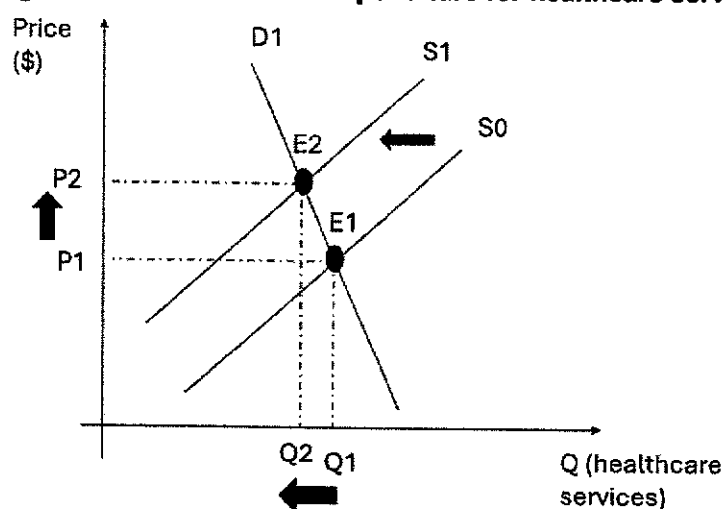


- Holding supply curve constant, the rightward shift in the demand curve from D0 to D1 would lead to a shortage at the initial price, P0.
  - This shortage will lead to an upward pressure on price. As price rises, quantity demanded would fall, as shown by a movement along the new demand curve, D1.
  - At the same time, quantity supplied would also rise as the price rises, as shown by a movement along the original supply curve, S0.
  - The process stops when the new demand curve intersects the supply curve at E1, resulting in a new equilibrium.
- Since expenditure refers to the total amount spent on the good, the rise in equilibrium price and quantity from  $(P0 \times Q0)$  to  $(P1 \times Q1)$ , will result in an increase in total expenditure on healthcare services.

**Key Argument 2: Explain how a GST hike can lead to an increase in the expenditure for healthcare services (apply price elasticity of demand concept).**

- **A GST hike would lead to an increase in the expenditure for healthcare services.**
- An increase in GST, which is an indirect tax, results in an increase in the marginal cost of production of firms.
  - When this happens, firms will increase the price by the amount of tax at each quantity supplied to maintain profitability.
  - This is illustrated by a leftward shift in the supply curve from  $S_0$  to  $S_1$  in Figure 1b below.
- Holding demand curve  $D_1$  constant, the leftward shift in the supply curve from  $S_0$  to  $S_1$  would lead to a shortage at the initial price,  $P_1$ .
  - This shortage will lead to an upward pressure on price. As price rises, quantity supplied would rise, as shown by a movement along the new supply curve,  $S_1$ .
  - At the same time, quantity demanded would fall as prices rise, as shown by a movement along the demand curve,  $D_1$ .
  - The process stops when the new supply curve intersects the demand curve at  $E_2$ , resulting in a new equilibrium.
- The concept of PED can be used to determine the effect of the GST hike on consumers' expenditure on healthcare services.
- PED measures the responsiveness of quantity demanded to a change in the price of healthcare services, ceteris paribus.
- Since there are no close substitutes for healthcare services and the degree of necessity is high (especially for certain essential healthcare services), the demand for healthcare services is likely to be price inelastic i.e.  $|PED| < 1$ .
  - Hence, the rise in price because of the GST will lead to a less than proportionate fall in quantity demanded.
- Since the rise in expenditure due to a rise in price is greater than the fall in expenditure due to a fall in quantity demanded, total expenditure on healthcare services will rise because of the GST.

**Figure 1b. Hike in GST on expenditure for healthcare services**



**Conclusion**

- As such, the rise in income levels and GST hike would both lead to an increase in consumers' expenditure on healthcare services.

**Mark Scheme**

Level	Knowledge, Application/Understanding and Analysis	Marks
L3	For a well developed answer that has: <ul style="list-style-type: none"> <li>• <b>Good scope</b> – explains the effects of the two events on consumers' expenditure on healthcare services using the concepts of YED and PED; and</li> <li>• <b>Good rigour</b> – supporting demand and supply analysis with accurate and well-labelled diagram(s); and</li> <li>• <b>Good application</b> to the context of market for healthcare services</li> </ul>	8 – 10
L2	For an answer that: <ul style="list-style-type: none"> <li>• <b>Lacks scope</b> – only explains how one event or incomplete use of elasticity concepts in the explanation on consumers' expenditure on healthcare services.</li> <li>• <b>Lacks rigour</b> – there are gaps in using demand and supply analysis and/or explanation is not supported by accurate and well-labelled diagrams(s) where relevant; and/or</li> <li>• <b>Lacks application</b> to the context of market for healthcare services.</li> </ul>	5 – 7
L1	For an undeveloped answer that: <ul style="list-style-type: none"> <li>• Is descriptive, lacking in application of economic theory; and/or</li> <li>• Contains serious and pervasive conceptual errors; and/or</li> <li>• Is largely irrelevant.</li> </ul>	1 – 4