

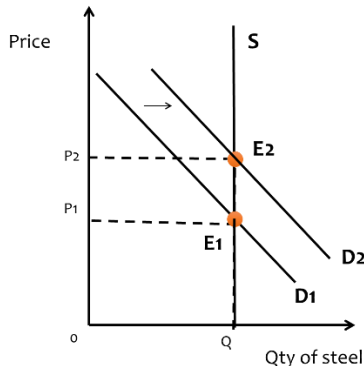


**TMJC Economics Unit 2024**  
**JC2 H2 Economics 9570**

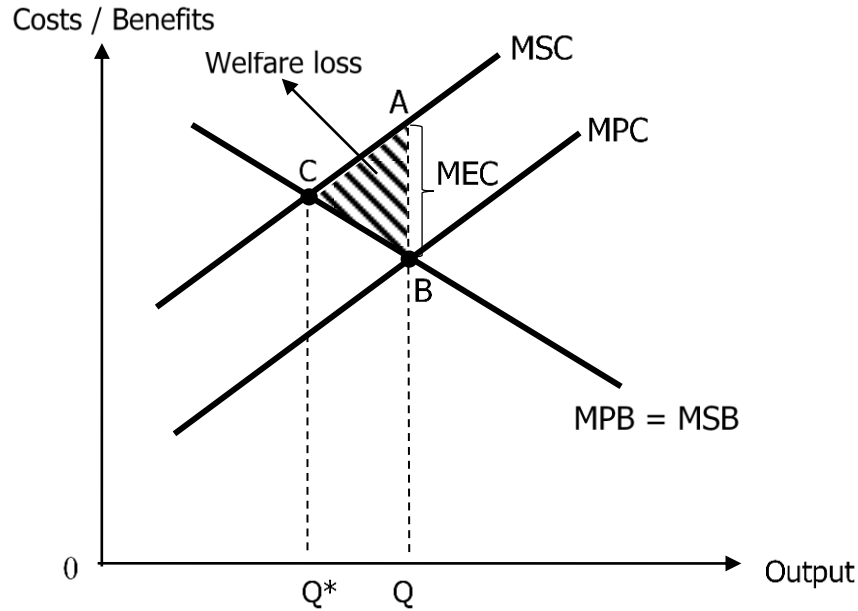
**Suggested Answers & Markers' Report**  
**for Mid-Year Exam**

| <b><u>INSTRUCTIONS</u></b>   |  |              |
|--|--|--------------|
| As you review your script using the suggested answers, analyse how you can improve on your answer. Consult your tutors to clarify your doubts. |  |              |
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**Case Study Question 1: Economic issues on China and Singapore**

| (a)  | <p><b>Using a diagram, explain the impact of a possible steel production quota in China's steel market. [3]</b></p>   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
|--|---|-----------------|--|--|--------|--|-------------|--|--|--|--|-----|--|--|-----|--|--|---------|--|-------------|--|--|--|--|-------------|---|--|
|  | <p>A quota is the maximum legally permissible quantity that can be exchanged in the market where a government caps the amount of goods that can be transacted in the market below equilibrium quantity.</p> <p>The Chinese government is placing limits on steel production. The steel production is fixed at 0Q units.</p> <div><p>[1m- Fully labelled diagram]</p></div> <p>With the amount of steel fixed at Q, the price is determined by demand at P1.</p> <table><tr><th colspan="3">Markers' Report</th></tr><tr><th colspan="2">Skills</th><th rowspan="3">Aha moment!</th></tr><tr><td colspan="2">Strengths (+): What are the required skills that were well-demonstrated?</td></tr><tr><td colspan="2">Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?</td></tr><tr><td>(+)</td><td>Many who knew what a quota was, could give succinct answers of appropriate length for a 3m question.</td><td></td></tr><tr><td>(+)</td><td>Many made reference to the diagram they had drawn.</td><td></td></tr><tr><th colspan="2">Content</th><th rowspan="3">Aha moment!</th></tr><tr><td colspan="2">Strengths (+): What are some concepts that were well-explained with clear linkages made?</td></tr><tr><td colspan="2">Areas for improvement (-): What are some concept gaps / conceptual errors?</td></tr><tr><td>(+)/<br/>(-)</td><td>Those who knew what a quota was could draw a well-labelled diagram and address the change in quantity. However, some drew inaccurate diagrams</td><td></td></tr></table> | Markers' Report |  |  | Skills |  | Aha moment! | Strengths (+): What are the required skills that were well-demonstrated? |  | Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated? |  | (+) | Many who knew what a quota was, could give succinct answers of appropriate length for a 3m question. |  | (+) | Many made reference to the diagram they had drawn. |  | Content |  | Aha moment! | Strengths (+): What are some concepts that were well-explained with clear linkages made? |  | Areas for improvement (-): What are some concept gaps / conceptual errors? |  | (+)/<br>(-) | Those who knew what a quota was could draw a well-labelled diagram and address the change in quantity. However, some drew inaccurate diagrams |  |
| Markers' Report  |   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| Skills   |   | Aha moment!     |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| Strengths (+): What are the required skills that were well-demonstrated?                 |   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated? |   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| (+)  | Many who knew what a quota was, could give succinct answers of appropriate length for a 3m question.  |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| (+)  | Many made reference to the diagram they had drawn.  |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| Content  |   | Aha moment!     |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| Strengths (+): What are some concepts that were well-explained with clear linkages made? |   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| Areas for improvement (-): What are some concept gaps / conceptual errors?               |   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |
| (+)/<br>(-)  | Those who knew what a quota was could draw a well-labelled diagram and address the change in quantity. However, some drew inaccurate diagrams   |                 |  |  |        |  |             |  |  |  |  |     |  |  |     |  |  |         |  |             |  |  |  |  |             |   |  |

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|            |  |   | with incorrect labelling of the curves and axis. A handful also confused quotas with price controls.   |  |
|            |  | (-)   | Many students did not include the impact on price of steel as a result of quota even though question asked for “impact on the market”.   |  |
|            |  | (-)   | Many who explained quota only had a brief idea that it was about controlling quantity. However, they were unable to provide a clear explanation as to why price would rise while quantity remained the same. |  |
| <b>(b)</b> |  | <b>With reference to Extract 1, explain the rationale behind the government’s action to curb steel production in China. [4]</b>   |  |  |
|            |  | <p>The government curbs steel production in China due to the market failure due to steel production caused by negative externalities.</p> <ul style="list-style-type: none"> <li>• <b>Private output (MPB=MPC):</b> The private benefit of producing steel includes revenue earned from the sale of steel, while the private cost includes the cost of production like wages, factory rental costs etc. Steel producers do not consider the external costs and they will produce at <u>private output Q, where MPB = MPC. This is where private welfare is maximized.</u></li> <li>• <b>Divergence between MSC and MPC: Explain MEC in context</b></li> </ul> <p><b><u>Explain the negative externalities in production</u></b></p> <ul style="list-style-type: none"> <li>• From Extract 1, the production of steel produces carbon emission and emit toxic air pollution which is cancerous.</li> <li>• This affects third parties such as people residing near the steel factories, who incurred higher costs for medical treatments, which are not compensated for.</li> <li>• [State the divergence]: In the presence of such a negative externality in the production of steel, <b>MSC &gt; MPC</b>. There is no divergence in the benefit curve as there are no positive externalities present.</li> </ul> |  |  |



- **Socially Optimal Output (MSB=MSC):** Society's welfare is maximised at  $MSB = MSC$ , where the socially optimal output level occurs at  $Q^*$ .
- **Allocative inefficiency:** At  $Q$ ,  $MSC$  (distance  $AQ$ )  $>$   $MSB$  (distance  $BQ$ ) and this means that an additional unit of output creates more costs to society than benefits. Hence there is an over-allocation of resources in the form of an overproduction by  $Q^*Q$  units.
- **Deadweight loss to society:** Thus, this creates a deadweight loss to society by the amount  $ABC$  as total social cost (area  $CAQQ^*$ ) arising from producing  $Q^*Q$  is greater than the total social benefit (area  $CBQQ^*$ ).

#### Markers' Report

##### Skills

Strengths (+): What are the required skills that were well-demonstrated?

Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?

**Aha moment!**

- |     |   |  |
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| (-) | Some students misinterpreted the question, focusing on how government intervention works instead of explaining why steel production should be curbed. |  |
| (-) | Some students misinterpreted the question, focusing on decision-making framework instead.   |  |
| (-) | A handful of students did not link their responses back to the question's intent regarding why steel production should be curbed in China.            |  |
| (-) | Some students failed to recognise that this was a 4-mark question and cited a fall in non-material standard of living (a macroeconomic goal) as a     |  |

|                            |                    |   |   |                    |                            |                    |  |
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|                            |                    |   | reason why the government should curb steel production. This approach would limit students' ability to achieve full marks. The question suggested that government intervention was due to a microeconomic goal rather than an unachieved macroeconomic goal.  |                    |                            |                    |  |
|                            |                    | <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors?  |   | <b>Aha moment!</b> |                            |                    |  |
|                            |                    | (+)   | Majority of the students were able to accurately draw the diagram showing negative externalities.   |                    |                            |                    |  |
|                            |                    | (+/-)   | While most students explained negative externalities well (i.e., identified third parties, monetised the costs, and noted no compensation), there was a group of students who missed out on these details when explaining negative externalities.   |                    |                            |                    |  |
|                            |                    | (-)   | Some students were overly descriptive in their responses. For example, they did not use precise terms such as "marginal external costs" when referring to negative externalities but instead provided numerous examples of negative impacts from steel production without linking them to the economic rationale for why steel production needs to be curbed. |                    |                            |                    |  |
|                            |                    | (-)   | Students tended to struggle when explaining the meaning of allocative inefficiency and deadweight loss in context.  |                    |                            |                    |  |
| (c)                        |                    | Using any two indicators in Table 1, explain whether they are reliable to measure the changes in China's standard of living over time. [5]  |   |                    |                            |                    |  |
|                            |                    | <table><tr><td><b>Command word/phrase</b></td><td><i>Explain how</i></td><td>To make clear the explanation on usefulness of the reliability of the two indicators in Table 1 in measuring China's living standards over time.</td></tr></table> |   |                    | <b>Command word/phrase</b> | <i>Explain how</i> | To make clear the explanation on usefulness of the reliability of the two indicators in Table 1 in measuring China's living standards over time. |
| <b>Command word/phrase</b> | <i>Explain how</i> | To make clear the explanation on usefulness of the reliability of the two indicators in Table 1 in measuring China's living standards over time.  |   |                    |                            |                    |  |

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|  |  |  | <p><b>Content</b></p> <p><i>Any two indicators ... measure the changes in China's standard of living over time</i></p> | <p>Standard of living (SOL) comprises both material and non-material aspects.</p> <p>To measure material SOL over time, information on real GDP per capita is needed.</p> <p>To measure changes in non-material SOL, indicators such as the number of working hours, air quality level (pollution index), life expectancy (mortality) rates and literacy rates would be useful.</p> |
|  |  |  | <p><b>Context</b></p> <p><i>Table 1</i></p>  | <p>Choice of indicators must only be from Table 1.</p>  |

*This question requires students to select 2 appropriate indicators of SOL (material and non-material) from Table 1 and to consider their usefulness and reliability as measurements of SOL. A judgment has to be made as to whether they are comprehensive or holistic to arrive at a conclusion of how SOL of China has changed over time.*

**Introduction: define key terms**

- An economy's standard of living (SOL) can be defined as the well-being of residents in the economy and is typically categorised into material standard of living and non-material SOL.
  - Material SOL is associated with the amount of goods and services available for consumption by the residents of an economy. This is usually measured by real GDP per capita.
  - Non-material SOL is associated with the intangible aspects of well-being such as literacy rates and life expectancy of residents.

**Requirement 1: Explain the usefulness and hence reliability of any indicator(s) in Table 1 to measure China's SOL over time**

- Real GDP growth rate measures the change in the value of all final output produced by factors of production located within the geographical boundary of the country, over a given time period at constant prices, after removing the effects of inflation.
  - This allows the changes in growth rate to reflect the change in a resident's ability to consume physical goods and services.
- Table 1 shows a **rise in real GDP growth rate** over time. This means that the real income of China has increased, resulting in higher

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|  | <p>purchasing power of the people. Assuming rise in real GDP growth rates exceeds population growth rates, their ability to consume goods and services increases, their <u>material SOL has risen over time</u>. Ceteris paribus, this shows an improvement of China's SOL over time.</p> <ul style="list-style-type: none"> <li>• With higher economic growth a country can enjoy higher real GDP which can also generate more tax revenue for the government. The government can use the tax revenue collected to improve infrastructures of the country and merit goods such as healthcare and education to raise the <u>non-material SOL</u> of its people.</li> <li>• GDP growth rate is a <u>standardized measure</u> across countries and time, hence making it easier to compare across countries. Moreover, most countries calculate and publish GDP data regularly providing there are <u>available data</u> for comparison. Hence, the increase in real GDP growth rate is a <u>reliable</u> indicator to measure China's SOL will improve over time.</li> </ul> <p><b>Requirement 2: Explain how any one indicator in Table 2 may not be as reliable/useful to measure China's SOL over time</b></p> <ul style="list-style-type: none"> <li>• Compared to real GDP growth rate, an indicator like the Gini coefficient is less reliable to compare changes in China's SOL over time. <ul style="list-style-type: none"> <li>◦ The Gini coefficient is useful to measure the extent of income inequality in a country. It is a statistical measure of income inequality, and ranges from zero (perfect equality) to one (extreme inequality). The more unequal the distribution of income, the greater the extent of income inequality, and hence the larger the Gini coefficient.</li> </ul> </li> <li>• If rising income is accompanied by greater inequality in income distribution, the increase in SOL may be overstated as the increase in income may only be benefitting the minority households who are wealthier rather than for the majority of households who are less well off or have lower incomes.</li> <li>• However, changes in the Gini coefficient by itself is not a reliable indicator to measure changes in China's SOL. Although the Gini coefficient has fallen slightly for China from the period of 2018 to 2021, one is not able to determine whether this means an improvement in SOL for China or otherwise. The Gini coefficient needs to be used in conjunction with other indicators like real GDP growth rates to determine the change in a country's material SOL over time.</li> <li>• <i>Alternatively, students may choose to explain how inflation rates would not be a reliable indicator to measure China's SOL over time, since the concept of purchasing power is already captured in the indicator 'real' GDP growth.</i></li> </ul> <p><b>Conclusion</b></p> |
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| <p><b>[Stand]</b> Overall, both the use of real GDP growth rates and Gini coefficient may be considered reliable indicators to measure China's material SOL over time. However, non-material SOL indicators are missing from Table 1 entirely. A higher growth rate accompanied with severe pollution will lower the countries standard of living. As such, the indicators given in Table 1 cannot provide a holistic assessment of overall changes in China's standard of living over time. For a more holistic assessment of SOL, composite indicators like HDI are required.</p> |   |                    |
| <p><b>Markers' Report</b></p>   |   |                    |
| <p><b>Skills</b><br/>           Strengths (+): What are the required skills that were well-demonstrated?<br/>           Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?</p>  |   | <b>Aha moment!</b> |
| (+)   | Majority of the students were able to provide 2 indicators for China's SOL.   |                    |
| (-)   | Many students were not able to provide a rigorous elaboration on how the indicator measures the changes in SOL over time; with many merely describing what the indicator is and stating what happened to SOL instead.   |                    |
| (-)   | Many students did not show understanding of the command word " <i>explain whether</i> " and thus did not provide an overall stand.  |                    |
| <p><b>Content</b><br/>           Strengths (+): What are some concepts that were well-explained with clear linkages made?<br/>           Areas for improvement (-): What are some concept gaps / conceptual errors?</p>   |   | <b>Aha moment!</b> |
| (+)   | A handful of students were able to understand that real GDP per capita is the better measurement of changes in material SOL as it would have accounted for both price changes and population size changes – hence their choices of 2 indicators would be real GDP growth and population growth. |                    |
| (+)   | Most students were able to read and interpret the data relatively well.   |                    |

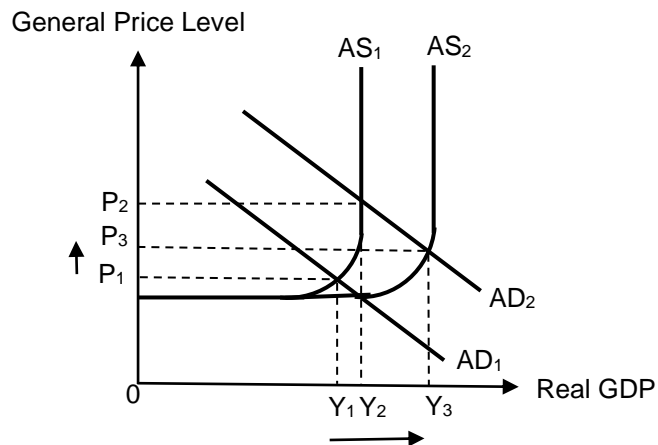


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|   |  | <div><div>(-)</div><div>Some students, however, had weak comprehension of “<i>real GDP growth</i>” in which it has already factored in inflation, yet they still chose to use “<i>inflation</i>” as an indicator to explain the changes in SOL over time, without realising that the concept of purchasing power has already been considered under “<i>real GDP growth</i>”.</div></div> <div><div>(-)</div><div>Students had poor understanding and thus elaboration of “<i>Gini coefficient</i>” as an indicator to measure changes in SOL over time. Some mistook it as Human Development Index, some mistook it as ability to purchase goods and services.</div></div>  |                            |                        |   |                |  |   |                |              |  |  |
| (d)   |  | <b>Discuss whether China should rely more on domestic or external factors to further boost its growth rates. [8]</b>  |                            |                        |   |                |  |   |                |              |  |  |
|   |  | <table><tr><td><b>Command word/phrase</b></td><td><i>Discuss whether</i></td><td>To provide a balanced analysis of how reliance on domestic factors and external factors are possible ways for China to boost its growth rates, before coming to a well-reasoned judgment on whether China should rely more on domestic or external factors to boost its growth.</td></tr><tr><td><b>Content</b></td><td><i>Rely more on domestic or external factors to boost its growth rates further</i></td><td>Domestic factors refer to components of C, domestic investment, and G.<br/><br/>External factors refer to FDI and X.<br/><br/>In this context, boost growth rates refer to both actual and potential economic growth.</td></tr><tr><td><b>Context</b></td><td><i>China</i></td><td>Specifically Extract 2 should be utilised to support analysis.</td></tr></table> | <b>Command word/phrase</b> | <i>Discuss whether</i> | To provide a balanced analysis of how reliance on domestic factors and external factors are possible ways for China to boost its growth rates, before coming to a well-reasoned judgment on whether China should rely more on domestic or external factors to boost its growth. | <b>Content</b> | <i>Rely more on domestic or external factors to boost its growth rates further</i> | Domestic factors refer to components of C, domestic investment, and G.<br><br>External factors refer to FDI and X.<br><br>In this context, boost growth rates refer to both actual and potential economic growth. | <b>Context</b> | <i>China</i> | Specifically Extract 2 should be utilised to support analysis. |  |
| <b>Command word/phrase</b>  | <i>Discuss whether</i>   | To provide a balanced analysis of how reliance on domestic factors and external factors are possible ways for China to boost its growth rates, before coming to a well-reasoned judgment on whether China should rely more on domestic or external factors to boost its growth.   |                            |                        |   |                |  |   |                |              |  |  |
| <b>Content</b>  | <i>Rely more on domestic or external factors to boost its growth rates further</i> | Domestic factors refer to components of C, domestic investment, and G.<br><br>External factors refer to FDI and X.<br><br>In this context, boost growth rates refer to both actual and potential economic growth.   |                            |                        |   |                |  |   |                |              |  |  |
| <b>Context</b>  | <i>China</i>   | Specifically Extract 2 should be utilised to support analysis.  |                            |                        |   |                |  |   |                |              |  |  |
| <i>This question requires students to explain how reliance on domestic factors and external factors may be possible ways for China to boost its</i> |  |   |                            |                        |   |                |  |   |                |              |  |  |

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|  | <p><i>growth rates, before coming to a well-reasoned judgment on whether China should rely more on domestic or external factors to boost its growth.</i></p> <p><b><i>Introduction: set context</i></b></p> <ul style="list-style-type: none"> <li>• The case mentions that China has become more “inward-looking”, shifting “away from a reliance on external demand as a stimulus to growth towards increased dependence on domestic factors” (Extract 2).</li> <li>• This answer will explore the benefits and costs associated with a more inward-looking China, before evaluating whether China should rely more on domestic or external factors to boost its growth rates further.</li> </ul> <p><b><i>Requirement 1: Explain how reliance on domestic factors can be beneficial to help China boost its growth rates further</i></b></p> <ul style="list-style-type: none"> <li>• <b>Reliance on domestic factors like consumption, government expenditure, and domestic investment like “state-owned enterprises (SOEs)” (Extract 2) may be beneficial to help China boost its growth rates further.</b></li> <li>• Greater reliance on domestic factors is beneficial as it can help China become more self-reliant and <u>buffer against negative external shocks in the global economy</u>, reducing the negative impact on China’s economic growth. Relying on external demand is more volatile due to external shocks and possible withdrawal of foreign investment if they find it less profitable to invest.</li> </ul> <p><b><i>Briefly explain how external factors are no longer effective in boosting its growth (Choose 1 external factors below)</i></b></p> <ul style="list-style-type: none"> <li>• From Extract 2, the “post-crisis global recession, belt-tightening in the West, the eurozone crisis, and a general softening of global trade growth in the post-crisis years” will lead to a fall in global incomes. Assuming that China exports are normal goods, the fall in national incomes of China’s trading partners will lead to a fall in the demand for China’s exports, leading to a fall in its AD.</li> <li>• In addition, the “aggressive tariffs and export controls introduced by the Trump administration in the US” (Extract 2) would reduce China’s net exports, reducing its AD. The tariffs would increase the prices of China’s exports, reducing its price competitiveness and hence the quantity demanded of Chinese exports would fall. <ul style="list-style-type: none"> <li>○ Assuming that the price elasticity of demand for Chinese exports is greater than one (demand for Chinese exports is price elastic) due to the availability of substitutes in the world markets, the higher export prices of China will lead to a more than proportionate fall in its quantity demanded, leading to a fall in China’s export revenue and hence net exports.</li> </ul> </li> <li>• The export controls on the US on Chinese exports will reduce the</li> </ul> |
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|  |  |  |
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|  |  | <p>quantity of China's to the US, reducing China's export revenue. The combined effect is a fall in the net exports of China.</p> <p>As China's AD falls, coupled with the reverse multiplier effect, this triggers multiple successive rounds of decreases in income-induced consumption, leading to a multiplied fall in China's real GDP, resulting in negative economic growth, which will <b>reduce the SOL of China</b>. [Explain briefly because it will be explained later in the next paragraph.] By reducing reliance on external factors like net exports, which <u>"no longer make any meaningful contribution to Chinese GDP growth" or "exports as a share of GDP fallen to 20percent"</u> (Extract 2), this can reduce the adverse impacts of a fall in China's net exports on its growth given the external shocks.</p> <p><b><i>Explain how reliance on domestic factors can boost growth → i) Larger extent of change in AD and AS with domestic factors than external factors</i></b></p> <ul style="list-style-type: none"> <li>• By increasing its reliance on domestic factors, China can continue to push for <b>more SOEs</b> to boost its growth rates further even in the face of external challenges.</li> <li>• A rise in domestic investment will increase China's I, boosting its AD since I is a component of AD, inventories will decrease, stimulating more production, employment and output. Assuming spare capacity is present, this will trigger the multiplier effect, leading to successive rounds of increases in income-induced consumption, eventually leading to a multiplied increase in China's real GDP from <math>Y_1</math> to <math>Y_2</math>, and actual economic growth as seen in the diagram below. This will help to mitigate the negative economic growth that China may experience due to the negative external shocks.</li> <li>• Furthermore, an increase in I will increase the quantity of capital stock in China, leading to an increase in its productive capacity and hence LRAS will increase, allowing for greater potential growth.</li> <li>• As AD and AS increases in tandem, <b>China can experience sustained economic growth</b>, where real GDP increases from <math>Y_1</math> to <math>Y_3</math>, but GPL rises only slightly from <math>P_1</math> to <math>P_3</math>.</li> </ul> |
|--|--|--|

**Figure 1: Sustained growth from China's greater push for SOEs**



**ii) Other reason for focusing on domestic demand (Choose one):**

- China should focus on domestic demand due to strategic reasons. China will want to reduce its dependence on imported technology, food and fossil fuel (Extract 2) which lowers imported inflation, increases SRAS and hence boost growth.
- Furthermore, foreign investors may exploit the lax environmental regulation in the host countries to cut cost of production where they could use cheaper but more polluting methods of production. Should this occur, then the non-material SOL of the people in the host country could worsen over time due to increasing polluting environment. (OR It's easier to control domestic investment to ensure that the comply to regulation to control pollution)

**EV1:** Since China is experiencing high growth shown by the positive growth rates in Table 1, it is likely that there is a lack of spare capacity which will result in demand pull inflation in the short run. OR Given the huge domestic investor base of China, this will bring about significant increase in real GDP.

**Requirement 2: Explain how reliance on external factors can be beneficial to help China boost its growth rates further→ i) Larger extent of change in AD and AS with external factors than domestic factors**

- However, greater reliance on domestic factors may not be as beneficial in boosting China's growth rates. In fact, "growth is likely to suffer", since "the efficiency of SOE-led investments is lower than that of

|  |  |
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|  | <p><u>foreign direct investments (FDI)</u>” (Extract 2). This suggests that the increase in AD and LRAS in allowing China to experience sustained growth rates in the future may not be <b>smaller</b> compared to reliance on external factors like private foreign investment (investment from external sources).</p> <ul style="list-style-type: none"> <li>Compared to FDI, greater reliance on SOEs may lead to <b>slower</b> actual growth due to the slower than expected growth in I and hence AD.</li> </ul> <p>OR</p> <p>With influx of foreign investment and trade, there will be better exchange of knowledge, which allow a larger increase in AS since there is increase efficiency in resources and hence productive capacity.</p> <ul style="list-style-type: none"> <li>OR<br/>“Other countries will receive less boost to economic activity” which meant that trading partners’ income will be lowered and hence limit the extent of export revenue that can be received from foreign countries. If increase in domestic demand when focusing inwards is smaller, the benefits is limited.<br/><i>[Note: There is no need to explain the adjustment process here because it's in requirement 1.]</i></li> </ul> <p><b>ii) Other reason for focusing on external demand (Choose one):</b></p> <ul style="list-style-type: none"> <li>Moreover, it could be <u>costly</u> for them to build up their own investment with no technical know-how due to the lack of technology and green energy (Extract 2).</li> <li>Moreover, with slower growth, the government will collect less tax revenue, which can in turn limit its ability to enact redistributive policies to reduce income inequality to promote more inclusive growth which will boost China’s SOL over time.</li> </ul> <p><b>EV2:</b> Over time, as China improves its efficiency of SOE-led investments with <u>greater R&amp;D efforts</u>, this can help reduce the extent to which growth rates will fall with its greater reliance on internal factors to boost growth.</p> <p><b>Summative Conclusion:</b></p> <p><b>[Criterion: Government Intervention]</b> Both domestic factors and external factors can help to contribute towards China’s growth rates, but for a more certain and continual growth in the long run, China should rely more on domestic factors. Over-reliance on external factors could be volatile for China’s growth and the lack of technical know-how in China can be addressed if the Chinese government builds upon the technology and</p> |
|--|--|

technical expertise that have been shared through FDIs in the past, while implementing appropriate policies such as R&D to raise the productive capacity of China.

| Level | Knowledge, Application/Understanding, and Analysis  | Marks |
|-------|---|-------|
| L2    | <p>For a well-developed answer that has:</p> <ul style="list-style-type: none"> <li>• <b>good scope and balance</b> – explain the benefits of relying on domestic factors AND external factors to boost sustained growth rates; and</li> <li>• <b>good rigour</b> – explain using AD/AS analysis and relevant diagram(s); and</li> <li>• <b>good application to context</b> – use the case material where appropriate, to support analysis</li> </ul>                     | 4 – 6 |
| L1    | <p>For an under-developed answer that:</p> <ul style="list-style-type: none"> <li>• lacks scope and balance – only explains the benefits associated with greater reliance on domestic factors OR external factors in boosting both actual and potential economic growth; and/or</li> <li>• lacks rigour – descriptive explanation with little use of AD/AS analysis</li> <li>• lacks application to context – limited use of case material to support analysis</li> </ul> | 1 – 3 |
| Level | Evaluation  | Marks |
| E2    | <p>One explained evaluative statement + One recommendation.</p> <ul style="list-style-type: none"> <li>• 2<sup>nd</sup> EV mark can only be given when recommendation is supported using earlier evaluation.</li> </ul>   | 2     |
| E1    | <p>One explained evaluative statement.</p> <ul style="list-style-type: none"> <li>• No marks for listing down of irrelevant evaluative points.</li> </ul>   | 1     |

| Markers' Report  |   |             |
|--|---|-------------|
| Skills   |   | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?   |   |             |
| (+/-)  | Majority of the cohort could identify the two requirements of the question, although some only gave a one-sided answer. Those who gave a two-sided answer did not give a convincing judgement at the end. For example, they stated that both domestic and external factors helped to boost growth.  |             |
| (+/-)  | Majority of the students could identify the relevant evidence to support the two requirements in the question. Most of the students were able to identify evidence that explained why the extent of change in AD was larger for domestic factors and external factors respectively. However, they were weaker in finding other reasons in the case evidence to support why domestic factors or external factors should be stimulated. |             |
| (+/-)  | Majority of the students were able to link back to the question's intent by connecting their explanations to growth rates when addressing the two requirements. However, some gave valid reasons such as "costly" but did not explain how this would impact GDP growth rates.   |             |
| (-)  | Some students repeated the adjustment process twice in their response, which was not required since the analysis had already been displayed in requirement 1.   |             |
| (-)  | Some students misinterpreted the question's intent. They listed and explained various policy approaches to boost domestic and external factors instead of comparing whether stimulating domestic or external factors would bring about greater growth.  |             |
| Content  |   | Aha moment! |
| Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |   |             |
| (+)  | Students were well-informed of the characteristics of the Chinese economy, such as having large domestic demand, a large population, and being a major player in the international arena.   |             |
| (+/-)  | Most of the students were able to identify and  |             |

|                            |                          |  |   |                            |                          |  |  |
|----------------------------|--------------------------|--|---|----------------------------|--------------------------|--|--|
|                            |                          |  | explain evidence that supported the extent of change in AD being larger for domestic factors and external factors respectively. A well-explained answer should have included the impact of external shocks, i.e., a fall in export revenue on Chinese growth, or the impact of higher consumption and investment on Chinese growth rates using AD-AS concepts. Some students tended to be assertive in their responses. For instance, they explained that China should rely more on its consumption and investment expenditure to boost growth because of the potential threats from external shocks, without analysis. |                            |                          |  |  |
|                            |                          | (-)  | Students used the multiplier size to support the idea that boosting domestic demand or external demand would have a larger impact on the economy. However, they failed to realise that the change in national income equals the change in injection multiplied by the multiplier. Since the multiplier size does not change, the extent of change in national income is affected by the change in injection, not the multiplier size.   |                            |                          |  |  |
|                            |                          | (-)  | A handful of students explained that a fall in import expenditure affected aggregate demand. However, AD is affected by changes in domestic consumption expenditure plus investment expenditure plus government expenditure and export revenue.   |                            |                          |  |  |
|                            |                          | (-)  | Some students instinctively included the Marshall-Lerner condition when they explained the impact on export revenue, which was not required here because there were no change in exchange rates.  |                            |                          |  |  |
|                            |                          | (-)  | Some students wrote the various policies to stimulate the domestic and external demand which is not the question intent.  |                            |                          |  |  |
| (e)                        |                          | <b>Discuss the extent to which various supply-side policies can be used by the Singapore government to achieve sustainable economic growth. [10]</b>       |   |                            |                          |  |  |
|                            |                          |  | <table><tr><td><b>Command word/phrase</b></td><td><i>Assess the extent</i></td><td>TAS→ requires balanced approach (Thesis.Anti-thesis.Synthesis approach) with some form of ranking (comparison of different types of supply-side policies))</td></tr></table>   | <b>Command word/phrase</b> | <i>Assess the extent</i> | TAS→ requires balanced approach (Thesis.Anti-thesis.Synthesis approach) with some form of ranking (comparison of different types of supply-side policies)) |  |
| <b>Command word/phrase</b> | <i>Assess the extent</i> | TAS→ requires balanced approach (Thesis.Anti-thesis.Synthesis approach) with some form of ranking (comparison of different types of supply-side policies)) |   |                            |                          |  |  |



|                |   |   |
|----------------|---|---|
| <b>Content</b> | <i>Supply-side policies to achieve sustainable growth</i> | <ul style="list-style-type: none"> <li>• Various “supply-side policies” → link to market-oriented and / or interventionist supply-side policies</li> <li>• Sustainable growth → link to sustained growth then sustainable growth</li> </ul> |
| <b>Context</b> | <i>Singapore</i>  | Specifically Extract 3 should be utilised to support analysis.  |

***Introduction: set context***

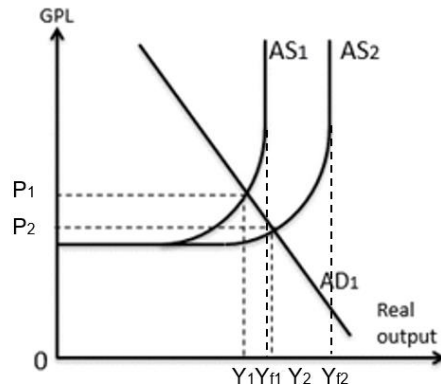
Define sustainable economic growth

It refers to sustained economic growth that can be maintained without creating other significant problems for future generations. Problems such as rapid depletion of resources, damage to environment such as through pollution. Sustained economic growth refers to both actual growth and potential growth, which is a pre-requisite to sustainable growth.

Supply-side policies include measures that ‘facilitates the adoption of energy efficiency and emissions reduction technologies through grants and other policy tools to overcome high upfront capital investments and other non-market barriers’ as given in Extract 3 para 3.

**Requirement 1: Explain supply side policies such as subsidies to energy efficiency technologies to achieve sustainable growth**

1. By giving grants to firms to encourage ‘use of energy efficiency and emission reduction technologies’ will mean subsidise firms in using such energy efficient technology which helps to lower cost of production of the firms. This incentivises firms to produce output, increasing AS and illustrated by a downward shift of the AS curve.
2. Moreover, such subsidies will enable firms to use its own funds to make investment in other areas such as capital stocks to enhance economy’s productive capacity which brings about an increase in full employment income level. This is illustrated by a rightward shift of the AS curve.



**Figure 1**

**Diagram explanation (Link to economic growth: actual, potential, and sustained)**

As such, full employment level of resources increases from  $Y_{f1}$  to  $Y_{f2}$ , thus achieving potential growth. Assuming economy is initially operating with limited spare capacity, an increase in the AS will also bring about actual growth as real output increases from  $Y_1$  to  $Y_2$ . In addition, it lowers the GPL to  $P_2$ . Thus, it would be effective in promoting sustained growth (non-inflationary growth).

[link to less resource depletion and hence sustainable growth]  
By adopting the 'energy efficient and emission reduction technology' → it reduces the negative externalities from production by using traditional energy sources such as fossil fuel. This reduces the pollutants entering the air → MEC decreases. The MSC is now closer to the MPC, and the overproduction is reduced. There is lesser misallocation of resources and hence a smaller deadweight loss. Society's welfare increases.

OR

The increase usage of the 'energy efficient and emission reduction technology' → achieve higher output with fewer resources → there is an increase in productivity and less significant depletion of resources → quantity of resources do not decrease as much, and if rate of capital accumulation exceeds the rate of resource depletion, the AS could continue to shift rightwards. Thus, future SOL is not compromised.

3. [Strength] Promotes non-inflationary growth (achieves price stability – one of the macroeconomic objectives) Supply-side measures such as subsidies / grants given can also lead to increase in AD too via

|  |  |
|--|--|
|  | <p>increase in G. An increase in AD with increasing AS can lead to non-inflationary growth, helping to ensure price stability.</p> <p>4. [Limitation] [Costly] Such 'energy efficient and emission reduction technology' may be very costly as compared with the traditional energy source. If the industry is the capital-intensive kind, energy cost will take up a big proportion of its total cost. The grants provided by government may not be able to lower its cost significantly, therefore, firms may be reluctant to adopt such a switch. As a result, sustainable growth may not be attainable.</p> <p>OR</p> <p>[Uncertain] Research and development into this 'emission reduction technology' is still ongoing, such investment involves high risks. The results of such R&amp;D are not guaranteed and there is a possibility that R&amp;D efforts might not yield any results despite aggressive government support. <i>or</i></p> <p>There is a long gestation period before R&amp;D efforts can yield tangible results.</p> <p><b>[EV1: C: Constraints, Re]</b> Singapore government is prudent in their spending and has large government reserves to tap on. This enables them to have sufficient government funding to employ the above supply side policies. [O] While it involves high opportunity costs, the supply side policies bring about greater benefit if successful. Furthermore, [C: Context, Re] given that the Singapore government is constantly encouraging industries to be innovative, firms and workers are more receptive towards new ideas and are more resourceful to tap on expertise around the world given its strong trade links with many trading partners. [O] This brings about certainty in the outcome.</p> <p><b><u>Requirement 2: Explain supply side policies like direct provision of infrastructure such as green transport can achieve sustainable growth</u></b></p> <p>1. Another supply side policies is the signing of UK-Singapore Green Economy Framework, the direct provision of infrastructure. There will be an increase in government spending on physical and digital infrastructure which raises the quantity of resources due to greater capital stocks. The adoption of digital infrastructure could also raise the productivity of the labour force, increasing output per manhour and hence productive capacity of the economy which shifts the AS curve rightwards. This bring about the same impact as Figure 1.</p> <p>2. [link to less resource depletion and hence sustainable growth] Assuming that the investment is in green technology or process-</p> |
|--|--|

|  |  |
|--|--|
|  | <p>innovation in terms of more efficient usage of resources (that prevents the rapid decline of resources for future generations), this will lead to sustainable growth.</p> <p>3. [Strength] With collaboration of with the UK, Singapore can harness its experiences and expertise. With transfer of knowledge will enhance efficiency, which allow a larger increase in AS, hence productive capacity. Furthermore, the collaboration make domestic industries more competitive on the global stage, enhancing exports and improving the trade balance.</p> <p>4. [Limitation] [Long term] There could be considerable time lag before the benefits are realized. Improvements in infrastructure, education, and technology take years to materialize and impact the economy. This delayed effect can make it challenging to address immediate economic issues.</p> <p>[Extent of reducing in income gap] The UK- Singapore collaboration may might disproportionately benefit larger corporations and wealthier individuals because they have better access to resources and information, potentially widening the income gap and leading to social and economic disparities.</p> <p><b>[EV2]: Criterion:[C: Context, Re]</b> For a rapidly evolving economy like Singapore where she has ability to adapt quickly to global economic changes, [O] it is likely to shorten the time lag required to adopt technology. Furthermore, there could be other short term policies like expansionary fiscal policy that could help in achieving actual growth in the short term. Furthermore, given that Singapore government aims to achieve inclusive growth, they will be more mindful that the benefits of the collaboration is equally distributed for instance, there could be grants directed to small medium enterprise and sectors that employ a large proportion of lower-income workers. Singapore government also engages a broad range of stakeholders via forums in policy making process to ensure that diverse perspectives are considered.</p> <p><b><u>Summative Conclusion:</u></b></p> <p>[O] Supply-side policies can be used by the Singapore government to achieve sustainable economic growth to a large extent. This is because of the large government reserves that Singapore has [C: Constraints, Context] to put in relevant policies such as demand-management policies to better achieve sustained economic growth. Moreover, [C: Constraints, Context] Singapore's robust digital infrastructure and tech-savvy population position it uniquely to effectively implement supply-side policies. [Re] The nation's advanced digital ecosystem facilitates comprehensive data collection, enabling timely decision-making. This strong digital</p> |
|--|--|

| <p>connectedness ensures that policymakers can monitor economic trends in real-time, respond swiftly to changes, and optimize resource allocation efficiently. Consequently, the high level of digital literacy among citizens further enhances the effectiveness of these policies, as they are more likely to engage with and benefit from digitally-driven economic initiatives. Thus, Singapore's technological prowess and digitally-engaged populace significantly contribute to the success of its supply-side policies.</p> |  |       |
|---|--|-------|
| Level   | Descriptors  | Marks |
| L2  | <p>A balanced response that contains well-explained economic reasoning and analysis on two types of supply-side policies that Singapore may implement in order to achieve economic outcomes in the question (i.e. sustained economic growth and sustainable growth).</p> <p><i>NOTE: Policy 1 may achieve sustained economic growth, whilst Policy 2 may achieve sustainable growth. Answers that discuss objectives being achieved by different policy instruments separately.</i></p>  | 4-7   |
| L1  | <p>Mere listing of key terms and unexplained assertions, e.g. application of economic policy without linking it to economic outcomes in the question (i.e. sustained economic growth and sustainable growth).<br/>Answers may also demonstrate incorrect or no use of economic analysis (i.e. AD-AS analysis).</p> <p>A one-sided response that explains <b>one policy approach</b> that Singapore may employ to achieve sustained economic growth (i.e. actual <u>AND</u> potential economic growth) <b>AND</b> sustainable growth.</p> <p>A one-sided response that explains <b>one policy approach</b> that Singapore may employ to achieve sustained economic growth (i.e. actual <u>AND</u> potential economic growth) <b>OR</b> sustainable.</p> | 1-3   |
| Level   | Descriptors  | Marks |
| E3  | <p>One <b>explained</b> evaluative statement + One recommendation.<br/>3<sup>rd</sup> EV mark can only be given when recommendation is supported using earlier evaluation.</p>   | 3     |
| E2  | One <b>explained</b> evaluative statement OR Two   | 2     |

|  |    |   |   |
|--|----|---|---|
|  |    | <p><b>weakly supported</b> evaluative statements.<br/>Comparison of strengths and/or limitation of the two policies considered well explained.<br/><i>E.g. of explained evaluative statement: The use of interventionist supply-side policy to finance government infrastructure will raise G and lead to a rise in AS and AD, achieving actual and potential economic growth. This may require significant use of the government's budget, which incurs an opportunity cost. The government may have to cut down on the use of transfers and social spending such as subsidies on education and healthcare, which often are given to low-income households, to finance the infrastructure building. As such, the pursuit of economic growth through interventionist supply-side policy may actually worsen income inequality, as the government may shift their priorities away from supporting low-income households.</i></p> |   |
|  | E1 | One evaluative statement that may be <b>poorly substantiated or not supported</b> by the arguments presented in the answer.   | 1 |

| Markers' Report  |  |             |
|--|--|-------------|
| Skills   |  | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated? |  |             |
| (+)  | Most students could give the two main requirements in their answers.   |             |
| (+/-)  | Majority of the students were able to use the "what it is, how it works, and how well it works" framework when explaining supply-side policies and were able to contextualise their answers to Singapore.  |             |
| (+/-)  | While students were able to explain the limitations, they tended to list many limitations instead of explaining one limitation well and developing a reasoned judgement using the limitation. Students need to know that a well-explained limitation is stronger than a list of limitations. |             |
| (+/-)  | While students gave a final judgement, they were unable to use case evidence to give well-substantiated answers.   |             |
| (-)  | Some students gave a purely theoretical answer   |             |

|  |       |   |                    |
|--|-------|---|--------------------|
|  |       | without making any reference to case evidence in their answers.   |                    |
|  |       | <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors?  | <b>Aha moment!</b> |
|  | (+)   | Many of the students were able to identify supply-side policies such as education and retraining and R&D to achieve sustainable growth.   |                    |
|  | (+/-) | Students were aware that sustainable growth comprises two aspects: sustained growth and the absence of significant problems such as resource depletion for future generations. However, some students were assertive when explaining how supply-side policies bring about sustained growth. For instance, students linked the policy directly to AS increasing, omitting the linkages. That said, the linkage to sustainable growth tended to be weaker than to sustained growth. |                    |
|  | (-)   | A small group of students used a fall in direct taxes as a supply-side policy but focused on explaining how it affected AD. Students needed to note that the policy intent of supply-side policies is to increase AS, not AD; the increase in AD is a side effect.  |                    |
|  | (-)   | Some students focused only on the shift in the SRAS curve without shifting the LRAS when explaining supply-side policies.   |                    |
|  | (-)   | Some students used pollution control, carbon taxes, tradable pollution permits, and legislation against pollution as supply-side policies but did not explain how they affected AS. Students needed to reconsider their choice of supply-side policies and explain their impacts on AS.   |                    |
|  | (-)   | Students tended to explain the first supply-side policy well but were unable to explain the second supply-side policy. They were unable to complete their answers because too much time was spent recalling the linkages to explain the supply-side policies.   |                    |

## **MY REFLECTION/LEARNING POINTS FROM SECTION A**

After going through the corrections in class and reviewing the suggested answers to SECTION A, here is my...

**1** reflection/learning point with respect to SKILLS:

**1** reflection/learning point with respect to CONTENT:



## Section B: Essay Question 2

Apple is quietly making a series of acquisitions of Artificial Intelligence (AI) startups, gaining access to top-tier talent and innovative technologies. However, it is facing scrutiny from antitrust officials as the Federal Trade Commission of the United States demands information about its acquisitions that may have eliminated emerging competitors and increased prices for consumers.

Source: adapted from *Financial Times*, 24 January 2024

- (a) Explain a possible cost advantage and a possible revenue advantage for Apple in acquiring AI startups. [10]
- (b) Discuss whether consumers will be disadvantaged by market dominance and what might be the most appropriate form of government intervention. [15]

### Suggested answer for (a)

#### Introduction:

- **Acquisition:** When one firm purchases another firm from its shareholders. This is known as an acquisition or a takeover.
- The decision to acquire AI companies could be influenced by the need to pursue cost savings and increased revenue and hence onwards to greater profitability.

#### Body/development:

#### Requirement 1: Gains access innovative technologies – cost savings from process innovation

Through acquisition of AI companies, tech giants gain access to innovative technologies, this allows tech giants to employ more efficient methods of production to keep costs low. For example, firms could adopt AI technology to increase productivity and reduce the manpower needed. The tech giants therefore enjoy lower marginal cost (MC) and unit cost of production.

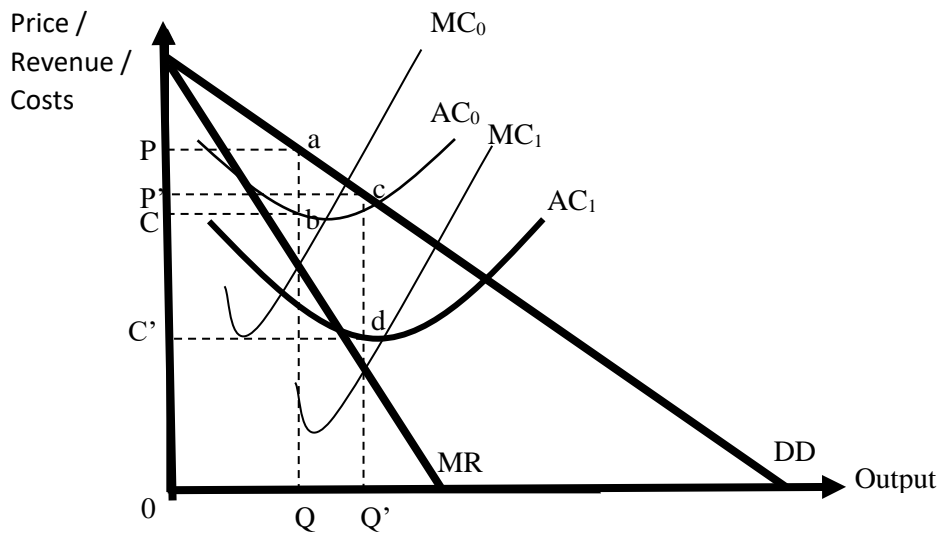


Figure 1

Before the process innovation, the firm would set its output at  $OQ$  based on the profit-maximising condition of  $MC_0 = MR$  (marginal revenue), and charge a corresponding price of  $P$ . After the process innovation, the firm now operates with lower marginal cost of production from  $MC_0$  to  $MC_1$ . Average cost will also fall from  $AC_0$  to  $AC_1$ . When the MC is lowered, the profit-maximising firm now finds that  $MR$  exceeds  $MC$  and adjusts its output to  $OQ'$  where  $MR$  cuts  $MC_1$ . The firm will charge a lower price at  $P'$  and sell more units at  $Q'$ . The level of profits will increase from  $PabC$  to  $P'cdC'$  as seen in Figure 1. Hence, this explains why tech giants acquire AI companies.

**Requirement 2: Revenue advantage (increase demand + demand becomes more price inelastic)**

An acquisition is when one firm takes over another firm and completely establishes itself as the new owner. When a tech giant such as Apple acquire an AI company, it is able to bolster its existing artificial intelligence (AI) capabilities to produce improved products as it gains access to top-tier talent and innovative technologies. This will lead to higher demand for the tech giant's products. Furthermore, the improved products can also lead to demand for the tech giant's products to be more price inelastic as the products have more unique features and consumers now have fewer substitutes to switch to. For example, newer iPhone models via the new iOS 17 operating system, include automated transcription of voicemails, so a person can see who's calling before picking up a phone call, and more extensive predictive text recommendations from the iPhone keyboard.

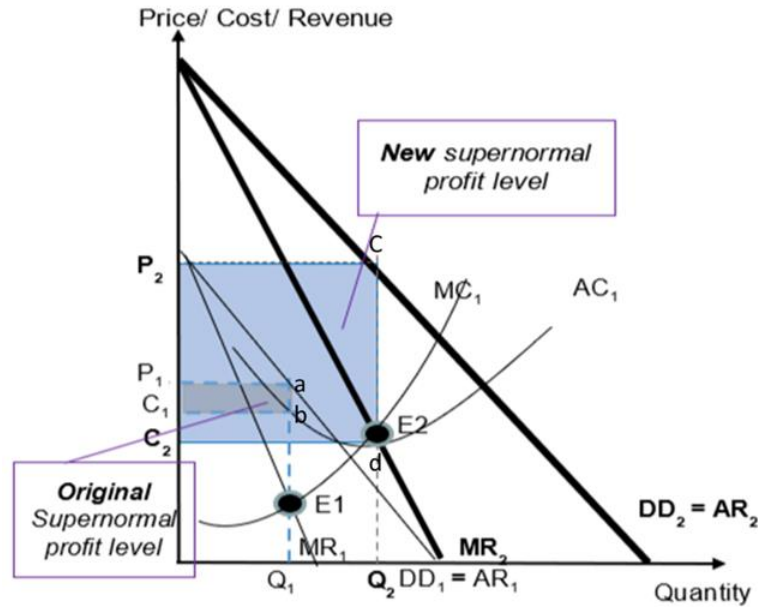


Figure 2

With reference Figure 2, before the acquisition, the demand curve and marginal revenue curve for the incumbent firm would resemble  $DD_1$  and  $MR_1$  respectively. The firm would then set its output at  $OQ_1$  based on the profit-maximising condition of  $MC_1=MR_1$ , and charge a corresponding price of  $P_1$ , which is the highest price consumers are willing and able to pay for  $Q_1$  units. Assuming similar costs, with the acquisition, the incumbent firm now has a demand curve which resembles  $DD_2$  and hence an MR curve which resembles  $MR_2$  as it faces a higher level of demand. In addition, the demand for its good is less price elastic as there are now fewer substitutes.

The profit-maximising firm now finds that  $MR_2$  exceeds  $MC_1$  at  $Q_1$  and adjusts its output to  $Q_2$  where  $MR_2=MC_1$ . Hence the firm has a greater price-setting ability shown by the rise in price to  $P_2$  and a rise in output to  $Q_2$ . As output of the firm increases, enabling it to have a larger market share, the firm gains market dominance in the industry. This leads to higher TR which is price multiplied by quantity sold. Profits therefore increases from  $P_1abC_1$  to  $P_2cdC_2$ , assuming the rise in TR is greater than the rise in TC. Hence, this explains why tech giants acquire AI companies.

### Conclusion:

Tech giants acquire AI companies for reasons associated with increased profitability.

### Part (a) Marking Scheme

| Level        | Knowledge, Application, Understanding, Analysis  |
|--------------|--|
| L3<br>(8-10) | <ul style="list-style-type: none"> <li>Analytical explanation of reasons of cost savings from process innovation and increased revenue, recognising that the underlying motive is to increase profits.</li> </ul>  |
| L2<br>(5-7)  | <ul style="list-style-type: none"> <li>Limited rigour to analysis of above reasons of cost savings from process innovation and increased revenue.</li> <li>Unbalanced analysis, answer based only on cost savings or increased revenue.</li> <li>Inaccurate analysis of either cost savings from process innovation or increased revenue.</li> </ul> |
| L1<br>(1-4)  | <ul style="list-style-type: none"> <li>Listing of points, not contextualised to tech industry.</li> <li>Some knowledge of process innovation and/or increased revenue.</li> </ul>  |

| Markers' Report  |  |             |
|--|--|-------------|
| Skills   |  | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?   |  |             |
| (+)  | Majority of the students were able to address the two requirements of the question i.e. one cost factor and one revenue factor, both relating to an increase in profits.   |             |
| (-)  | Limited scope and depth. Answers were largely descriptive and lacking in analysis. Students should utilise firm analysis using appropriate diagrams.   |             |
| (-)  | Diagrams drawn were not well utilised in the answers. Students need to be mindful that diagrams drawn should be thoroughly explained. This will also help students acquire “analysis” marks.   |             |
| Content  |  | Aha moment! |
| Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |  |             |
| (+)  | Most students were able to explain the benefit that Apple would obtain in acquiring AI startups through higher revenue, though the quality of explanation differed across scripts.   |             |
| (-)  | Many gave descriptive explanations of how acquiring AI startups results in higher TR or lower TC. For instance, students merely mentioned that product innovation will lead to larger consumer base hence they will buy more thus TR increased or process innovation helps to save cost hence TC falls. They did not link product innovation to increase AR/DD |             |

|     |  |  |
|-----|--|--|
|     | due to people's preferences & MR nor process innovation to decrease MC & AC. No analysis of the impact on P & Q, no diagram(s) to support explanation and no linkage to the intent of profit motive for firms.                         |  |
| (-) | For those who did firm analysis, some drew diagram(s) but did not refer to it or explain it. They merely skipped to identify the new profit area and never explained how the profit areas changed. Often, the diagrams were erroneous. |  |

### Suggested answer for (b)

**Discuss whether consumers will be disadvantaged by market dominance and what might be the most appropriate form of government intervention. [15]**

#### Introduction

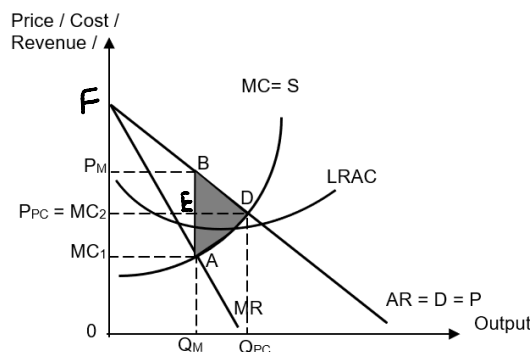
The lack of competition would imply that the firm has significant market power. In such cases, the government would intervene to protect the consumers.

In this essay, we will discuss the impacts of market dominance on consumers and how government intervention works and whether it will be successful in protecting the consumers, in terms of ensuring prices are kept low and a wide variety of choices is provided, hence ensuring consumer surplus/welfare is maximised.

**Requirement 1a: Explain how consumers are disadvantaged by market dominance**

Market dominance leads to higher price and lower output

Allocative efficiency is achieved when resources are allocated in such a way that the right quantity of every commodity is produced. It is defined as a situation in which it is impossible to change the allocation of resources in such a way as to make someone better off without making someone else worse off. It is achieved when for each good produced, its marginal cost of production is equal to its price. That is  $P = MC$ .



However, firms with significant market dominance may abuse market power and set price above marginal cost ( $P > MC$ ), resulting in underproduction. This explains why Apple is able to charge a high price for its products. With reference to the diagram

above, a firm with market dominance will hence produce where  $MC = MR$  and where  $MC$  cuts  $MR$  from below at  $Q_m$  in order to maximise profit. This implies that consumer welfare is not maximised because the value that consumers place on the additional units (represented by price) is higher than what it cost the producer to produce 1 more unit of the good (represented by marginal cost), showing that more output is desired by consumers. Hence, there will be a fall in consumer surplus from  $FDP_{pc}$  to  $FBP_m$  due to rise in price and fall in output. The underproduction of the good has led to a deadweight loss due to the fall in consumer surplus by  $BDE$  and the fall in producer surplus by  $DEA$ .

**Requirement 1b: Explain how consumers may not be disadvantaged by market dominance**

Imperfectly competitive firm with large market power often has a faster rate of technological advancement. They are able to earn supernormal profits even in the long run due to significant barriers to entry. This allows them to accumulate profits that may be channelled to the funding of research and development of new and higher quality products. This is referred to as product innovation. Accumulated profits may also be channelled to development of new and more efficient processes, resulting in process innovation.

When firms are dynamic efficient, it benefits the consumers as consumers can now enjoy new and higher quality products thus increasing consumer surplus. Consumer can perhaps also enjoy lower prices if the lower unit cost of production due to increase in efficiency in production is passed on to them.

OR

Large tech firms with market dominance may be able to achieve substantial internal economies of scale. For instance, the firms can afford to invest in specialist capital machinery. These modern machines are suitable for large firms whose output levels are high. A large firm's use of an indivisible input would be economical because the cost of the indivisible input is spread over a large quantity of output. Machines would be used more fully, thereby lowering average cost of production, hence the marginal cost curve of the large firm will be lower. The large firms can then produce a larger quantity and charge a lower price. Thus, increasing consumer surplus and benefitting consumers.

**EV (R1) [Criterion: Nature of the industry – extent of contestability]** However, whether a firm with market dominance may or may not be disadvantaged by market depends on the extent of contestability in the tech industry. In the case of the tech industry, it is highly contestable as Apple has many competitors such as IBM, Google, Microsoft, Amazon and Samsung, hence, a firm with market dominance may still behave more competitively and the price charged will thus be relatively lower. Firms such as Apple may also have an incentive to innovate to maintain its position and market share as the tech industry is highly contestable. Moreover, due to its market dominance, Apple is able to earn supernormal profits in the long run due to high barriers to entry. Product innovation allows the firm with market dominance to increase product variety and improve quality of its products which will therefore increase consumer satisfaction / welfare. For example, the tech giant introduced updates to iOS devices and new product launches, including a virtual reality headset.

**Requirement 2a: Explain and evaluate how anti-trust laws could protect consumers**

Federal Trade Commission (FTC) set anti-competitive laws against acquisitions and other restrictive practices to increase consumer sovereignty and choices. The government set laws and regulations to prevent firms from exploiting their market power by preventing acquisitions. The regulatory body such as FTC will make recommendations based on in-depth inquiries conducted into possible cases of abuse of market dominance, administer and enforce regulations set by the government. For example, the FTC can block the acquisition if it feels that the acquisition could hurt competitors and consumers.

Fear of punitive measures such as fines makes firms adhere to the laws to prevent tech giants from acquiring startups to prevent exploitation of market power. Monitoring and checking will be done by the government, usually a regulatory body to ensure adherence. This ensures that price of the products do not increase by a large extent and consumers have choice to choose from a variety of products. Hence, protecting consumers.

**Explain why anti-trust laws are appropriate to protect consumers:**

**Advantage:** The advantage of FTC is that authority will use case-by-case method and as a result, select the most appropriate solution or recommendation. It is a powerful tool since it is mandatory, it enables firms to remain competitive and hence allow efficiency.

**Limitations of antitrust law**

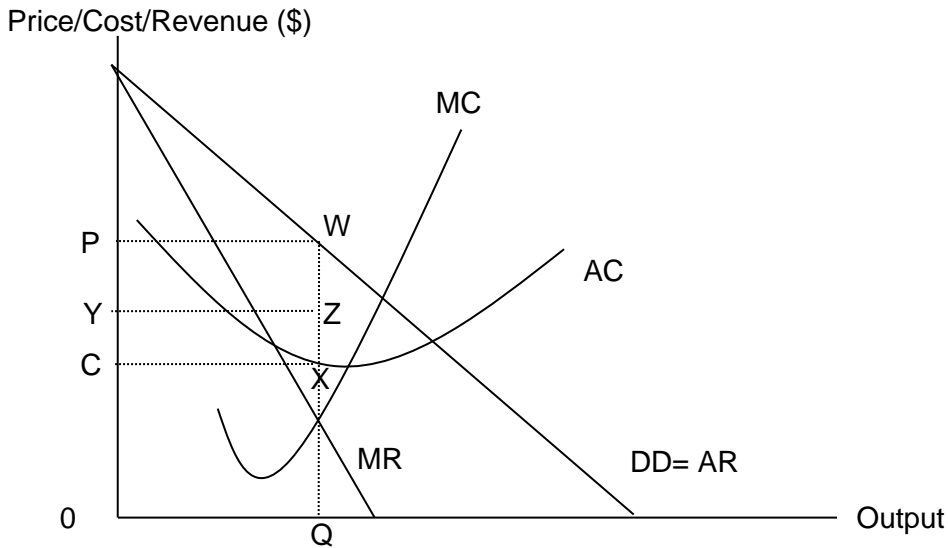
**Limitation:** For antitrust law to be an effective measure, the government needs regular checks to ensure adherence. This requires large amount of manpower to monitor and enforce, which involves high opportunity cost. Investigating potential offending firms may also be time-consuming and takes many years before a verdict is announced.

**EV (R2a) [Criterion – Nature of the industry]** Hence, antitrust laws may not quell anticompetitive behavior in a timely manner, which is especially important in tech industry where technological change is rampant. Law enforcers may also lack the high level of technical knowledge required to understand the nature of the tech industry for a fair verdict to be passed. Moreover, even if regulators are successful in proving anticompetitive behavior by the tech giant, the penalties will likely be in the form of large fines, which may not serve as an effective deterrent for such huge, highly profitable companies. Hence, there is also a need to review penalties to ensure it serve as effective deterrent to prevent abuse of market power.

**Requirement 2b: Explain how profit tax could protect consumers**

Taxes are sometimes imposed to reduce the excessive economic profits earned by firms. These are compulsory payments by firms to the government and seek to narrow the income inequality in the society to protect consumers. Hence it can be used to deal with the problem of inequality arising from market dominance.

A profit tax is a tax on profit and will not affect the firm's costs. As such, equilibrium price and output remains unchanged at OP and OQ as seen in the figure below.



A profit tax of area PWZY would simply reduce the profits from area PWXC to area YZXC. Such taxes help to narrow the income inequality between the higher income shareholders and the lower income consumers.

**Advantage:** High supernormal profits can attract unwanted attention from the government who is concerned that the firms may be exploiting consumers. Hence, taxes can be an effective measure to restrict the ability of firms to exert their market power for fear of attracting unwanted attention from the government and hence a high level of taxes. Therefore, firms try to avoid making excessive profits by charging at a price closer to the competitive level. This will improve the allocative efficiency of the firm and also ensure that the level of profits for these firms remain relatively lower, hence improving equity. Hence, profit tax will protect consumers.

### Limitations of profit tax

**Limitation:** Loss of incentive to innovate reduces dynamic efficiency and welfare gains. Profit taxes may reduce the incentive for producers to lower the cost of production since a lower cost translates into a higher profit which would be taxed away. In addition, taxes on profits leave the firms with less funds to conduct research and development (i.e. product innovation). This lowers the level of dynamic efficiency which may have an adverse impact on consumer's welfare in the long run as consumers' choices may be restricted due to the lack of availability of funds for research and development.

OR

**Limitation:** Big tech companies may also use subsidiaries in low-tax countries such as Luxembourg, Bermuda and Ireland to sell services to end markets such as the UK. Globally, Fair Tax Mark calculated, the six big tech companies had paid \$100bn less cash in taxes over a decade than they had provided for in their accounts, primarily by



shifting profits to tax havens and using creative accounting techniques that are legal but are usually unavailable to smaller companies.

**[Criterion – Level of supernormal profit]** As big tech firms earn extensive supernormal profits, profit tax may not be effective in protecting the consumers. The firms may persist with the current operating model if it yields more profit, even after paying the tax. **[Recommendation]:** To limit the size of those businesses, the tax could be progressive, with higher rates for larger companies. This will prevent acquisition and hence market dominance at the expense of consumers as the firm's total tax bill would go up if there is acquisition and merger.

### **Conclusion:**

**[Criterion – Extent of the problem]** Regulators have accused companies like Apple of erecting insurmountable barriers around their products, thus hindering consumers from switching to alternative services. Apple has been monopolising the smartphone market, impeding competition, and inflating prices. As the extent of the problem is severe, antitrust law is the most appropriate policy compared to profit tax in the context of tech industry as it is a powerful tool as it is mandatory. Thus, it will be more effective and brings about certainty in outcome.

**[Criterion – Nature of the product]** In the era of tech giants, the digital economy characterised by the dominance of a few tech companies, has created a new landscape where data is the new oil, and network effects create potent monopolies. The current antitrust framework primarily focuses on consumer welfare, usually measured by price. However, many tech giants offer free or low-cost services, making it difficult to apply traditional antitrust analysis. For instance, Google provides its free search engine, email service, and many other products. These companies generate revenue not through direct payments but through advertising, fueled by the vast amounts of data they collect. Tech companies' control over this data gives them an unparalleled competitive advantage, allowing them to reinforce their dominance and stifle competition. **[Recommendation] Hence, there is a need for governments and regulators to proactively update laws and regulations to keep pace with technological advancements.** For instance, antitrust laws can move beyond a narrow focus on price and consider other factors, such as control over data, the role of network effects, and the potential for anti-competitive behavior in the digital economy to ensure a level playing field in the era of tech giants.

OR

**[Recommendation]** While preventing anti-competitive behavior is essential, antitrust laws should also be designed to encourage innovation. This means there is a need to consider the potential benefit for innovation in antitrust analysis.

OR

**[Recommendation]** The dominance of tech giants can deter new entrants, who may deem competing against such entrenched players insurmountable due to significant high barriers to entry. Antitrust laws can create a more balanced ecosystem that encourages innovation and allows new players to compete more fairly. Greater

competition can be further encouraged if government complement anti-trust laws with deregulation/liberalisation. This increases the level of contestability and competition, driving innovation and growth ultimately benefit consumers, offering them various choices and improved services.

| <b>Knowledge, Application, Understanding and Analysis</b> |   |       |
|---|---|-------|
| <b>L3</b>   | For a well-developed and organized discussion of the <u>main requirements</u> using relevant analysis with recognition of the context of tech industry. <ul style="list-style-type: none"> <li>• Answer is relevant to question and good use of WELL-EXPLAINED theory.</li> <li>• There must be clear written explanation supported by a tool of analysis, such as a diagram.</li> <li>• Good ability at organising ideas or discriminating between relevant and irrelevant material. Answer is well focused on the question.</li> </ul>  | 8-10  |
| <b>L2</b>   | For an undeveloped analysis of the <u>main requirements</u> AND/OR without addressing the context of the question. <ul style="list-style-type: none"> <li>• Answer is related to question, but theory incompletely explained or has minor errors.</li> <li>• Some ability at graphs with incomplete explanation.</li> <li>• Limited ability at organising ideas or discriminating between relevant and irrelevant material (e.g. a pre-learnt generic answer)</li> </ul>  | 5-7   |
| <b>L1</b>   | For an answer that descriptively explains the <u>main requirements</u> with limited or no analysis. <ul style="list-style-type: none"> <li>• A few valid points</li> <li>• Answer mostly irrelevant or inaccurate</li> <li>• Meaning of question not properly grasped</li> <li>• Basic errors of theory</li> <li>• Inadequately explained</li> </ul>  | 1-4   |
| <b>Evaluation</b>   |   |       |
| <b>E3</b>   | For an answer that arrives at an analytically well-reasoned judgement about the effectiveness of the 2 policies to protect consumers. <ul style="list-style-type: none"> <li>• A well-explained evaluative judgement about the <u>requirements</u>.</li> <li>• <b>PLUS</b> an overall summative conclusion* leading to a well-explained evaluative judgement about which, in any, is the best outcome (so far as required by the question).</li> </ul> <p>Note: A summative conclusion* is one that gives ADDITIONAL evaluation and not one that is REPETITION of evaluation given earlier.</p> | 5     |
| <b>E2</b>   | For an answer that makes some attempt at evaluation.  | 3 - 4 |

|           |   |       |
|-----------|---|-------|
|           | <p><b>4m:</b></p> <ul style="list-style-type: none"> <li>A well-explained evaluative judgement about the <u>requirements</u>.</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>Lower end of E2 (3 marks) <b>PLUS</b> a summative conclusion*.</li> </ul> <p><b>3m:</b></p> <p>A well-explained evaluative judgement about both <u>one requirement</u> <b>PLUS</b> a learned evaluative statement for the second.</p>  |       |
| <b>E1</b> | <p>Mainly unexplained judgement.</p> <p><b>2m:</b></p> <ul style="list-style-type: none"> <li>A 'learned' evaluative statement for the <u>requirements</u>.</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>A well-explained evaluative judgement about <u>one requirement</u>.</li> </ul> <p><b>1m:</b></p> <ul style="list-style-type: none"> <li>A 'learned' evaluative statement for one requirement.</li> </ul> | 1 - 2 |

| Markers' Report  |   |             |
|--|---|-------------|
| Skills   |   | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?   |   |             |
| (+)  | Majority of the students understood that they have 2 main parts / requirements of the essay to address.   |             |
| (-)  | Evaluation after each requirement and an overall evaluative conclusion were lacking in students' scripts.   |             |
| (-)  | Incomplete analysis of question requirements. Lack of time management observed as most students either could not write an explanation on why consumers may not be disadvantaged by market dominance and another method of government intervention to curb market dominance. |             |
| Content  |   | Aha moment! |
| Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |   |             |
| (+)  | Nil   |             |
| (-)  | Majority of the students could not explain how <u>market dominance leads to higher price and lower output (consumers are disadvantaged)</u> using appropriate analysis (firm's analysis).<br>For instance, they   |             |

|     |  |  |
|-----|--|--|
|     | <p>1) did not explain with rigour how prices are determined and why profit-maximising output level occurs at <math>MC=MR</math>. Do note that profit-maximising output occurs when (1) <math>MC=MR</math> and (2) <math>MC</math> cuts <math>MR</math> from below.</p> <p>2) gave erroneous explanation of allocative inefficiency, that it occurred when price is greater than average cost (<math>P&gt;AC</math>). Do note that the condition <math>P&gt;AC</math> merely explains the supernormal profits firms can earn; and not of allocative inefficiency which occurred when price is greater than marginal cost (<math>P&gt;MC</math>).</p> <p>3) did not make any linkage to area of deadweight loss or explain how deadweight loss arises.</p>   |  |
| (-) | Majority of the students could not cite antitrust laws as a form of government intervention though it has been mentioned in the signpost. Explanation on how antitrust laws reduces the firm's ability to set high prices and protect consumers is usually brief and lack depth  |  |
| (-) | <p>A significant proportion of students cited setting price ceiling on Apple's products to protect consumers and prevent abuse of market power by Apple. Please note that price ceiling is the maximum price that a producer can charge for a good legally (For it to be effective, it is set by the government below the market equilibrium price, which is deemed too high.). Price ceilings are typically imposed on consumer staples / necessities like food, gas, or medicine, often after a crisis or particular event which sends costs skyrocketing to ensure affordability for consumers.</p> <p>In the context of Apple, price ceiling is not an appropriate measure and students might want to consider measures they have learnt such as profit tax to narrow the income inequality between the higher income shareholders and the lower income consumers.</p> |  |

## Section B: Essay Question 3

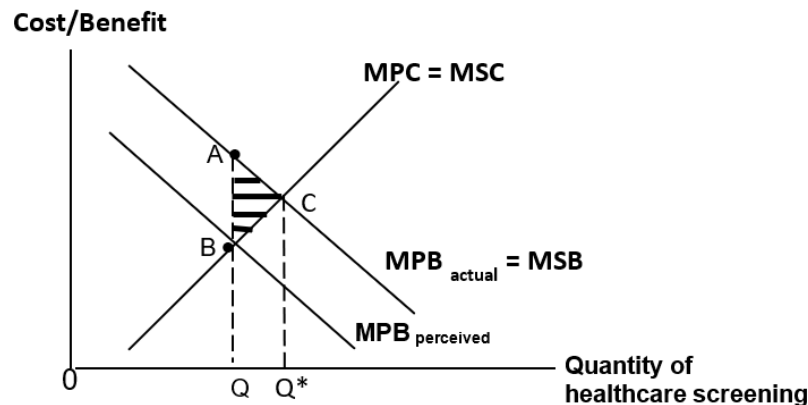
Different sources of information failure exist in the preventive healthcare market and the healthcare insurance market. In the preventive healthcare market, efforts have been made by the Singapore government to encourage regular health screenings to enhance long-term health outcomes.

- (a) Explain how information failure in the preventive healthcare market and **another** form of information failure in the healthcare insurance market could lead to market failure. [10]
- (b) Discuss the most appropriate policy measures the Singapore government should take to address information failure and inequitable distribution of resources in the market for preventive healthcare. [15]

### Suggested answer for (a)

|   |  |
|---|--|
| <b>Command</b>  | Explain how - define, illustrate and elaborate → make clear a process  |
| <b>Content</b>  | <p>Information failures lead to market failure (MF)</p> <ul style="list-style-type: none"> <li>♥ Information failure (imperfect information) whereby consumers under-estimate the private benefits in consumption → MF</li> <li>♥ subset of information failure → Asymmetric information → MF</li> </ul> |
| <b>Context</b>  | No context word in question stem, thus can give any relevant examples  |
| <b>Approach</b>   | <p>R1: How information failure / imperfect information could lead to market failure in the market for preventive healthcare market</p> <p>R2: How asymmetric information could lead to market failure in the market for healthcare insurance market</p>  |
| <p><b>Introduction</b></p> <p>Market failure describes the circumstances in which distortions in the markets prevent the price mechanism from allocating resources efficiently, resulting in welfare loss.</p> <p>Information failure / imperfect information arises when consumers do not get the right information or lack the relevant information on the benefits or harm that they are likely to receive from the consumption of the good or service.</p>  |  |
| <p><b>Development</b></p> <p><b>Requirement 1: Explain how information failure leads to market failure in the market for preventive healthcare</b></p> <p>In the case of preventive healthcare services, individuals do not fully appreciate the private benefits that will be received from it. For example, the consumption of healthcare services such as preventive healthcare (egs. healthcare screening, flu shot, mammogram, etc.) would allow individuals to detect illnesses earlier and thus save on healthcare costs in future. However, the savings in healthcare costs are in future, uncertain and difficult to estimate accurately, as such, individuals</p> |  |

underestimate their private benefits.



Meanwhile the marginal private cost of consuming preventive healthcare services such as healthcare screening includes the consultation and screening charges. As such, consumers perceived the marginal private benefit to be at  $MPB_{perceived}$  which is lower than the actual MPB ( $MPB_{actual}$ ) when consumers have full information of their private benefits. Hence, with no government intervention, consumers will only be concerned about  $MPB_{perceived}$  and MPC in their decision-making process and consume preventive healthcare services at Q.

However, the socially optimal level of consumption is at  $Q^*$  where  $MPB_{actual}$  intersects the MSC (assuming no externalities). Hence with no government intervention, there is an underconsumption of  $QQ^*$  units of preventive healthcare services. This results in the under-allocation of resources to the consumption and hence production of preventive healthcare services. Therefore, there is welfare loss represented by area ABC, which arises from imperfect information as the benefit forgone exceeds the costs in not consuming  $QQ^*$  units of preventive healthcare services. Hence, the net benefit forgone from the underconsumption of preventive healthcare services leads to allocative inefficiency, hence market failure.

## Requirement 2: Explain how information failure leads to market failure in the market for healthcare insurance

A subset of information failure is known as **asymmetric information**. Asymmetric information is the situation in which the economic agents involved in the transaction do not have the same amount of knowledge, resulting in a distortion of incentives and inefficient market outcomes. In the case of healthcare insurance, adverse selection occurs due to buyers having more information than sellers.

Buyers of healthcare insurance know more about their own health problems than insurance companies. Buyers of healthcare insurance might not divulge sufficient and accurate information about their health condition to insurance companies. Insurance companies are often unable to adequately monitor the behaviour of those who seek insurance coverage, and thus risk providing insurance coverage to those with higher health risks. In the absence of limiting conditions (commonly based on age and pre-

existing medical conditions), consumers with higher risks are more likely to buy healthcare insurance and opt for higher levels of coverage. Demand for healthcare insurance increases. In addition, the insurance companies would also be forced to pay out a larger portion of claims as more insured sicker buyers utilise healthcare. This forces the insurance company to raise insurance rates. Hence, the price of healthcare insurance in the market would reflect the costs of a sicker than average person because the insurance company, unable to differentiate between healthy and sick individuals, charges a higher premium for all consumers.

As a result, people of average or good health may be discouraged from buying health insurance due to the high premium and this leads to adverse selection against healthy individuals in favour of individuals with health problems. There would thus be an under consumption of health insurance for people of good health and over-consumption of healthcare insurance for people with poor health. This results in an allocative inefficient outcome for health insurance which is necessary in ensuring better access to healthcare services and financial protection against unexpected high expenses in light of rising healthcare costs and an aging population. Hence, market failure occurs.

Alternatively, students can also consider the issue of moral hazard.

Moral hazard is a situation in which economic agents take greater risks or use more of a service than they normally would because the costs that would result would not be borne by the economic agents themselves. Here, the information asymmetry is due to the fact that the buyer knows more about his/her intended actions than the seller.

For example, for a person who has bought a healthcare insurance, he/she may have no incentive to economise on treatment and would instead demand the best and most sophisticated treatment available. This can push up the demand for healthcare services and inflate both healthcare cost and insurance premiums. As moral hazard exists, there is a distortion of prices as healthcare insurance premiums would increase. This, combined with adverse selection, can lead to financial losses for the health insurance providers, as they are forced to pay out more claims and raise rates. In turn, as rates rise, the adverse selection makes health insurance less affordable for healthier people who should also buy health insurance to protect themselves against unforeseen healthcare expenses. This leads to allocative inefficiency / market failure as there is an underconsumption of healthcare insurance by the healthier people.

### **Conclusion**

As imperfect information leads to market failure in both the markets for preventive healthcare services and health insurance, there is a need for the government to intervene to maximise society's welfare.

| Level | Descriptors  | Marks  |
|-------|--|--------|
| L3    | <p>For a response which shows strong economic analysis and application in terms of how information failure leads to market failure in both the market for healthcare services and health insurance.</p> <p><u>The 2 main requirements are:</u></p> <ul style="list-style-type: none"> <li>♥ information failure / imperfect information leading to market failure for preventive healthcare services.</li> <li>♥ asymmetric information leading to market failure for healthcare insurance.</li> </ul> | 8 – 10 |
| L2    | <p>For an answer that gives a descriptive / cursory explanation of how information failure / imperfect information leads to market failure in both the market for preventive healthcare services and health insurance.</p> <p>OR</p> <p>For an answer that explains thoroughly how imperfect information leads to market failure either in the market for preventive healthcare services or health insurance.</p>  | 5 – 7  |
| L1    | <p>For an answer that shows some knowledge of how imperfect information leads to market failure in the market for preventive healthcare services and/or health insurance.</p> <p>OR</p> <p>For an answer that contains inaccuracies (basic errors in theory) / mostly irrelevant.</p>  | 1 – 4  |

| Markers' Report  |  |             |
|--|--|-------------|
| Skills   |  | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated? |  |             |
| (+)  | Generally, students knew there are 2 requirements to this question.  |             |
| (+)  | Correctly drawn cost-benefit diagram was used quite effectively to explain market failure in the preventive healthcare market. |             |
| (-)  | Significant proportion of students incorrectly used underestimation of true private costs as their analysis                    |             |



|  |  |                    |
|--|--|--------------------|
|  | pertaining to the healthcare insurance market though question already stated <u>another</u> form of information failure is needed for this part question.  |                    |
| <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |  | <b>Aha moment!</b> |
| (+)  | Majority of the students were able to explain how imperfect information could lead to market failure in the market for preventive healthcare. Elements of P.D.S.A.D. were evident in most answers.   |                    |
| (-)  | Although the elements of P.D.S.A.D. were evident in most answers, some gaps in explanation still existed. One significant gap was the explanation causing the divergence between MPB perceived and MPB actual which varied in quality. Better answers were able to bring out that healthcare screening would allow early detection & treatment of diseases as well as healthcare cost savings in the future. Weaker answers showed confusion between private and external benefits. They brought in external benefits such as higher productivity benefiting the firms and economy when explaining the actual private benefit. Do note that the <u>explanation for the divergence between MPB perceived and MPB actual is not equivalent to the explanation for marginal external benefit.</u>   |                    |
| (-/+) )  | Less than half of the students recognised that asymmetric information was one form of imperfect information that existed in the health insurance market whereby one party had more information compared to another in a transaction, leading to market failure. They were not able to explain how <u>the less healthy people could raise the demand for health insurance as well as claims on insurance which would drive the insurance companies to raise the insurance premium to be charged to all customers.</u><br>However, stronger answers were able to explain how this would lead to adverse selection against healthy individuals in favour of sick individuals with health problems, resulting in under-consumption of healthcare insurance by the healthier people as the healthier people would need insurance too to protect themselves against unforeseen diseases. |                    |
| (-)  | Some students brought in the explanation on moral hazard in the health insurance market, but their linkage to market failure was vague and less well done.   |                    |

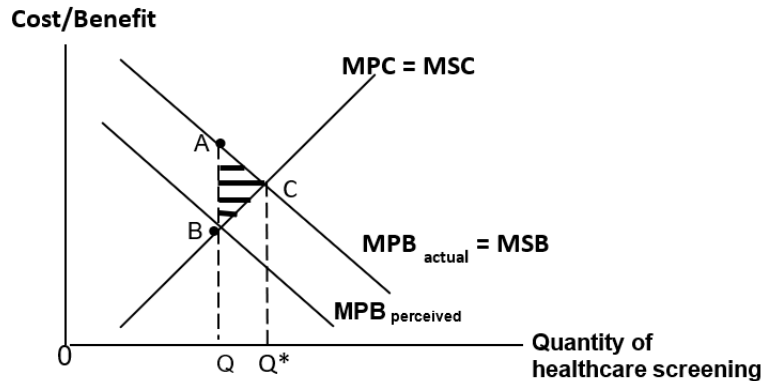
### Suggested answer for (b)

**Discuss the most appropriate policy measures the Singapore government should take to address information failure and inequitable distribution of resources in the market for preventive healthcare.** [15]

|  |   |
|--|---|
| <b>Command</b>   | Discuss - 2 sided arguments required  |
| <b>Content</b>   | Policy measures ... addressing information failure and inequitable distribution of resources ...  |
| <b>Context</b>   | Singapore preventive healthcare market  |
| <b>Approach</b>  | <p>R1:</p> <ul style="list-style-type: none"> <li>♥ Provision of information (Policy 1) is appropriate to address information failure in the market for preventive healthcare</li> <li>♥ Provision of information (Policy 1) is NOT appropriate to address information failure in the market for preventive healthcare</li> </ul> <p>EVR1</p> <p>R2:</p> <ul style="list-style-type: none"> <li>♥ Subsidies (Policy 2) is appropriate to address inequitable allocation of resources in the market for preventive healthcare</li> <li>♥ Subsidies (Policy 2) is NOT appropriate to address inequitable allocation of resources in the market for preventive healthcare</li> </ul> <p>EVR2</p> |
| <p><b>Introduction</b></p> <p>The market for preventive healthcare services (egs. healthcare screening, flu shot, mammogram, etc.) fails to achieve allocative efficiency due to information failure as explained in (a). There is also inequity in the market for preventive healthcare services. <i>Briefly explain inequitable allocation of resources:</i> With the rich having more dollar votes than the poor, they will be able to demand relatively more preventive healthcare services and thus consume more of such services compared to the poor. More resources will be devoted to the production of preventive healthcare services for the rich as the poor may be rationed out of the market. Hence, there is <b>unfair</b> distribution of resources when for instance, the healthcare screening is a necessity to detect symptoms of diseases such as chronic diseases at the earliest stage possible in life to prevent disabilities and illnesses later in life.</p> |   |
| <p><b>Development</b></p> <p><b><u>Requirement 1:</u> Explain how provision of information (Policy 1) works to address information failure in the market for preventive healthcare e.g. healthcare screening.</b></p> <p>To address information failure, the government can educate the public through mass media and carry out campaigns to encourage the consumption of preventive healthcare services since ‘efforts have been made ... to encourage regular health screenings to enhance long-term health outcomes’. Some examples of such agencies in Singapore include the Health Promotion Board, which helps consumers see that</p>  |   |

regular diagnostics does not merely allow for early interventions for serious illnesses but may also detect other health challenges, which allows for corrective action which will improve one's quality of life.

### How provision of information works:



With successful public education, private benefits will be appropriately valued and demand for healthcare screening will increase,  $MPB_{\text{perceived}}$  will increase to the  $MPB_{\text{actual}}$ . The private output increased to  $Q^*$ , which coincides with the socially optimal output. Hence allocative inefficiency would be eliminated.

### How well it works: (students need to be selective of limitations that will address the appropriateness of the policy)

#### Strength:

Due to salience bias, the prominence of media messages regarding the positive impacts of vaccination and the early diagnostics will also increase the consumption of preventive healthcare services as the benefits of healthcare are now more salient to the consumers. This will help to reduce the underconsumption and deadweight loss as well.

#### Limitations:

- ♥ The increase in  $MPB$  would also imply a higher price for healthcare screening. This would thus bring about a more inequitable outcome limiting access to the poor. *(Note: Analysis is explained in Requirement 2)*
- ♥ Public education merely encourages but does not enforce the higher consumption of healthcare services as they may avoid screening due to fear of uncovering a certain disease, and thus may take a long time before substantial effects can be felt. This is especially when norms and habits take time to be developed, making it even more difficult for consumers to change their consumption patterns and increase consumption levels within a short time period. This policy will thus be inappropriate / ineffective in addressing the problem in the short run.
- ♥ In addition, the outcome is uncertain as it depends heavily on the receptivity of the target audience which is highly unpredictable. This further limits the extent of increase in  $MPB_{\text{perceived}}$  and thus the appropriateness / effectiveness of the policy in achieving allocative efficiency.

*Possible EV (contextualisation):*

- ♥ *As the general population is more health conscious today, especially with the influence of celebrities, they are likely to be more receptive to such public campaigns. However, it would also be dependent on how these campaigns reach out to the masses. Social media would be a more appropriate / effective platform as compared to the conventional advertisements on television.*

OR

- ♥ *In the case of Singapore, our large elderly population may be difficult to convince especially since they could be sensitive to issues relating to death and illness. Having held certain mindsets for decades, it will be difficult to change how they think, making this policy one that is probably only going to bear fruit only in the long run, if it bears any fruit at all.*

**Requirement 2: Explain how subsidies (Policy 2) works to address an inequitable allocation of resources in the market for preventive healthcare**

The Singapore government could grant a subsidy per unit to lower the cost of preventive healthcare services such as flu shot, mammogram and healthcare screening. There is greater potential profit per unit which incentivises producers of healthcare to increase production of preventive healthcare. Thus, there would be an increase in supply and a decrease in the price.

**[Link to less inequitable distribution of resources]** As price decrease, lower income consumers who were previously unable to pay the higher price would now be rationed into the market. Hence, this reduces the inequitable distribution of resources as more resources allocated to the production of preventive healthcare are now distributed to the lower-income consumers.

**How well it works:**

**Strengths:**

- ♥ In addition, the decrease in price of healthcare will decrease the MPC of consuming healthcare, shifting the MPC to the right. If an ideal subsidy per unit is given, MPC after tax could intersect MPB such that the socially optimum level of  $Q^*$  is reached. This helps to correct the underconsumption as a result of info failure.

**Limitations:**

- ♥ Subsidies require a high level of government expenditure; in order to finance these subsidies, it could strain the government budget. For example, in the case of Singapore, health screenings are heavily subsidised. The government further leverages salience bias to highlight these low prices “Just \$5 or less”. To finance these subsidies, this could mean that the government may face a budget deficit or must divert spending from other critical areas such as infrastructural development. If the loss in benefits from reduced infrastructure spending outweigh the gain in

benefits from increased healthcare spending, there is a misallocation of resources. This may also not solve the root cause of the problem, as some consumers may still have preconceived fears about health screenings and may not increase their consumption even though prices are very low.

*Possible EV (contextualisation): As subsidies can be very costly, it is imperative that the government has the ability to collect accurate data so as not to incur wastage of resources. In the case of Singapore, data collection may be less of an issue as it is a small country with advanced info technology. Thus, subsidies may be an appropriate policy to address the inequitable distribution of resources while bringing consumption closer to socially optimal level of output.*

### **Conclusion:**

#### **[Opinion]**

For a more immediate solution, the most appropriate policy to achieve both efficiency and equity would be subsidies.

**[Criterion – Severity of the problem]** Given SG's ageing population, preventive healthcare is all the more important to ensure its citizens remain healthy so that less healthcare costs are incurred over time and a productive workforce can be maintained.

**[Reasoning]** Given that a healthy population can contribute to productivity and greater economic growth, there is also presence of positive externalities that contributes to even greater underconsumption. Thus, to address this severe underconsumption of preventive healthcare, a more immediate solution such as subsidies may be more appropriate. In addition, many of the elderly who are likely to be in greater need of such preventive healthcare may already be retirees without a regular income. Thus the subsidies would help to ensure they can afford these goods.

Eventually, both subsidies and provision of information are necessary to appropriately target the different root causes of allocative inefficiency in the market for preventive healthcare services and the Singapore government may have to provide subsidies alongside public education in order to mitigate cost considerations.

### **OR**

That said, provision of information is still crucial to ensure a more permanent solution to address the info failure. However, given the costliness of both policies, it is important for the government to periodically review these policies to enhance their appropriateness. For instance, the government may need to consider subsidies by means testing to ensure only those who really need it will be subsidised for their healthcare services, thus ensuring more prudent government spending and sustainability of the two policies.

| Level | Descriptors   | Marks  |
|-------|---|--------|
| L3    | For a response which shows strong economic analysis and application in explaining at least 2 policies to address information failure and inequitable allocation of resources.   | 8 – 10 |
| L2    | For an answer that gives a descriptive explanation of at least 2 policies to address information failure and inequitable allocation of resources in the market for preventive healthcare.<br><br>OR<br><br>For an answer that explains thoroughly either one of the policies to ensure efficient and equitable allocation of resources in the market for preventive healthcare. | 5 – 7  |
| L1    | For an answer that shows knowledge of the policies the government could adopt to address information failure and inequitable allocation of resources in the market for preventive healthcare and/or contains inaccuracies.  | 1 – 4  |

| Evaluation marks  |           |          |
|---|-----------|----------|
| A well-explained evaluative judgement about both requirements, that is, for an answer that builds on appropriate analysis to evaluate on the policy measures to address information failure and inequitable allocation of resources in the market for preventive healthcare.<br><b>PLUS</b> an overall summative conclusion leading to a well-explained evaluative judgement about which, in any, is the best outcome (so far as required by the question). | <b>E3</b> | <b>5</b> |
| A well-explained evaluative judgement about both requirements<br><b>OR</b><br>Lower end of E2 (3 marks) which is a well-explained evaluative judgement about one requirement <b>PLUS</b> a learned evaluative statement for the second <b>PLUS</b> an undeveloped summative conclusion.   | <b>E2</b> | <b>4</b> |
| A well-explained evaluative judgement about one requirement <b>PLUS</b> a learned evaluative statement for the second.  | <b>E2</b> | <b>3</b> |
| A ‘learned’ evaluative statement for the two requirements.<br><b>OR</b><br>A well-explained evaluative judgement about one requirement.   | <b>E1</b> | <b>2</b> |
| A ‘learned’ evaluative statement for one requirement.   | <b>E1</b> | <b>1</b> |
| No attempt at evaluation.   | <b>E0</b> | <b>0</b> |

| Markers' Report  |   |             |
|--|---|-------------|
| Skills   |   | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated? |   |             |
| (+)  | Majority of the students recognised the need to explain at least two policies (what it is, how it works & how well it works) in this part question.   |             |
| (+)  | More attempts were made to write evaluations of the policies in the main development and in the conclusion. They considered time period, root causes and the given context such as aging population / state of technology in Singapore when commenting on a given strength or limitation of a policy.   |             |
| (-)  | Many students did not recognise the two requirements for this question, namely, to address information failure and inequitable distribution of resources in the market for preventive healthcare. Hence despite writing and explaining two policies, their policies focused only on addressing information failure which makes their analysis one-sided.  |             |
| (+/-)  | Many students considered provision of information / education via public campaigns to tackle information failure and subsequently, brought in subsidies as the other policy. However, quite a significant number of students failed to recognise that subsidy as a policy can also help to achieve equitable allocation of resources.   |             |
| (-)  | A large proportion of students failed to recognise the justification of subsidies can be linked to the existence of positive externalities, another source of market failure in the market for preventive healthcare. This would be essential in the overall conclusion. Since the context given is the preventive healthcare, students should be aware that inefficiency / market failure in the market is due to both information failure and positive externalities in consumption.                        |             |
| (-)  | The question asked for the most “appropriate” policy measures. Hence, to provide a balance, students should focus their explanation on trade-off in a policy such as “spending on education and subsidy would require a government to spend a large sum of money and the government could raise taxes to finance its expenditure. But the raising of taxes on income could lead to disincentive to work and invest causing AD and growth to slow.” so as to address whether the policy is appropriate or not. |             |
| (-)  | When addressing the question in their summative conclusion,   |             |

|  |  |                    |
|--|--|--------------------|
|  | some tend to repeat what had been written in the earlier paragraphs.   |                    |
| <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |  | <b>Aha moment!</b> |
| (+)  | Many students were able to explain rigorously on how a policy works fairly well and how well it works in particular for the policy on provision of information.  |                    |
| (-)  | Many students also showed vague understanding on how inequitable distribution of resources can arise in the preventive healthcare market. They could not explain how the poor may be rationed out of the market since they have lesser dollar vote than the rich.  |                    |
| (-)  | <p>There are gaps in the explanation on how and how well subsidies work. For instance, explanation of limitations and strengths tend to be brief and failed to make linkages to how they hinder or facilitate efficiency in allocation of resources respectively. In some cases, students simply listed these strengths and limitations.</p> <p>For a more analytical explanation on how the policy works, students should make explicit linkages as to how the policy would affect the consumers' MPC of healthcare screening wherever possible, instead of just asserting that the policy will increase output to the socially optimal level.</p> <p>Students should also refine their understanding on the purpose of government reserves. Singapore government is known for being prudent in their spending and thus has been able to accumulate reserves over the years. <i>However</i>, these reserves are finite and meant to be used in unexpected situations such as the COVID-19 pandemic not for providing free preventive healthcare for everyone living in SG.</p> <p>Making claims that "subsidy works better in the short run and education works better in the long run" or "to address information failure and inequitable allocation of resources would require both subsidy and education" would not earn an E mark. It is important to explain "why so".</p> |                    |
| (-)  | Students who considered direct provision failed to recognise that direct provision does not mean free provision. They need to revisit the definition of direct provision. [Direct provision is a situation where the government directly controls the supply of  |                    |



|  |   |  |
|--|---|--|
|  | <p>the good/service that will be made available in the market. It can be provided at a lower cost through subsidies or even free of charge if a 100% subsidy is given by the government.]</p> <p>Hence, they should write free direct provision, if they intend for the provision of healthcare screening to be provided free by the government.</p> <p>Some students who wrote free direct provision as a policy failed to recognise that even if it's provided free of charge, people may still not go for healthcare screening due to information failure.</p> |  |
|--|---|--|

## **MY REFLECTION/LEARNING POINTS FROM SECTION B**

After going through the corrections in class and reviewing the suggested answers to Section B, here is my...

**1** reflection/learning point with respect to SKILLS:

**1** reflection/learning point with respect to CONTENT:

### Section C: Essay Question 4

Inflation in Singapore has generally been low over the last four decades. However, consumer prices increased by 6.1% in 2022. The dramatic rise in inflation is due to the strong pent-up demand arising from the removal of post-covid restrictions and disruptions to supply due to the outbreak of the Russia-Ukraine war which involves two countries that are major suppliers of oil and gas.

Source: Monetary Authority of Singapore, 2024

- (a) Explain **one** internal and **one** external factor that could lead to inflation in a country. [10]
- (b) Discuss whether an appreciation in Singapore's exchange rate is the most appropriate way to achieve price stability. [15]

#### Suggested answer for (a)

##### Introduction

Inflation refers to a sustained increase in a country's general price level (GPL). It can be caused by a persistent increase in AD in excess of AS (demand-pull inflation) or a persistent increase in the unit cost of production, causing AS to fall (cost-push inflation). Such causes may arise domestically or internationally, causing the GPL to rise.

Herein my essay, I will be examining both the internal and external factors that resulted in inflation.

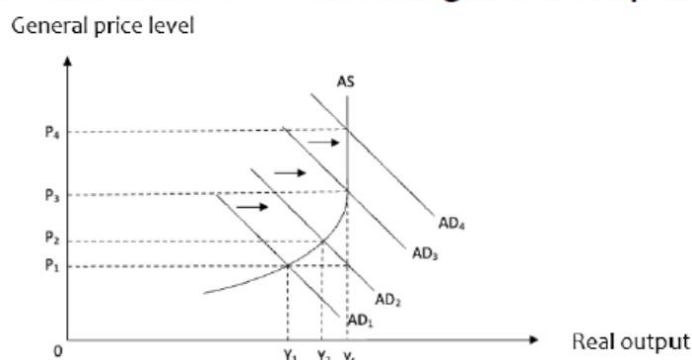
##### Main Development

###### ***[Requirement 1 – Explain internal factor that led to demand-pull inflation]***

***[Define]*** Demand-pull inflation is defined as a situation where AD is persistently greater than AS, close to or at full employment of all resources generating a sustained increase in the GPL.

***[Explain the factors that led to a rise in AD]*** As seen in the signpost above, the strong demand arising from the post covid recovery has led to large surge in domestic consumption since the ease of restrictions has resulted in large groups resuming domestic consumption (dining/ shopping etc). With the easing of travel restrictions, travellers would begin to travel to Singapore, a tourist hub. This may lead to an increase in export revenue (X). Furthermore, post-covid has led to firms regaining confidence in economy. With positive expectations about the future economic outlook, the expected profits to investors on their investment will likely increase, thus causing investors to be more incentivised to increase their investments. Hence, investment expenditure (I) will increase. Therefore, a rise in C, X and I will lead to a rise in AD, ceteris paribus, as seen in Figure 1 below.

**Figure 1: Persistent increase in AD leading to demand-pull inflation**



**[Explain how rise in AD led to rising GPL]** Assuming that the economy is operating with limited spare capacity, the increase in AD leads to total spending exceeding total output, resulting in a shortage at original price level. This leads to a fall in inventories which provides an incentive for producers to increase production to increase output to meet rising demand. Since there are limited spare resources, firms will have to bid up factor prices causing GPL to rise. There is a movement up along the AD & AS curve. The process continues until a new equilibrium is reached at  $E_2$  where  $AD_2 = AS_1$ . Real output increases from  $Y_1$  to  $Y_2$  via the multiplier effect where one's spending become another group's income

**[Explain how there may be persistent rise in GPL]** As the economy continues to grow, AD continues to increase from  $AD_2$  to  $AD_3$  and then to  $AD_4$  due to even greater consumer confidence which leads further increase in consumer expenditure on domestic goods and services. Thus, the persistent increase in AD creates a situation of sustained excess demand in the economy and brings about a sustained increase in general price level, resulting in demand-pull inflation.

**[Link back to Qn]** Thus, the internal factor in this context resulted in demand-pull inflation.

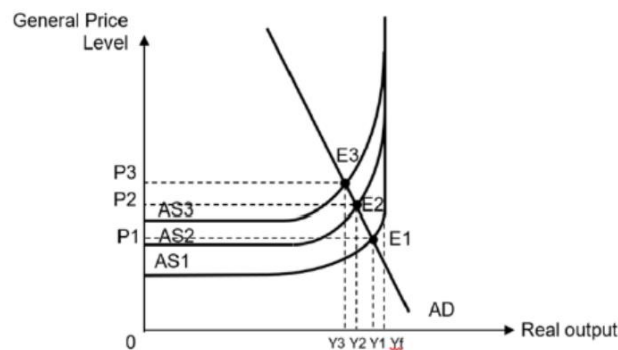
**[Requirement 2 – Explain external factor that led to cost-push (imported) inflation]**

**[Define cost-push inflation]** Cost-push inflation is defined as a situation where persistent increases in unit cost of production (COP) independent of changes in AD, generates sustained increase in the GPL. This usually occurs where there is sudden and significant rises in economy-wide production costs.

**[Explain the factors that led to a rise in unit COP]** As seen in the signpost above, The Russia-Ukraine crisis has disrupted oil and natural gas supplies, pushing up global energy prices significantly since Russia is the world's largest gas exporter and one of the top three oil producers in the world. Singapore, being a small economy that lacks natural resources, is highly reliant on imported inputs. Therefore, an increase in price of imported oil and gas prices, would lead to inflation in Singapore. Since crude oil is an important input for generation of power and electricity, as well as for industrial/ manufacturing production, the rise in its price will raise the unit cost of production across

many industries for energy-importing countries – demand for oil tends to be price inelastic. As such, the increase in global oil prices will lead to higher import expenditure which results in higher cost of production. Faced with higher cost of production, ceteris paribus, at every price, profit maximising producers cut back on production and a smaller quantity is supplied. Individual market supply curves shift left. If enough individual market supply curves are impacted, total output produced by the economy decrease, causing the SRAS curve to shift left from AS1 to AS2 as shown in Figure 2 below.

**Figure 2: Persistent increase in unit COP leading to cost-push inflation**



**[Explain how rise in unit COP led to rising GPL]** As illustrated in Figure 2, as AS curve shifts left, with AD remaining unchanged, this leads to a shortage of output at original GPL1, which provides an incentive for producers to raise prices causing GPL to rise. There is a movement up along the AD and AS curves. The process continues until a new equilibrium is reached at E2 where AD = AS2.

**[Elaborate how there may be persistent rise in GPL]** One important condition for cost-push inflation to occur is that unit cost of production must be increasing persistently. As prices of imported raw materials and oil continue to rise, unit cost of production rises again. AS curve shifts further from AS2 to AS3. The higher unit cost is passed onto the consumers and price increases from P2 to P3. Hence, a persistent rise in costs of imported raw materials and oil will lead to the AS curves shifting leftwards continuously, generating a sustained rise in the general price level and hence causing cost-push inflation

**[Link back to Qn]** Thus, the external factor in this context resulted in imported inflation.

### **Conclusion**

Mild inflation may be beneficial to Singapore, however, when inflation rises too high, it is a concern to the government and it requires the government to intervene with appropriate policies to curb inflation so as achieve its macro goal of price stability (low inflation), which will be discussed in (b).

### Mark Scheme

| Level     | Descriptors  | Marks |
|-----------|--|-------|
| <b>L3</b> | For a good analytical assessment of <b>BOTH</b> internal and external causes of inflation in Singapore with reference to the preamble.             | 8-10  |
| <b>L2</b> | For a correct but underdeveloped explanation of <b>BOTH</b> internal and external causes of inflation in Singapore with reference to the preamble. | 5-7   |
| <b>L1</b> | Ability to identify one or two causes of inflation in Singapore. Answer lacks depth and content. Smattering of points.                             | 1-4   |

### Markers' Report

| Markers' Report  |   |                    |
|--|---|--------------------|
| <b>Skills</b><br>Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?    |   | <b>Aha moment!</b> |
| (+)  | Majority of the students were able to present 2 different sources of inflation.   |                    |
| (-)  | Some students ignored associating the sources of inflation to either an internal or external factor.  |                    |
| <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |   | <b>Aha moment!</b> |
| (-)  | Many responses were unable to explain why there was an increase in GPL for dd-pull inflation due to bidding up of factor prices given an economy that is near full employment.  |                    |
| (-)  | Some responses also did not explain why there was a persistent increase in AD/ fall in SRAS and thus a sustained increase in GPL. Assertions were made without giving analysis. |                    |

- (b) Discuss whether an appreciation in Singapore's exchange rate is the most appropriate way to achieve price stability. [15]**

**Suggested answer for (b)**

| Requirement of the Question   |   |
|---|---|
| <p><b>Requirement 1:</b> Explain how an appreciation of Singapore dollar helps to achieve price stability:</p> <ul style="list-style-type: none"> <li>• <i>[Direct impact]</i> Explain how an appreciation of S\$ help bring down import price → overcome imported inflation</li> <li>• <i>[Indirect impact]</i> Explain how gradual and modest appreciation of S\$ help bring down AD → overcome demand-pull inflation</li> </ul> <p><b>EVR1:</b> Limitations of an appreciation of S\$: Excessive appreciation of S\$ may result in conflict of other macro goals / ineffectiveness of policy + Nature of SG economy – greater success since SG is a small economy that lacks natural resources hence import reliant, very susceptible to external factors. So gradual and modest appreciation of S\$ is likely to be very effective in curbing imported inflation.</p> | <p><b>Requirement 2:</b> Explain one alternative policy (CFP/SS-side policies) and how it helps to achieve price stability:</p> <ul style="list-style-type: none"> <li>• <i>[CFP]</i> ↓G and/or ↑T → ↓AD → ↓GPL, overcoming demand-pull inflation OR</li> <li>• <i>[SS-side policies]</i> Interventionist policies → ↑LRAS → ↓GPL, overcoming demand-pull inflation</li> </ul> <p><b>EVR2:</b> Limitations of CFP / SS-side interventionist policies bring in conflict to other macro goals / ineffectiveness of policy + Contextualised to SG: CFP not used in SG, instead, FP in SG is usually with the SS-side intent → esp with SG's ageing demographics → emphasize innovation / skills upgrading via the use of SkillsFuture since human capital is the only resources SG prides herself to have.</p> |

**Introduction**

Singapore uses exchange-rate instead of interest rate policy due to her characteristics of a small and open economy which makes her highly dependent on external demand (X and M) such as dependent on her exports to drive her growth as well as imported raw materials. Therefore, interest rate policy which affect domestic consumption and investment expenditure would have very limited significance on AD and hence demand related inflation. Therefore, it is imperative that a strong exchange rate policy is maintained to keep imported inflation at bay to achieve price stability.

**Main Development**

**Requirement 1: Explain how appreciation of Singapore Dollar can achieve price stability (curb inflation)**

**[Step 1: What it is]** Since Singapore is highly dependent on imports due to the lack of natural resources, the Singapore dollar cannot be too weak or strong. Therefore, Monetary Authority of Singapore (MAS) allows for a *gradual and modest* appreciation of

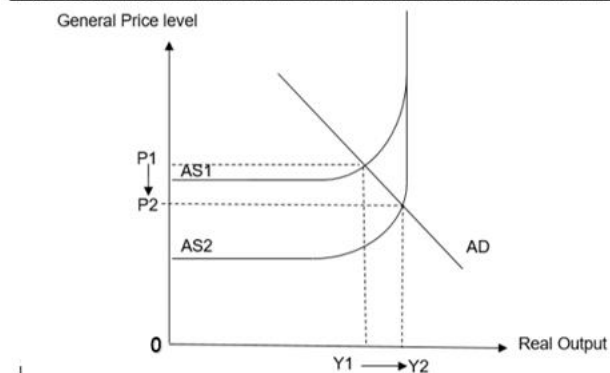
the Singapore dollar, making its currency relatively more expensive against a basket of currencies in order to achieve price stability.

**[Step 2: How it works]**

**A. Elaborate how appreciation of SGD curb imported inflation**

As Singapore imports a large extent of its necessities (food) and raw materials (oil which is necessary for all production processes), an appreciation of Singapore dollar would cause the prices of imported goods and raw materials to be relatively cheaper in domestic currency (SGD). As such, it reduces the unit cost of production of final goods and services that make use of imported factors of production, hence lowering the price that domestic consumers have to pay for final goods and services produced. *[Link back to the intent of the policy aim]* Hence, firms in the economy are willing and able to increase production at every price level, causing a rightward shift of the SRAS curve from AS1 to AS2 as seen in Figure 3. GPL falls from P1 to P2, hence reducing cost-push inflation and real output increases from Y1 to Y2.

**Figure 3: Appreciation of S\$ to address imported inflation**



**[Link back to Qn]** Therefore, an appreciation of Singapore dollar would dampen cost-push inflation resulting from imported inflation. It ensures that high oil and food prices do not translate into high imported inflation which will undermine the purchasing power of Singaporeans, thereby causing an increase in the cost of living.

**B. Elaborate how appreciation of SGD curb demand-pull inflation**

With *gradual and modest* appreciation of Singapore dollar, the domestically produced goods for exports become relatively more expensive in foreign currencies. Assuming  $PED_x > 0$ , foreigners will demand less of Singapore's exports and as such, there will be a fall in export revenue for SG. At the same time, because of the gradual and modest appreciation of SGD, there will be a fall in import prices in SGD. Given that  $PED_x < 1$  (in SG context) due to inelastic demand for imported goods & services (*raw materials or final consumer goods and services*), this would result in a less than proportionate increase in import expenditure. Assuming that Marshall-Lerner condition holds ( $PED_x + PED_m > 1$ ), a *gradual and modest* appreciation of Singapore dollar will then lead to a fall in the value of net exports.



**[Link back to Qn]** Thus, a stronger Singapore dollar can help to dampen the rise in AD in Singapore, hence easing demand-pull inflationary pressure due to excessive rise in external demand. Overtime, it curbs demand-pull inflation.

*Note: The following evaluation points have limitations embedded in the explanation.*

**[Evaluation R1 – Limitations of appreciation of S\$: E/Criterion – unintended consequences arising from excessive appreciation of S\$]** However, excessive appreciation of Sing dollar will have unintended consequences such as eroding Singapore's export price competitiveness (in particular the service sectors such as tourism, education and health services targeted at foreign consumers where such services do not have high imported input content unlike manufactured goods) and international cost competitiveness as a business location. If the Singapore dollar persists to be overly strong for a long period of time, it can hurt Singapore's exports and discourage FDI which can lead to contractionary effects on the economy as AD falls, *giving rise to a rise in demand-deficient unemployment and a less favourable balance of trade (due to a fall in the export of services)*. **[Opinion]** This can be particularly damaging for a small and open economy like Singapore where it's growth is largely export-driven. Thus, it is important that the Monetary Authority of Singapore (MAS) monitors the appreciation of S\$ to ensure it is not too excessive to the extent that it hinders growth of the country.

OR

**[Evaluation R1 – Limitations of appreciation of S\$: E/Criterion – extent of policy of gradual & modest appreciation of S\$]** To allow for a stronger SGD, the Monetary Authority of Singapore will need to intervene in the foreign exchange market to buy Singapore dollar and sell foreign currencies. Therefore, it is important that Singapore has sufficient foreign reserves to maintain a stronger Singapore dollar. This may not be a major problem for Singapore as it has been enjoying healthy Balance of Payment surpluses over the past years.

**Requirement 2: Explain how an alternative policy can achieve price stability (curb inflation)**

Exchange rate policy alone may not be adequate to resolve inflation. As seen from the explanation above, exchange rate policy helps to tackle imported inflation and demand-pull inflation attributed to an excessive rise in external demand but it may be ineffective in curtailing cost-push inflation due to higher wages and rental fees. Therefore, there is a need for other appropriate policies such as short-run supply side and long-run supply side policies to deal with inflation caused by domestic reasons. *(Any 1 of the following)*

**1. Supply-side policies – Education and Training**

Government can subsidise education and training, for it helps to improve skills of the workers and their stock of human capital, whereby the acquired skills & knowledge by a worker through education & experience is put to use for production of goods &

services. If the increase in labour productivity is higher than wage increase, the unit cost of production will decrease and with greater efficiency in production, productive capacity of the economy increases, shifting AS to the right. *For instance, the SkillsFuture initiative where every Singaporean aged 25 and above would receive \$500 credits to be used in any courses for upgrading purposes & a \$4000 topup on SkillsFuture Credit under the SkillsFuture Level-Up Programme for Singaporeans aged 40 years and above.*

This ensures that the workers have the necessary skills set required for the knowledge-based economy. In addition, it serves to promote lifelong learning and thus improves the productivity level in which it helps attract foreign investors. Foreign investors will be more willing to invest in capital goods in Singapore, therefore resulting in an increase in investment. The increased in factor quality and factor quantity will lead to a rise in Singapore's productive capacity in the LR thereby increasing the AS, ceteris paribus, as illustrated in Figure 4 below.

**[Link back to Qn]**

As such, inventories build up causing downward pressure on GPL. The economy adjusts until the surplus is eliminated which in turn leads to a rise in real output & fall in GPL, easing inflationary pressure to prevent onset of demand-pull inflation.

At the same time, assuming that the rise in labour productivity is greater than the rise in wages, there is a fall in unit costs of production and hence increase in SRAS. There is a decrease in the general price level from P1 to P2 and an increase in real output from Y1 to Y2. Hence, it reduces cost-push inflation as seen in Figure 3 above.

**2. Supply-side policies – R&D**

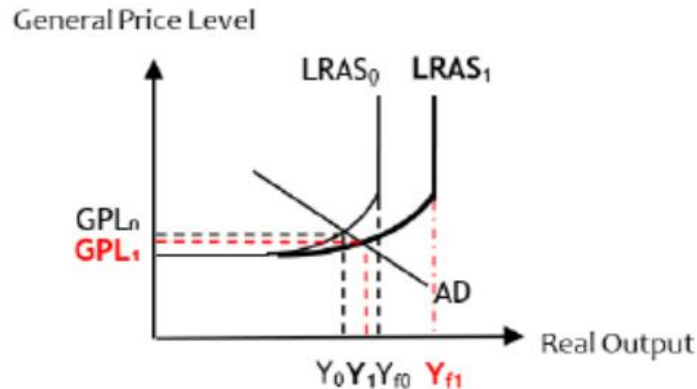
Government can subsidise R&D, for it helps improve the quality of factors of production in Singapore, causing an increase in productive capacity of the Singapore economy, hence shifting the AS curve to the right. If R&D efforts are successful, there can be more efficient use of the resources which in turn will lower the unit cost of production of firms. *For instance, Singapore government committed \$25 billion under the Research, Innovative and Enterprise (RIE) 2025 plan over the period 2021-2025.*

**[Link back to Qn]** Such policies increase Singapore's productive capacity in the LR by increasing the AS, ceteris paribus. Hence AS curve shifts out from AS<sub>1</sub> to AS<sub>2</sub> as seen in Figure 4 below, causing a fall in GPL from P1 to P2, easing demand-pull inflation.

**[Cost-push inflation]** With the subsidies, it may encourage firms to develop renewable sources of energy for Singapore, which reduces her reliance on imported crude oil and gas to generate power and electricity. If successful, it increases the availability of substitutes which in turn reduces the extent of imported inflationary pressures. Hence with an increase in SRAS, there is a decrease in the general price

level from P1 to P2 and an increase in real output from Y1 to Y2. Hence, it reduces cost-push inflation as seen in Figure 3 above.

**Figure 4: Long-run SS-side policies**



*Note: The following evaluation points have limitations embedded in the explanation.*

**[Evaluation R2 – Limitations of Supply-side policies (Education & Training): E/Criterion – Context]** However, in order for education and training programmes to be effective, workers must be willing to reap the maximum benefits. Workers could be resistant towards education and training and be reluctant to undergo education and training, **especially the older workers**. With the rise in ageing population, SkillsFuture may not be as effective a policy to increase labour productivity as the aptitude and attitude of the elderly workers may prevent the success of learning as well as transference of skills to workplace. Hence, this constrains the effectiveness of long-run supply-side policies to ease inflationary pressures to prevent both demand-pull and cost-push inflation. As such, perhaps Singapore government may wish to look at designing purposeful guidelines by the National Wage Council to disallow wages to rise faster than productivity level in order to curb wage-push inflation instead. However notably, these guidelines suggested merely serve as recommendations, many private firms are not obliged to follow and observe the recommended wage constraint. Hence, cost of production may not decrease significantly thereby limiting effectiveness of short-run supply side policy.

**[Evaluation R2 – Limitations of Supply-side policies (R&D): E/Criterion – Level of infrastructural support]** In order to reduce the dependence on crude oil as the only source of energy, there is a need to develop, promote and encourage the use of alternatives such as solar energy, which in turn depends on the level of infrastructure SG has in place to harness the renewable sources of energy. Given the land constraint that SG faces, it may not be viable or cost effective to generate nuclear, wind and thermal energy in Singapore. The limited options of renewable energy that can be harnessed thus limits the effectiveness of long-run supply-side policies to ease inflationary pressures to prevent both demand-pull and cost-push inflation.

### **Synthesis and evaluative conclusion**

**[E/Criterion]** Whether the appreciation of Singapore dollar is the best policy to achieve price stability depends on the cause of inflation, the state of economy (near full employment) and degree of exchange rate appreciation. **[E/Opinion & Reasoning]** The exchange rate policy, despite its limitations, has been successful in curbing imported inflation to a large extent. A modest and gradual appreciation of Singapore dollar is able to reduce inflationary pressure and allows the economy to sustain its competitiveness. For any policy to be effective in curbing inflation, there is a need to continually monitor the major root causes of inflation. A gradual and modest appreciation can be the MOST APPROPRIATE policy if inflation experienced is largely caused by external factors such as rising prices of essential imports like oil and food since Singapore relies heavily on imports due to lack of natural resources. However, in recent times, Singapore is facing more of domestic inflation that arises from rising prices of housing and transport due to foreign capital inflow that increases demand for properties and decreasing quotas on cars by the government respectively. In such circumstances, the Singapore government will have to adopt other policies to curb inflation.

It is important to note that inflation in Singapore is a result of more than one cause. In the event inflation is identified to be caused by both external and domestic reasons, then a plethora of measures mentioned above have to be used together to improve the competitiveness of the economy as well as to achieve long-term price stability.

### **Mark Scheme**

| <b>Level</b>   | <b>Descriptors</b>  | <b>Marks</b> |
|--|---|--------------|
| <b>L3</b>  | For an answer that uses appropriate analysis to discuss a range of policies and their application to achieve price stability in Singapore's context.                                  | 8-10         |
| <b>L2</b>  | For an answer that gives a descriptive discussion of policies and their application to achieve price stability <u>or</u> one that is limited to an analytic discussion of one policy. | 5-7          |
| <b>L1</b>  | For an answer that shows knowledge of the policies to achieve price stability.  | 1-4          |
| <b>Allow up to 5 additional marks for evaluation</b> |   |              |
| <b>E3</b>  | For an answer that arrives at analytically well-reasoned judgement about whether appreciation of Singapore dollar is the best policy to achieve price stability.                      | 5            |
| <b>E2</b>  | For an answer that makes some attempt at a judgement about whether appreciation of Singapore dollar is the best policy to achieve price stability.                                    | 3-4          |
| <b>E1</b>  | For an answer that gives an unsupported statement about whether appreciation of Singapore dollar is the best policy to achieve price stability.                                       | 1-2          |

| <b>Markers' Report</b>   |  |                    |
|--|--|--------------------|
| <b>Skills</b><br>Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?    |  | <b>Aha moment!</b> |
| (+)  | Majority of students presented 2 policies.   |                    |
| (-)  | A fair number of students recommended another demand management policy which is similar to depreciation, this might have limited the scope of their answers. |                    |
| <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |  | <b>Aha moment!</b> |
| (-)  | Majority of students failed to recognise that appreciation in the context of Singapore tackles both demand pull and imported inflation.                      |                    |
| (-)  | Analysis of how exchange rate policy works is peppered with inaccuracies. eg. $PED_x > 1$  |                    |

### Section C: Essay Question 5

Singapore's Deputy Prime Minister Lawrence Wong has stated that 'Technological advances will mean that some job roles will become obsolete but new job roles will continue to be created and it is very important for mid-career workers those aged 40 and above to have a significant reboot in their skills, and that is what this SkillsFuture enhancement is about.

Source: *Today Online*, 21 February 2024

- (a) Explain how a fall in investment might lead to one type of unemployment while a rise in technology advancement might lead to a different type of unemployment. [10]
- (b) Discuss whether supply-side policies such as SkillsFuture would be the most effective in reducing unemployment in Singapore. [15]

#### Suggested Answer for (a)

Introduction: Interpret question intent: Define unemployment and identify types of unemployment. The essay will explain the causes of unemployment. In this case, a fall in investment will lead to demand-deficient unemployment and a rise in technology advancement will lead to structural unemployment.

Requirement 1: Explain how fall in investment will lead to demand-deficient unemployment.

Requirement 2: Explain how a rise in technology advancement will lead to structural unemployment.

#### Introduction

**Define unemployment:** Unemployment level (of labour) refers to the number of people in the working age population who are actively looking for work but are without a job.

A fall in investment would result in **demand-deficient unemployment** which occurs when there is inadequate demand for a country's goods and services, which results in an excess supply of labour at the existing wage rate.

On the other hand, a rise in technology advancement would lead to **structural unemployment** which occurs when there is mismatch of skills between the unemployed and the job opportunities available.

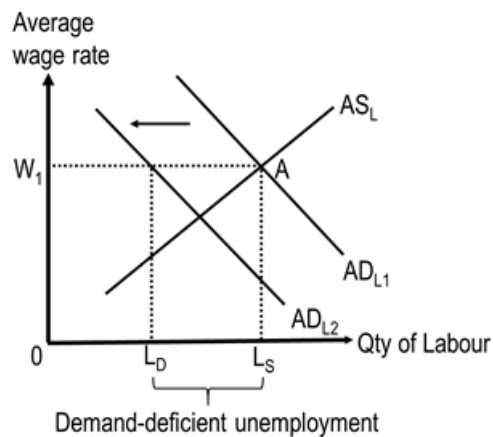
#### Development

##### Requirement 1: Explain how a fall in investment leads to unemployment

A fall in investment expenditure leads to a fall in aggregate demand (AD) since  $AD = C + I + G + (X - M)$ . This results in a surplus and a rise in inventories at the original

general price level which signals to producers to decrease output. This creates a downward pressure in GPL. The fall in income from the initial fall in AD causes a fall in income-induced consumption resulting in a further decrease in AD. As one's reduction in spending reduces income of another there will be multiple decreases in AD until a new equilibrium is reached, whereby real output falls by a multiplied amount.

The fall in real output would imply that firms cut back on their production. As demand for labour is a derived demand, the aggregate demand for labour falls to  $AD_{L2}$  as shown in Figure 1. Assuming wages are sticky downwards due to contractual agreements, real wage remains at  $W_1$  creating an excess supply of labour. Demand-deficient unemployment results and is represented by the gap  $L_D L_S$ .

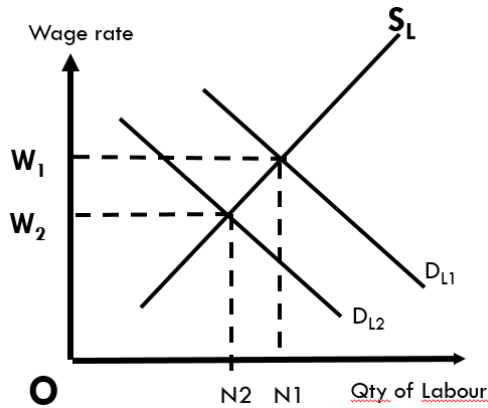


**Figure 1: Demand-deficient unemployment**

**Requirement 2: Explain how a rise in technology advancement would lead to unemployment**

However, on the other hand, a rise in technology advancement would lead to structural unemployment. The adoption of more advanced technology would involve new production processes that would require highly-skilled workers with the specialised knowledge. There will be an increase in demand for high-skilled workers.

At the same time, innovation-based investment would cause some of the existing jobs to be obsolete as technology replaces it. This brings about a fall in demand for low-skilled workers to  $DL_2$  as shown in the diagram. The  $N_1N_2$  workers who are retrenched lack the relevant skills and therefore are not able to take up jobs requiring higher skills that are available, giving rise to structural unemployment.



**Figure 2: Decrease in demand for low-skilled workers**

### Conclusion

Thus, the fall in investment and the rise in innovation-based investment has led to demand-deficient and structural unemployment in Singapore respectively. The Singapore government could intervene by implementing appropriate policies to address the root cause of the problem.

| Mark Scheme |   |        |
|-------------|---|--------|
| Level       | Descriptors   | Marks  |
| L3          | For a response which shows strong economic analysis and application in terms of how the fall in investment AND the rise in technology advancement led to unemployment in SG.<br><br>Recall that the 2 requirements are the 2 types of unemployment. | 8 – 10 |
| L2          | For an under-developed explanation. Appropriate economic concepts and analysis is used but application is lacking.  | 5 – 7  |
| L1          | For an undeveloped answer with a listing of points.   | 1 – 4  |

### Markers' Report

| Skills  |   | Aha moment! |
|---|---|-------------|
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/<br>not well-demonstrated? |   |             |
| (+)   | Students could write 2 requirements - demand deficient and structural unemployment. |             |
| (+)   | Majority of the students addressed the question directly by                         |             |



|  |  |                    |
|--|--|--------------------|
|  | including topic sentences, such as "a decrease in investment leads to demand-deficient unemployment" and "technological advancement increases structural unemployment."  |                    |
| <b>Content</b><br>Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |  | <b>Aha moment!</b> |
| (-)  | Students need to be mindful that the key economic tool to illustrate demand-deficient unemployment should be the aggregate labour market, rather than the AD-AS diagram.   |                    |
| (-)  | Weaker responses tended to be descriptive and did not include any diagrams or economic terms like "demand for labour" in their responses. They used terms like "workers unemployed" and "layoff" loosely. A handful did not link their answers to the type of unemployment being discussed.  |                    |
| (-)  | For demand-deficient unemployment, students tended to miss the assumptions of sticky wages downwards and failed to identify the surplus of labour.   |                    |
| (-)  | For structural unemployment, there was a need for greater elaboration on how structural changes caused unemployment and job vacancies in sunset and sunrise industries respectively.<br><br>Many students also missed the point that there were vacancies available in the sunrise industry that the unemployed could have potentially filled. |                    |
| (-)  | While almost all the students were aware that the cause of structural unemployment is a mismatch of skills, some students did not explain why workers were unemployed in the first place due to technological advancement and how job vacancies were created in tech-related industries.   |                    |
| (-)  | Students also did not make the link that workers would like to fill job vacancies in sunrise industries because of higher wages, although they gave a rehearsed answer on how income inequality increased.   |                    |

### **Suggested Answer for (b)**

**(b) Discuss whether supply-side policies such as Skillsfuture would be the most effective in reducing unemployment in Singapore. [15]**

Introduction: Interpret question intent: State problem – types of unemployment faced in SG – structural unemployment (rapid adoption of technology) & demand deficient unemployment (lower AD because of weak confidence level from trading partners – post covid. State impact of unemployment and policy aim- reduce unemployment. The essay considers whether supply side policies like education & training is the most effective policy by assessing whether the aim of the policy – reduction in unemployment is attained.

Requirement 1: Explain how supply side policies (education & training) can reduce structural unemployment and how it is effective to tackle the aim.

EV1: Contextualise the limitation of supply side policies in tackling structural unemployment – receptivity? Costly? Time period? and provide an opinion about the policy's effectiveness

Requirement 2: Explain how demand management policies (EMP) can reduce demand-deficient unemployment directly and is a quicker approach.

EV2: Contextualise the limitation of EMP (EMP is not considered because is covered in a)) in unemployment in SG context – Root Cause of the problem (Structural unemployment), Uncertainty (Demand-deficient Unemployment) and provide an opinion about the policy's effectiveness

Final EV: Reasoned judgment whether Skills future is the best policy – Timeframe, Constraints and Root Cause of the problem.

**Introduction:**

With digitalisation, Singapore experiences higher risks of structural unemployment. While there is recovery post-COVID, there are risks of demand-deficient unemployment due to poor confidence with the ongoing war in various regions. Given the small and open nature of our economy, we are highly susceptible to external shocks which may affect the extent of demand-deficient unemployment.

The essay considers whether supply side policies like education & training is the most effective policy to attain the goal of reduction in unemployment.

**Requirement 1: Explain how supply side policies (education & training) can reduce structural unemployment and how it is effective to tackle the aim.**

Structural unemployment occurs when there is mismatch of skills between the unemployed and the job opportunities available. The main reason for structural unemployment is labour immobility. With the adoption of automation, labour intensive jobs are being replaced by machines. There is greater move towards industries that involved artificial intelligence and are technology-driven. As a result, there will be a fall in demand of workers in the low-end manufacturing industry. However, these unemployed workers are unable to take up jobs available due to the mismatch of skills, thus resulting in structural unemployment in the high-cost, developed countries such as Singapore. High unemployment can persist in a country especially when the country faces an ageing population as older workers who have lost their jobs will find it harder to upskill, especially in the face of technological disruption encouraged by globalisation.

**[How SS-side policy works and its strengths]** In the above situation, the government should implement interventionist supply-side policy to reduce structural unemployment via providing or subsidising education and training programmes. For example, the Singapore government has put in place programmes such as Workfare Training Support, Continuing Education and Training (CET) and SkillsFuture to workers up-skill and build their capabilities.

Figure 1: Labour market for low-skilled manufacturing workers

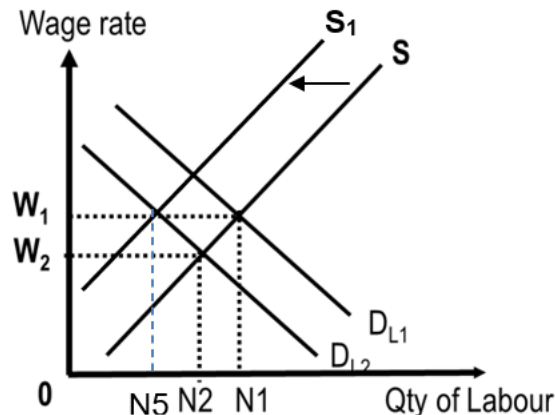
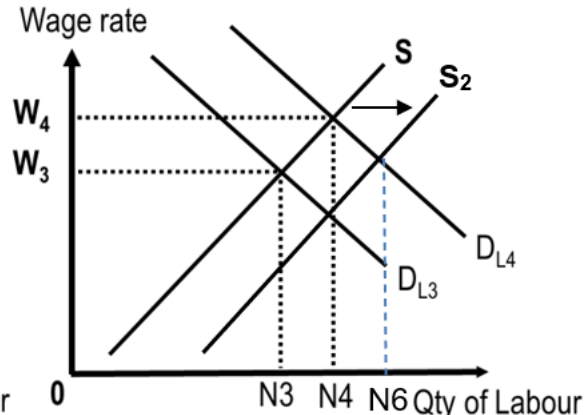


Figure 2: Labour market for high-skilled workers in expanding industries



The programmes aim at increasing labour mobility and labour productivity. With retraining, labour productivity increases, allowing workers to be more employable. Equipped with more relevant skills, this will help to reduce the mismatch of skills and thus, improve labour mobility across industries, this leads to a fall in supply of low-skilled manufacturing workers to  $S_1$  in Figure 1. At the same time, labour mobility increases, and these workers can move to the sunrise industries such as high technology industries, resulting in an increase in supply of workers to  $S_2$  Figure 2, reducing structural unemployment. *[Link back to the question]*: Thus, supply-side policy works to reduce high unemployment in such a situation.

Supply-side policies can also be powerful tools as with increasing productivity, it can result in lower prices and make the goods more price competitive in the international market which can boost AD in the long run.

**[A possible limitation of SS-side policy]** However, it takes time to improve literacy & numeracy skills, and to complete an apprentice or a degree. Hence, it will take several years before improvements in education and training result in higher labour productivity. *[Link back to the question]*: Thus, supply-side policy may not be the best policy to reduce high unemployment in the short run.

**[EV]:** Given Singapore government's emphasis towards lifelong learning since young, Singaporeans are likely receptive to constant upskilling, thus ensuring that their skills are not obsolete and they are able to gain new skills required in the expanding industries. Hence, given the education and training culture built over the years, it is likely for supply side policies to be more effective in tackling unemployment.

**Requirement 2: Explain how demand management policies (EFP (or EMP)) can reduce demand-deficient unemployment directly and is a quicker approach.**

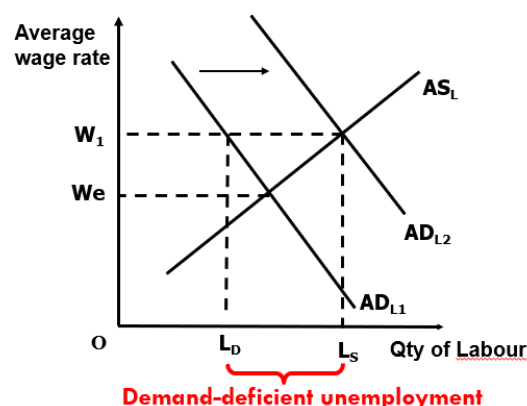
However, supply side policies may not be effective if unemployment is caused by a chronic fall in AD in a sharp, severe and protracted recession. Supply side policies on its own may not be enough to achieve actual economic growth and hence lower unemployment. Thus effective demand management policies are needed to counteract the fall in AD resulting in demand-deficient unemployment.

The ongoing wars in Russia Ukraine and Israel and Hamas may also pose a threat to confidence level, affecting C & I and hence AD. The use of expansionary fiscal policy in the form of increase in government expenditure (G) and lowering of direct taxes to increase AD can help to reduce demand-deficient unemployment.

**[How the policy works]** An increase in G would raise AD. In addition, the lowering of Corporate Income Tax (CIT) could help to incentivise investors to invest given the higher post-tax profits to be gained. The lowering of personal income tax could also increase disposable income and purchasing power. Assuming normal goods, consumption expenditure would rise. As AD rises, this causes the total spending to exceed total output at the initial GPL, resulting in a shortage. Shortage leads to a fall in inventories which provides an incentive for producers to increase output to meet demand. When the real output rises, firms produce more goods and services. As such, they need to hire more factors of production like labour to produce these goods and service. Since labour is a derived demand, the demand for labour rises. More jobs are created, thereby reducing demand-deficient unemployment.

As seen in Figure 3 below, as demand for labour increases, there is a rightward shift in aggregate demand for labour from  $AD_{L1}$  to  $AD_{L2}$ , bringing about an increase in employment from  $L_D$  to  $L_S$ . Demand deficient unemployment is eliminated, thus unemployment rate falls. *[Link back to the question]*: Thus, demand-management policy such as expansionary fiscal policy may help to reduce unemployment.

Figure 3:



**[Strengths: Unintended benefits on other macro goals]:** In using expansionary fiscal policy via increase in government expenditure there will be an unintended positive effect of an increase in potential growth. The increase in government expenditure in the form of building of infrastructure can increase the quantity of capital goods in the economy. Thus, AS also increases in the long run and hence potential growth occurs.

**EV2: Explain the limitation of EFP (or EMP) in unemployment in SG context – Root Cause of the problem (Structural unemployment), Uncertainty (Demand-deficient Unemployment)**

The multiplier indicates the number of times real GDP increases for a given autonomous increase in AD. The size of the country's multiplier affects the extent of increase in AD and real national income assuming spare capacity exists. When the government adopts an expansionary fiscal policy via an increase in government expenditure to boost AD, the extent of increase in AD & real GDP depends on the size of the multiplier, which in turn influences the extent to which demand-deficient unemployment can be addressed.

A country with high leakages for example Singapore with high saving rates due to its compulsory savings via CPF contributions by their people and high import rate due to its lack of natural resources will have a small  $k$  size. It is thus difficult for expansionary fiscal policy to raise output very significantly as compared to other countries with larger  $k$  size. Furthermore, an increase in  $C$  &  $I$  may not boost AD of Singapore significantly as net export takes up a larger proportion of its AD since it is heavily dependent on exports for growth. The smaller multiplied increase in real output translates to a smaller rise in derived demand for labour. Thus such a policy may be limited in its effectiveness to reduce demand-deficient unemployment.

**Final EV: Reasoned judgment whether Skills future is the most effective policy – Timeframe, Constraints and Root Cause of the problem.**

Overall, whether supply side policies is likely to be the most effective policy measure to reduce high unemployment in Singapore depends on many factors. *[The factors could include the causes of the high unemployment in the country, nature of the economy, state of the government's budget and the time-period.]*

[C: Root Cause] Given the move towards Smart Nation, the more common root cause of unemployment is likely to be structural unemployment. [Re] To reduce structural unemployment, it is imperative that the future and current workforce continue to have access to quality education and training through supply-side policies like SkillsFuture. While the prudent government spending over the years has enabled the government to accumulate much reserves, subsidising education and training is a costly affair that would require much periodical reviews and adjustments. For instance, the government will need to keep abreast of the changing industry landscape and the skills required in the near future so as to ensure the funding are meant for relevant

training and courses. [O] Hence, with careful planning and accurate information, supply-side policies would be more effective in tackling unemployment in Singapore.

[C] That said, being an open economy also makes Singapore susceptible to global economic downturns and thus must be ever ready to deal with demand-deficient unemployment as well. [O,Re] In cases of severe recession and poor economic outlook, the government will need to ramp up its expenditure as there is greater certainty in terms of impact on AD. Hence expansionary FP will be more effective in such instances of falling AD.

| <b>Mark Scheme</b>   |              |
|--|--------------|
| <b>Descriptors</b>   | <b>Marks</b> |
| For a response which shows strong economic analysis and application in terms of how effective supply side policies like SkillsFuture and any demand management policy (EFP or EMP) are in addressing unemployment in Singapore.  | 8 – 10       |
| For an under-developed explanation. Appropriate economic concepts and analysis is used but application is lacking.<br><br>Recall the 2 requirements:<br><ul style="list-style-type: none"> <li>✓ EFP or EMP in addressing demand-deficient unemployment</li> <li>✓ Supply-side policies like Skillsfuture in addressing structural unemployment</li> </ul> | 5 – 7        |
| For an undeveloped answer with a listing of points   | 1 – 4        |
| <b>Evaluation</b>  |              |
| For an answer that builds on appropriate analysis to evaluate the extent to which both policies are needed in addressing unemployment in Singapore.  | 5            |
| For an answer that makes some attempt at evaluation of a conclusion that answers the question but does not explain the judgement or base it on analysis.   | 3-4          |
| For an answer that gives superficial evaluative statement(s) without supporting analysis and elaboration.  | 1-2          |

| Markers' Report  |   |             |
|--|---|-------------|
| Skills   |   | Aha moment! |
| Strengths (+): What are the required skills that were well-demonstrated?<br>Areas for improvement (-): What are the skills that were lacking/ not well-demonstrated?   |   |             |
| (-)  | Some students did not include any diagrams of the labour market in their answers.   |             |
| (-)  | Some students mentioned the strengths and limitations of the policies but failed to develop these into evaluative points. They often omitted the judgment on the likely impact of these strengths and limitations.  |             |
| (-)  | Students did not provide clear, reasoned judgments by considering the constraints or context of Singapore. Some students used the timeframe to explain the need for demand management policies in the short term and supply-side policies in the long term, which could be further developed for a stronger evaluation.   |             |
| Content  |   | Aha moment! |
| Strengths (+): What are some concepts that were well-explained with clear linkages made?<br>Areas for improvement (-): What are some concept gaps / conceptual errors? |   |             |
| (-)  | Many students wrote about the impact on the AD-AS model and linked it to how growth will be affected, which is not the goal of the policy. These students provided lengthy responses on how policies promote growth rather than how they affect unemployment.   |             |
| (-)  | Weaker students provided incomplete analyses or were descriptive when explaining how policies work. They also only had time to discuss one policy in their answers.   |             |
| (-)  | Students understood how supply-side policies, education, and retraining work. For example, they knew that retraining allowed workers to tackle the mismatch of skills. However, they need to establish stronger linkages to how education and retraining will improve labour mobility to fill job vacancies, thus addressing structural unemployment. They also need to illustrate how retraining will cause changes in the labour market for both sunset and sunrise industries. |             |
| (-)  | Some students explained that SkillsFuture will not generate job vacancies in the expanding industry, which they see as a limitation of supply-side policies. However, they fail to recognise that there are already job vacancies available in the sunrise industries.  |             |



|     |   |  |
|-----|---|--|
| (-) | Some students explained that SkillsFuture can only tackle structural unemployment and not demand-deficient unemployment. However, they fail to recognise that supply-side policies could increase real output and hence address demand-deficient unemployment.                  |  |
| (-) | Students also referred to unemployment loosely without specifying the types of unemployment that policies can tackle.   |  |
| (-) | Students were aware of the limitations of the policies, but some did not fully elaborate on these limitations. For instance, they explained how depreciation may conflict with other goals because Singapore is heavily reliant on imports, but they did not elaborate further. |  |
| (-) | Some students chose interest rate policy as an alternative policy that the Singapore government can adopt. However, they failed to recognise that Singapore adopts an exchange rate policy, not an interest rate policy.  |  |

## **MY REFLECTION/LEARNING POINTS FROM SECTION C**

After going through the corrections in class and reviewing the suggested answers to Section C, here is my...

**1** reflection/learning point with respect to SKILLS:

**1** reflection/learning point with respect to CONTENT: