HWA CHONG INSTITUTION
JC2 Preliminary Examinations
Higher 2

CANDIDATE NAME		**CT GROUP**	**23**
CENTRE NUMBER		**INDEX NUMBER**	

ECONOMICS Paper 2 ESSAY Additional Materials: Answer Booklet(s)	**9570/02** **9 September 2024** **2 hours 30 minutes**

READ THESE INSTRUCTIONS FIRST

Write your **name, CT group, Centre and Index numbers** clearly on every answer booklet that you hand in.

Write in dark blue or black pen on both sides of the answer paper.
You may use a soft HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid and tape.

Answer **three** questions in total, of which **one** must be from Section A, **one** from Section B and **one** from either Section A or Section B.

Write all your answers in the 12-page booklet and subsequent 4-page booklets (where required).

Start each question on a new page in the answer booklet.

Indicate the questions you attempted on the cover page of the 12-page booklet.

Do not tear out any part of this booklet.

All work must be handed in. If you have used any additional 4-page booklets, please insert them inside the 12–page answer booklet.

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

You are advised to spend several minutes reading through the questions before you begin writing your answers.

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

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

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Answer **three** questions in total.

Section A

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

1	Museums are important cultural institutions that enrich communities and benefit even non-visitors. They often rely on government subsidies to keep ticket prices affordable to as many segments of society as possible. However, as some museums prosper and attract large crowds, there is growing debate over reducing subsidies to reallocate funds elsewhere.	
	(a)	Explain why museums are **not** public goods but the government considers it necessary to intervene in the market for museums. [10]
	(b)	Discuss whether reducing subsidies for museums is justified. [15]
2	The global semiconductor market experienced a shortage caused by supply chain disruptions and increased electronic device consumption during the Covid-19 pandemic. Semiconductors are crucial inputs for electronic devices. To prevent supply disruptions from key sources like China, the United States (US) government introduced the Chips and Science Act, offering subsidies for domestic semiconductor fabrication, research, and workforce training.	
	(a)	Explain why there is a shortage in the global market for semiconductors, and this leads to a surge in the price of semiconductors. [10]
	(b)	Discuss the impact of the Chips and Science Act on the producers of semiconductors in the US and consumers of electronic devices. [15]
3	A cup of coffee can be priced as low as $1 in a neighbourhood coffee stall or as much as $6 in a café like Starbucks. The growing demand for specialty coffee has prompted new cafés to enter the already crowded market despite rising labour costs.	
	(a)	Explain which market structure best fits the market for coffee in Singapore, and why a café charges higher price for coffee than a neighbourhood coffee stall. [10]
	(b)	Discuss whether strategies aimed at raising revenue or lowering unit costs are more important for cafés seeking to increase profits. [15]

Section B

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

4	India has become the most populous country, with rapid real Gross Domestic Product (GDP) growth since 1970 lifting millions from poverty. Despite advantages like a young population and global de-risking where countries reduce reliance from China as a key supplier, India must boost investment in health, education, and urbanization to sustain economic growth.	
	(a)	Explain how real GDP per capita can be used to measure material standard of living over time, and what might be the two difficulties associated with this measurement. [10]
	(b)	Discuss the view that India's ability to become the world's largest economy depends on the size of its population. [15]
5	Large numbers of fresh university graduates in China are currently without jobs, despite a shortage of skilled workers in emerging "hard tech" sectors such as electric vehicles and scientific innovation. Three years of lockdown to curb the Covid-19 pandemic had aggravated the youth unemployment situation. Yet some youths are still holding out for a job that matches their aspirations.	
	(a)	Explain two economic reasons why governments are concerned with high unemployment. [10]
	(b)	Discuss the most appropriate policy measures that should be taken to reduce youth unemployment in China. [15]
6	Singapore's comparative advantage traditionally lies in exporting high-value-added products like pharmaceuticals, while importing land-intensive food products. However, the government is actively investing in non-traditional food production, such as lab-grown meat and insect protein, to enhance food security and potentially shift its comparative advantage in this sector.	
	(a)	Explain two possible reasons for a country's balance of trade deficit. [10]
	(b)	Discuss the extent to which the Singapore government can influence its comparative advantage in food production. [15]

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Question 1

Museums are important cultural institutions that enrich communities and benefit even non-visitors. They often rely on government subsidies to keep ticket prices affordable to as many segments of society as possible. However, as some museums prosper and attract large crowds, there is growing debate over reducing subsidies to reallocate funds elsewhere.

a) Explain why museums are not public goods but the government considers it necessary to intervene in the market for museums. (10)
b) Discuss whether reducing subsidies for museums is justified. (15)

a) R1: Explain why museums are not public goods.

Public goods refer to goods which are non-excludable and non-rival. The points here can be embedded into direct application of how museums are excludable and rival.

- Non-excludability in consumption refers to the situation where the consumption or use of the good or service cannot be limited to the consumers who have paid for it. The reason is due to the lack of private property rights over its use because it is impossible or prohibitively expensive to exclude non-payers from consuming it.
- Non-rivalry in consumption refers to the situation where the consumption or use of the good or service by one consumer does not reduce its availability to another consumer.

Museums are not public goods because they are excludable and museum visitor space is rival when crowded.

- Museums are excludable as they can easily have ticket attendants at the entrances to check if visitors have purchased tickets for entry. Those who have not purchased tickets are rejected from entering the museum. This prevents free riders from entering the museum.
  - Viewing of the exhibits within a museum are non-rival when it is not crowded. A person viewing the exhibit does not diminish the viewing pleasure of another person viewing the exhibit next to him/her. However, once the museum becomes crowded then rivalry may set in due to limited space, as a person viewing the exhibit may block others from viewing the exhibit clearly.

R2: Explain that the government intervenes due to the presence of positive externalities.

The government intervenes due to the presence of positive externalities in museum consumption.

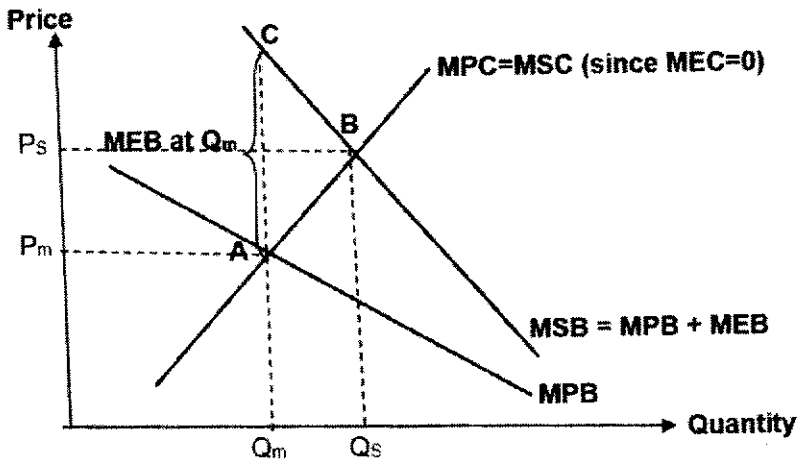


Figure.7¿Positive.externalities.in.museum.consumption

- With reference to Fig 1, the Marginal Private Cost (MPC) refers to the costs incurred by museums for each additional visitor, such as maintenance, staffing, and exhibit upkeep. The Marginal Private Benefit (MPB) reflects the personal enjoyment or educational value that visitors gain from attending the museum.

- However, there is often a divergence between private and social benefits due to the external benefits generated by museum visits. Museums provide significant external benefits to third parties beyond the visitors themselves, such as local communities, businesses, and future generations. For example, museums help preserve cultural heritage, which benefits future generations by ensuring access to historical and cultural knowledge. Local businesses may benefit from increased tourism generated by museum attractions, and educational institutions can leverage museums as resources for learning purposes. These external benefits are not reflected in the MPB. As shown in Figure 1, this results in a divergence between private and social benefits, with the Marginal Social Benefit (MSB) curve lying above the MPB as MSC = (MPB + MEB)

- In a free market, MPC = MPB results in an equilibrium quantity of Qm. However, the socially efficient quantity is at Qs, where MSC = MSB. Given that Qm is lower than Qs, there is an underconsumption of museum visits.

- Between Qs – Qm, area QmQSBC represents the total social benefits that could be gained by increasing museum consumption to the socially optimal level, while QmQSBA represents the total social cost of doing so. Since the total social benefits exceed the total social costs between Qs and Qm, there is a deadweight welfare loss of area ABC loss due to the under-consumption of museum visits.

Marking Scheme:

Level	Descriptors	Marks
L3	Breadth & Application • R1: Explain how museums are excludable and how museums can be rival if crowded. • R2: Explain the existence of DWL from positive externalities in the market for museum visits. Depth • Applies relevant economic concepts or theories • Explains with rigour and detail • Explains and illustrates with relevant diagram(s) and example(s) relevant to preamble given	8-10
L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4

b) Discuss whether reducing subsidies for museums is justified. (15)

R1: Reduction of subsidies are justified as some museums may have over-subsidy.

Reduction of spending would be justified if the government is over-subsidising museums.

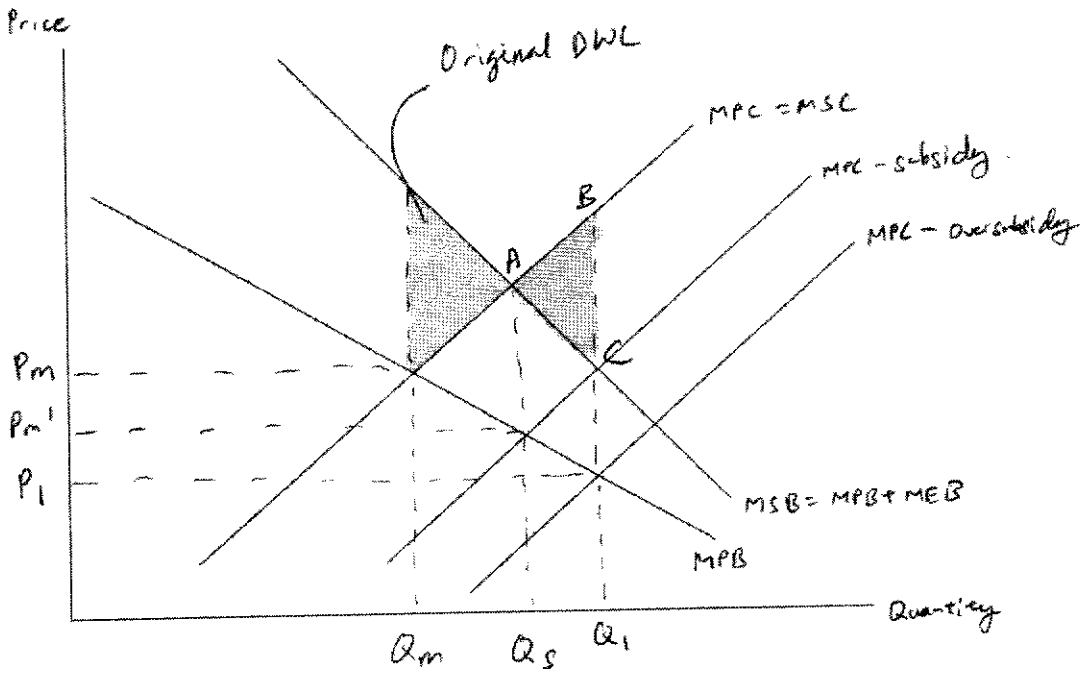


Figure.8¿Reduction.of.oversubsidy

- The appropriate amount of subsidy would be MEB at Qs. A subsidy higher than that amount would mean that museums are being oversubsidised.
- With reference to fig 2, an over-subsidy would lead to MPC shifting to MPC-Oversubsidy, leading to Q1 and P1. Q1 exceeds the socially optimal output Qs, implying overconsumption.
- This results in a deadweight loss of area ABC as between Q1 and Qs, the total social costs exceed the total social benefits.
- Reduction of subsidies will shift MPC – oversubsidy to MPC – subsidy, leading to a new equilibrium of Qs and Pm', and eliminating the DWL from oversubsidy.

Diagram, clear explanation and labelling of DWL from oversubsidy, and how reduction of subsidies allows it to reach Qs is needed to get an "A"

EV1: The fact that some museums can prosper and attract large crowds indicate that their demand/MPB is quite high. This suggests that the extent of underconsumption or the gap between MSB and MPB (MEB) is quite low. And thus, reduction of subsidies is justified.

Requirement 2: Reduction of subsidies are not justified it may lead to underconsumption

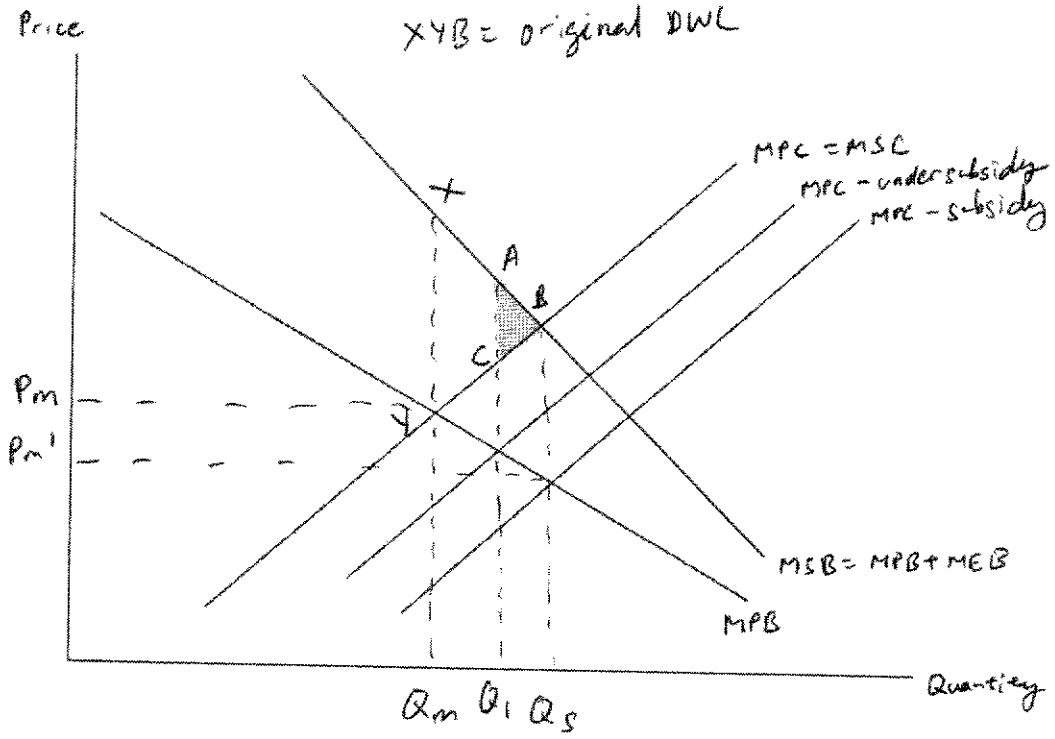


Figure.9¿Reduction.leading.to.undersubsidy

- The appropriate amount of subsidy would be MEB at Qs. A subsidy lower than that amount would mean that museums are being undersubsidised.
- With reference to fig 3, reduction of subsidies will lead to MPC shifting from MPC-subsidy to MPC-undersubsidy. This will shift the equilibrium from Qs to Q1, where there is still underconsumption as Qs exceeds Q1.
- From Qs to Q1 total social benefits exceed total social costs, leading to a DWL of area ABC, which represents the welfare that could have been gained if consumption were increased to Qs.

EV2: Reduction is not justified as not every museum is able to draw large crowds. In this case, a reduction of subsidies would lead to under-allocation of resources. For example, the Asian Civilisations Museum in Singapore is fully subsidized for Singaporean residents to ensure the socially optimal levels of consumption. Reduction of subsidies in this case will not be justified.

Alternative R2: Reduction of subsidies is not justified due to inequity

- Equity could be defined as fairness in the distribution of economic welfare.
- This applies mainly to essential goods where it could be deemed unfair for anyone to be denied the goods just because they cannot afford it.
- What is deemed an essential good is however normative, depending on the value judgements of different societies. It can be argued that museums are essential goods that allow consumers to access cultural and historical education that would be difficult to replicate in other settings.

Show either dd-ss or social welfare diagram whereby reduction of subsidies increases the price of museum visits-tickets;.

- As shown in the above figure, reduction of subsidies increases the price of museum admission and unfairly denies some consumers from affording access to museums.

Alternative EV2: While it can be successfully argued that museums are essential goods due to their high educational value, keeping subsidies as it may lead to allocative inefficiency in museums that are able to draw large crowds on its own. It is thus better to reduce subsidies to museums and provide more targeted subsidies at the lower income to ensure they can afford museum visits.

Evaluative Conclusion:

The main issue still boils down to the difficulty in assessing the MEB and hence appropriate rate of subsidy. As such, a blanket reduction of subsidies is not justified but a more targeted reduction of subsidies may be justified. In the case of museums, we can use visitor numbers and ticket receipts as an approximate gauge of the demand/MPB. If visitor numbers and ticket receipts are high. Subsidies can be reduced and for other museums where visitor numbers and ticket receipts are low, the subsidy rate can be maintained. An example would be Singapore where the Marina Bay Sands ArtScience museum draws large numbers of visitors and thus do not receive any government subsidy, unlike the Asian Civilisations Museum.

Marking scheme:

Level	Descriptors	Marks
L3	• Breadth & Application • R1: How reduction of subsidies can be justified	8-10

	• R2: How reduction of subsidies is not justified → undersubsidy OR inequity are acceptable points.
	• Depth
	  • Applies relevant economic concepts or theories
	  • Explains with rigour and detail
	  • Explains and illustrates with relevant examples & context	

L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4
Evaluation		
E3	• Takes a clear overall stand (a summative conclusion) that is comprehensively justified by providing convincing evaluative comments on the relative importance of the requirements covered in the body	4-5
E2	• Takes a clear overall stand which is only partially justified as • Only one of the requirements is well evaluated with supportive arguments presented in the answer and is linked to the context of the question • Evaluates both requirements but the overall stand is unclear	2-3
E1	• Provides an evaluative statement for 1 requirement Note: An opinion is NOT a STATEMENT (Tips: Use normative words: best, more, less, large/small extent)	1

Question 2

The global semiconductor market experienced a shortage caused by supply chain disruptions and increased electronic device consumption during the Covid-19 pandemic. Semiconductors are crucial inputs for electronic devices. To prevent supply disruptions from key sources like China, the United States (US) government introduced the Chips and Science Act, offering subsidies for domestic semiconductor fabrication, research, and workforce training.

(a) **Explain why there is a shortage in the global market for semiconductors, and this leads to a surge in the price of semiconductors.** **[10]**

(b) **Discuss the impact of the Chips and Science Act on the producers of semiconductors in the US and consumers of electronic devices.** **[15]**

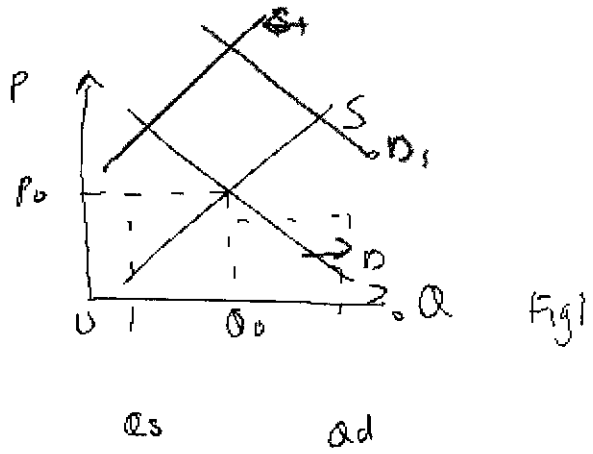
Suggested Answers

(a) **Explain why there is a shortage in global market for semiconductors, and how it leads to a surge in its price.** **[10]**

With the use of demand and supply diagram,

R1: Explain why there is shortage in semiconductors

- There is increased preference of usage of electronic devices during pandemic (Change in **taste and preference**)
- This results in higher demand for electronics □ **higher derived demand for semiconductors** from D0 to D1 as shown in Fig 1 (OR say that there is higher demand for semiconductors as they as used as **inputs for electronics**)
- There is **supply shock** due to supply chain disruptions caused by borders restrictions
- This results in **fall in supply of semiconductors** from S0 to S1 as shown in Fig 1
- Explain how a shortage is created: A shortage exists when quantity demanded exceeds quantity supplied. With reference to Figure 1 - When demand increases from D0 to D1, quantity demanded (Qd) exceeds quantity supplied (Qs) at the original price P0. A shortage of Qd– Qs is therefore created.



R2: Explain how it results in surge in price of semiconductor

- Explain price mechanism: Shortage at original price, P_0 results in upward pressure in price. As price increases, it leads to a fall in Qd and rise in Qs until it reaches equilibrium when Qd=Qs at new equilibrium, E1.
- Explain surge (sharp increase) in price using PED **or** PES:

- Fall in supply of semiconductors along price-inelastic demand (|PED|<1)

    - Explain why demand for semiconductors is price-inelastic: They are essential input to produce many goods like solar panels, handphones, vehicles
    - Hence, when supply of semiconductors fall, a shortage at the initial equilibrium price P0 is created, causing an upward pressure on price.
    - As demand is price inelastic as shown by Di in Figure 2, the *less than proportionate decrease in quantity demanded requires the price to increase sharply to Pi to reach the new equilibrium E2, where quantity demanded equals quantity supplied again and shortage is eliminated (this must be clear if students did not use diagram that shows comparison between a price-elastic and price-inelastic demand).* If the demand had been price elastic as shown by De, the new equilibrium price would be lower at Pe.

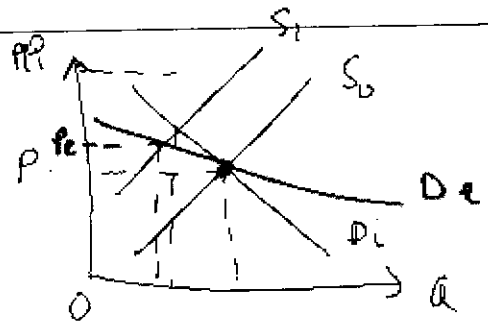


Fig 2

$Q_e Q_1 Q_0$

Or

- Rise in demand of semiconductors along price-elastic supply (PES<1)
  - Explain why supply for semiconductors is price-inelastic: due to lock downs and border restrictions during pandemic, it makes it difficult to import or produce semiconductors. Hence it could result in low inventories / takes a longer time to produce semiconductors
  - Hence, when demand of semiconductors rises, a shortage at the initial equilibrium price P0 is created, causing an upward pressure on price.
  - As supply is price inelastic as shown by Si in Figure 3, *the less than proportionate increase in quantity supplied requires the price to increase sharply to Pi to reach the new equilibrium E2, where quantity demanded equals quantity supplied again and shortage is eliminated (this must be clear if students did not use diagram that shows comparison between a price-elastic and price-inelastic supply).* If the supply had been price elastic as shown by Se, the new equilibrium price would be lower at Pe.

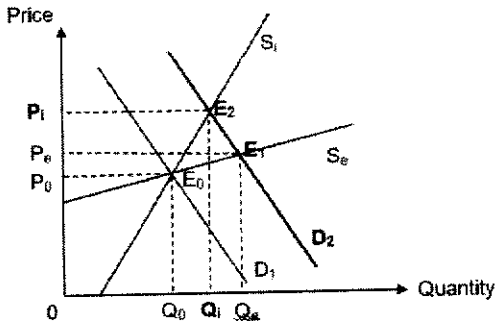


Figure 3

(Students could show different PED/ PES to show sharper change in P or write in prose)

	Alternative Approach: *R1: Explain how increase in demand along price-inelastic supply results in surge in price* *R2: Explain how fall in supply along price-inelastic demand results in surge in price* *(At least one of the requirements should include elasticity concept and explanation of price adjustment.)*	

Marking Scheme:

Level	Descriptors	Marks
L3	Breadth & Application • Explain **one demand factor** that results rise in demand for semiconductors (must include **derived demand** concept) • Explain **one supply factor** that results in fall in supply of semiconductors • Explain how it results in **surge in price** of semiconductor, with the use of PED **or** PES • Explain the **price adjustment process** Depth ○ Applies relevant **economic concepts or theories** ○ Explains with **rigour and detail** ○ Explains and illustrates with relevant **diagram(s) and example(s) relevant to preamble given**	8-10
L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4

(b)	**The global semiconductor market experienced a shortage caused by supply chain disruptions and increased electronic device consumption during the Covid-19 pandemic. Semiconductors are crucial inputs for electronic devices. To prevent supply disruptions from key sources like China, the United States (US) government introduced the Chips and Science Act, offering subsidies for domestic semiconductor fabrication, research, and workforce training.**	[15]

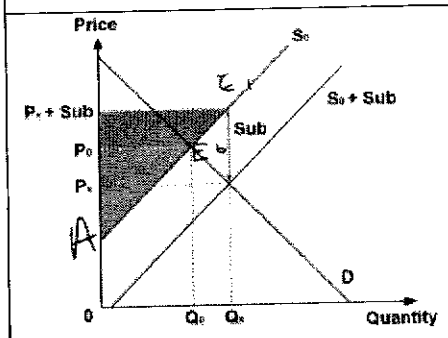
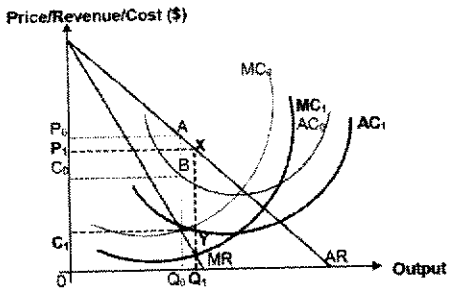
Discuss the impact of the Chips and Science Act on the producers of semiconductors in US and consumers of electronic devices. [15]

Chips and Science Act in US: subsidies for domestic semiconductor fabrication, research, and workforce training

Objective: Prevent disruption of supply of semiconductors from key sources

R1: Explain its impact on producers of semiconductors

- Explain HOW subsidies result in fall in unit COP with reference to preamble
  - Subsidies and funding can help semiconductor producers expand their operations and invest in new technologies, boosting productivity and competitiveness – lowering unit COP
  - Workforce Development: Investment in workforce training can create a more skilled labour pool, enhancing the efficiency and capabilities of the semiconductor industry lowering unit COP
- Explain how such lower unit COP result in increase in <u>producer surplus/ total revenue/profits</u> (depending on the framework they use)

DD/SS framework (Fig 2a)	Firm's analysis (Fig 2b)
	
• Increase in producer surplus from AP_0E_0 to $A(Ps+Sub)E_1$	• Increase in profits from P_0ABC_0 to P_1XYC_1

OR

- Increase in TR from P_0*Q_0 to (Ps+Sub)*Qs

E1 – extent of positive impact / possible negative impact

- Existing semiconductor producers might face competition from new entrants threatening their profitability

- It also depends on US government's ability to sustain provision of such subsidies, as it is costly.
- It depends on whether the firm uses the subsidy effectively to improve on semiconductor fabrication, research, and workforce training. Should it result in complacency, unit COP for firms may not necessary fall and hence producer surplus/profits may not increase.

R2: Explain its impact on consumers of electronic devices

a. **Lower price of electronic devices + higher consumer surplus**

- There is decrease in price of semiconductors due to subsidies as explained in R1. (explain with reference to Fig 2a or 2b))
- In addition, there is also a more stable and potentially larger supply of semiconductors
- This results in lower **unit COP for production of electronic devices** such as mobile phones
- Increase in SS of electronic device e.g. mobile phones from S0 to S1 as shown in Fig 3 ▯ reduce price from P to P1 and hence consumer surplus increases from APE_0 to AP_1E_1 .

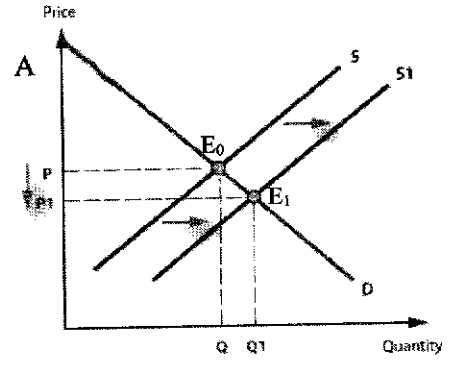


Fig 3

b. Improved quality and/or quality of electronic devices

Subsidies encouraged increased research and development of semiconductors (for eg using nanotechnology) □ higher quality semiconductors may lead to more advanced and innovative products for consumers of electronic devices (quality and/or variety).

FYI only: Semiconductor nanocrystals are tiny light-emitting particles on the nanometer scale. Researchers have studied these particles intensely and have developed them for broad applications in solar energy conversion, optoelectronic devices, molecular and cellular imaging, and ultrasensitive detection.

[redacted]

Implementation Costs: The initial costs of setting up new facilities, training programs and operations might be high, despite subsidies □ may not reduce price of semiconductors □ may not reduce price of electronic devices, ceteris paribus.

Question ceteris paribus: The price of semiconductors may not necessarily fall. There could be other factors such as increase in demand for electronic devices as mentioned in preamble. If rise in DD>rise in SS □ price of electronic device will increase. However, in such a case, consumer surplus could still possibly increase.

Product innovation – depends on success and it takes time

	Summative conclusion – comment on the overall impact on consumers and producers of semiconductors amplification • Overall, the Chips and Science Act represents a strategic move to bolster the U.S. semiconductor industry, which has broad implications for both consumers and producers in the US. • **US Consumers** of semiconductors could largely benefit from more stable prices, better availability, and technological innovation that improves quality. Indeed, even as demand for electronic devices increases, coupled with increase in its supply, consumer surplus is still likely to increase. • **US producers** of semiconductors stand to gain from increased domestic production, enhanced R&D, and a more competitive position globally, *if they are able with withstand new competitors, and should US govt be able to sustain such subsidies OR if they are able to successfully use the subsidies to improve on semiconductor fabrication, research, and workforce training.* • However, the transition will take time, and the full impact of the Act will likely to be realised over several years.	

Marking Scheme:

Level	Descriptors	Marks

L3	• Breadth & Application
	  • Explain its impact on producers of semiconductors using either DD/SS or firm's analysis
	  • Explain its impact on consumers of electronic devices using DD/SS (either on price and consumer surplus and/or quality or variety)
	• Depth
	  ○ Applies relevant **economic concepts or theories**
	  ○ Explains with **rigour and detail**
	  ○ Explains and illustrates with relevant **examples & context**
		8-10

L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4

Evaluation		
E3	• Takes a clear overall stand (a summative conclusion) that is **comprehensively** justified by providing **convincing** evaluative comments on the **relative importance of the requirements covered** in the body	4-5
E2	• **Takes a clear overall stand** which is only **partially justified** as o Only **one** of the **requirements** is well evaluated with supportive arguments presented in the answer and is linked to the context of the question • Evaluates both requirements but the **overall stand is unclear**	2-3
E1	• Provides an evaluative statement for 1 requirement Note: An opinion is NOT a STATEMENT (Tips: Use normative words: best, more, less, large/small extent)	1

Question 3

A cup of coffee can be priced as low as $1 in a neighbourhood coffee stall or as much as $6 in a café like Starbucks. The growing demand for specialty coffee has prompted new cafés to enter the already crowded market despite rising labour costs.

a) Explain which market structure best fits the market for coffee in Singapore, and why a café charges higher price for coffee than a neighbourhood coffee stall. [10]

b) Discuss whether strategies aimed at raising revenue or lowering unit costs are more important for cafés seeking to increase profits. [15]

Part (a)

R1: The market best fits monopolistic competition (or oligopoly). Reasons:

Monopolistic competition

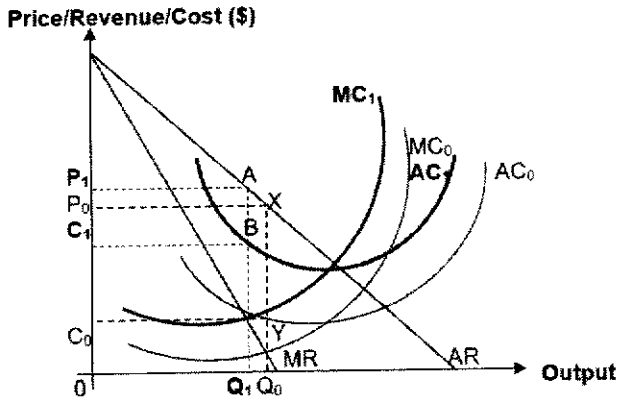
- Large number of firms – ranging from large coffee chains (such as Starbucks, The Coffee Bean & Tea Leaf) to hundreds of small, independent coffee shops in residential areas
- Differentiated products – in terms of types of coffee (eg. specialty coffee such as cappuccino and latte, local coffee), flavours, environment/settings (cafes with ambience, local coffeeshops)
- Relatively low barriers to entry and exit:
    - Cost to enter is not prohibitive – find a suitable location, carry out renovations, buy coffee machines, train coffee baristas
    - Cost to exit is low – equipment can be sold to other cafes

OR: Oligopoly

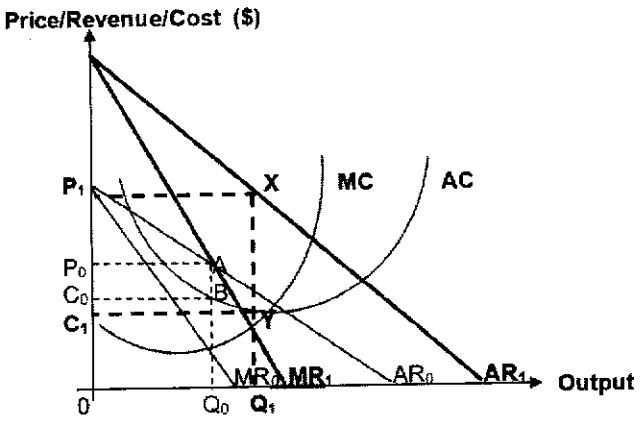
- Presence of large dominant firms with high market share (coffee chains)
- Some barriers to entry – special equipment and trained baristas needed; high rental costs especially in areas with high footfall; franchise cost can be substantial

R2: Why a café charges higher price for coffee than a neighbourhood coffee stall

- Differences in costs – cafes face higher marginal costs because they use more expensive beans and machines. As shown in [redacted] below – due to higher MC/AC, cafés charge a higher price (P1) compared to neighbourhood coffee stall (P0)



- Differences in demand, arising from:
  - Product differentiation – cafes use product differentiation to increase the demand for their coffee (also less price elastic due to less substitutes) ability to charge higher price
  - Serving different consumer segments with different tastes and preferences and willingness to pay
  - As shown in [redacted] below – through product differentiation, café is able to charge a higher price (P1) than before (P0)



Marking scheme:

Level	Descriptors	Marks
L3	• Breadth & Application • R1: Explain the market structure that the market for coffee fits into	8-10

	• R2: Explain Why a café charges higher price for coffee than a neighbourhood coffee stall
	• Depth
	  • Applies relevant economic concepts or theories
	  • Explains with rigour and detail
	  • Explains and illustrates with relevant examples & context	

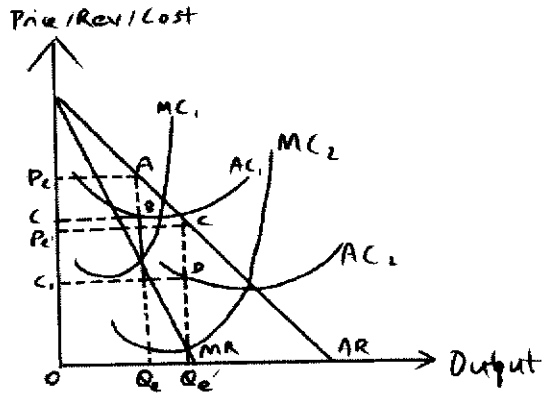
L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4

Part (b)

Discuss whether strategies aimed at raising revenue or lowering unit costs are more important for cafés seeking to increase profits. [15]

R1: Strategies to reduce costs (any 1 below)

- Cafes can reduce cost through expansion of scale to reap internal economies of scale – via internal expansion (open more outlets) or external expansion (mergers and acquisition). [diagram showing either movement along LRAC, or diagram showing fall in AC/MC and impact on profits – see below]
  - Elaboration: As a firm increases its scale of production, this will lead to a downward movement along the LRAC as it reaps internal economies of scale. In the short run, this will translate to lower average and marginal costs than before from AC1 and MC1 to AC2 and MC2. This will lead to an increase in supernormal profit from [refer to [redacted] below].



- OR: Implement cost innovation (eg. greater automation or self-service). Egs include Luckin Coffee's cashier-less order system facilitated through its mobile app. [diagram showing fall in AC/MC and impact on profits – similar to that in part (a) – by lowering AC/MC, café makes larger profit (P_0C_0YX) compared to before (P_1C_1BA)]

Ev1 (possible points):

- The market for specialty coffee in Singapore is already crowded and saturated – scope for further internal expansion may be limited.
- Innovation requires financial resources, which smaller cafes may be less equipped to do compared to larger coffee chains. Cafes already have to deal with rising labour costs.

R2: Strategies to increase revenue (any 1 below)

- Cafes can increase revenue through product innovation/differentiation + marketing to increase demand for their product, and make demand more price inelastic. [diagram showing increase in AR/MR and impact on profits – similar to the one in part (a) - by raising AR/MR, café makes larger profit (P_1C_1YX) compared to before (P_0C_0BA)]
    - Differentiation can be in the form of quality of coffee, special/festive flavours, better café experience. Also offering "sustainable" options such as plant-based milk as alternatives to dairy milk.
    - Marketing to persuade and inform, promote product, build brand loyalty
- Cafes can also diversify their product lines to include new revenue sources – eg. develop coffee capsules to cater to at-home coffee drinkers; selling coffee-related accessories. Eg: Common Man Coffee Roasters offer subscription programme (including brewing kits and machines) for consumers who want to brew good quality

coffee at home. This raises the demand for the café's products and hence profits. [same diagram as product innovation/differentiation]

- Cafes can also practise price discrimination (third degree) – charge higher price to consumer segments with lower PED (eg. working adults), and lower price where PED is higher (eg. students). This enables the cafe to earn higher revenue and hence higher profits from both sub-markets as compared to charging a single price. Cafes are able to price discriminate because they have price setting power and the different sub-markets are identifiable (eg. using student pass) and hence there is no seepage.

Ev2 (possible points):

- Marketing may have limited effects as coffee drinkers may care more about the quality of the coffee, and convenience (especially for weekday office crowd) which suggests that location may be a more important factor in raising revenue.
- Product innovation and differentiation may not succeed unless it caters to the tastes and preferences of the coffee drinkers. These are also costly strategies, which may favour incumbents over new entrants.
- Price discrimination may not result in higher revenue because there are many substitutes available. If the café sets the price too high for the low-PED sub-market, consumers can easily switch to other cafes with similar products. The café will then end up losing revenue from the higher PED sub-market.

SC: Given the crowded market and rising costs, revenue strategies are likely to be more important on the whole for cafes to stand out from the competition and increase profits.

- With rising costs, most cafes especially smaller ones may have less financial resources to engage in cost innovation. Further expansion of scale may also be difficult in an already crowded market, even for larger cafes (eg. Starbucks and Coffee Bean already have outlets all over Singapore).
- Revenue strategies may be more feasible and necessary, especially for smaller cafes or new entrants. Strategies such as simple product differentiation (eg. offering different flavours) or price discrimination to gain a certain market segment (eg. students or office workers in a certain locality) are less resource-intensive ways to increase demand and profits. Larger cafes with more resources can diversify their product lines (eg. coffee-related accessories) to capture more revenue.
- For new entrants especially, advertising may be important to create brand awareness to raise their demand. Some of the new entrants (eg. Luckin Coffee) in

fact are already established players in other countries – they may have advantages in terms of resources and technology, as well as brand awareness overseas. Given that Singaporeans are well-travelled and Singapore receives tourists and expatriates, advertising can help these cafes to establish a new customer base in Singapore and raise demand and profits.

(OR any other reasonable stand with justification)

Marking scheme:

Level	Descriptors	Marks

L3	• Breadth & Application
	  • R1: Explain strategies to reduce costs
	  • R2: Explain strategies to raise revenue
	• Depth
	  • Applies relevant economic concepts or theories
	  • Explains with rigour and detail
	  • Explains and illustrates with relevant examples & context
		8-10

L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4
Evaluation		
E3	• Takes a clear overall stand (a summative conclusion) that is comprehensively justified by providing convincing evaluative comments on the relative importance of the requirements covered in the body	4-5
E2	• Takes a clear overall stand which is only partially justified as ○ Only one of the requirements is well evaluated with supportive arguments presented in the answer and is linked to the context of the question • Evaluates both requirements but the overall stand is unclear	2-3
E1	• Provides an evaluative statement for 1 requirement Note: An opinion is NOT a STATEMENT (Tips: Use normative words: best, more, less, large/small extent)	1

Question 4

India has become the most populous country, with rapid real Gross Domestic Product (GDP) growth since 1970 lifting millions from poverty. Despite advantages like a young population and global de-risking where countries reduce reliance from China as a key supplier, India must boost investment in health, education, and urbanization to sustain economic growth.

(a) Explain how real GDP per capita can be used to measure material standard of living over time, and what might be the two difficulties associated with this measurement. **[10]**

(b) Discuss the view that India's ability to become the world's largest economy depends on the size of its population. **[15]**

Suggested answers		
(a)	**Explain how GDP per capita can be used to measure material standard of living over time, and what might be the two difficulties associated with this measurement.** **R1: Explain how real GDP per capita can be used to measure material SOL over time** □ • **Define SOL and material SOL** ○ Standard of living refers to the level of well-being or welfare enjoyed by an average person or resident of a country. It comprises of the material plus non-material	[10]

well-being of the economy. (Marker's note: optional for A)

- **Material** SOL refers to the quantity and quality of goods and services available to the residents for consumption. The real GDP per capita is commonly used to measure material well-being as it measures the output of the country per person.

- **Explain what is meant by GDP per capita**

  - The GDP is the market value of all final goods and services newly produced within the geographical boundary of an economy in a given period of time (usually one year).
  - Using example(s), explain that the measure needs to **account for changes in general price level and population growth** (i.e. why 'real' & 'per capita' value is required) to compare SOL over time

    - Real GDP is GDP measured at constant prices or base year prices (e.g. GDP at 2010 prices) OR It is GDP with effects of price changes being removed. Any increase in real GDP indicates that output has risen in terms of physical quantity with prices held constant.

    - The term "per capita" refers to per person or per head.
    - This is very important economic data used as a basis for tracking changes in standards of living. This measure can be obtained as follows:

    - Real GDP per capita = Real GDP/ population
    - Changes in economic welfare of the average citizen are thus measured by comparing real national income per capita figures over time.

- Hence increase in real GDP per capita means that there is **an increase in purchasing power of an average individual**, such that they can **consume more goods and services. Material SOL of a country thus increases.**

R2: Explain 2 difficulties in measuring material SOL over time (explanation must show understanding of comparison of SOL OVER TIME i.e. how increase/decrease in real GDP per capita does not necessarily mean SOL has improved/worsens)

- **Changes in distribution of national income**
  - Changes in real GDP per capita alone is still insufficient as it measures the average income per person in the economy. It does not reflect how the increase in national income has been distributed.
  - In cases where increases in real GDP per capita are not equitably distributed to the people in the country, one cannot say that the average person is better off when there is an increase in real GDP per capita as a small minority might reap the greatest benefits of this increase in national income while the majority remain poor.
  - In addition, if income disparity worsens as the economy experiences higher growth rate, standard of living does not improve for all but only for certain groups of people. For eg, China's development has been concentrated mainly in urban cities along the coastal regions e.g. Shanghai. Rural areas remain poor and undeveloped. Hence, standard of living may be overstated in China if we do not take into account the distribution of the GDP.

OR

- **Changes in composition of national income**

- National income measures a country's level of production/ output but may be a poor indicator of the consumption level by a country's residents. This is because output includes both consumption goods and capital goods, but current living standards depend only on consumption goods.

- If a large proportion of the **increase in GDP** is derived from higher spending on capital goods (or non-consumption goods), such as defence or military goods (e.g. fighter jets; military tanks; aircraft carriers; guns and ammunitions), then we cannot say that the average citizen is better off, especially if these are produced at the expense of consumer goods.

- Capital goods such as industrial machines, tools, equipment and factories, are not meant for consumption. They are used instead by producers as inputs. Hence, even though they are included in the country's GDP, capital goods do not contribute directly to the consumption or material well-being of the people.

OR

General difficulties in measurement such as

- **Omissions in the measurement of national income/ Difficulty in obtaining reliable and complete information**

  - If many of the following activities are omitted, the national income statistics will tend to understate the actual living standard of the economy.

- Non-marketed activities such as housewives' services and voluntary community work
- Illegal activities like gambling and smuggling
- Unreported activities such as casual jobs in the summer, private tuition, freelance jobs etc. These activities are often unreported to avoid paying taxes. This type of unofficial economic activity is seen as constituting a shadow or hidden economy, which economists refer to as the black economy.

- If a large proportion of the increase in GDP is derived from higher spending on any of the above activities, then any increase in real GDP per capita and hence improvement in SOL could be understated.

- **Dangers of double counting**
  - Double-counting arises because of the difficulty in distinguishing between (i) final and intermediate products & (ii) earned and transfer incomes

(i) This usually happens when intermediate goods and services, which are used to produce final goods and services, are included separately in the GDP calculation.

(ii) Earned income refers to money received for goods or services provided, such as wages, salaries, or profits. It directly results from productive activity in the economy. Transfer income refers to payments made without a corresponding exchange of goods or services, such as welfare payments, pensions, or subsidies.

A government provides unemployment benefits (transfer income) to an individual. If this transfer is recorded as part of national income, and then

		the individual spends that money on groceries, the grocery store's earned income is also counted. Without adjusting for this, the same income flow (the transfer and the subsequent spending) gets counted twice. o <u>If this happens, any increase in real GDP per capita and hence improvement in SOL could be overstated.</u>	

Marking Scheme:

Level	Descriptors	Marks

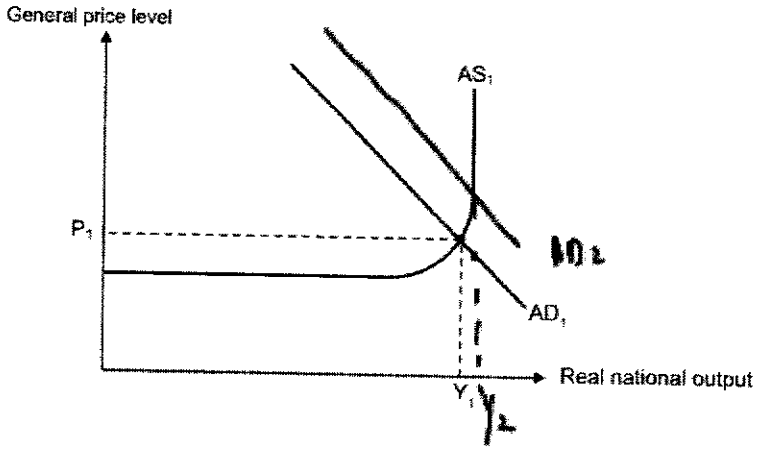
L3	• Breadth & Application
	• R1: Explain how real GDP per capita can be used to measure material SOL i.e. needs to account for changes in general price level and population growth
	• R2: Explain 2 difficulties in measuring material SOL over time. (Explanation must show understanding of comparison of SOL OVER TIME i.e. how increase/decrease in real GDP per capita does not necessarily mean SOL has improved/worsens)
	
	• Depth
	  • Applies relevant **economic concepts or theories**
	  • Explains with **rigour and detail**
	  • Explains and illustrates with relevant **diagram(s) and example(s)**
		8-10

L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4

(b)	**India has become the most populous country, with rapid real Gross Domestic Product (GDP) growth since 1970 lifting millions from poverty. Despite advantages like a young population and global de-risking where countries reduce reliance from China as a key supplier, India must boost investment in health, education, and urbanization to sustain economic growth.** **Discuss the view that India's ability to become the world's largest economy depends on the size of its population.** **Introduction** Identify growth to the world's largest economy is defined by size of real GDP. **R1: Explain how India's large population can lead to India becoming world's largest economy.** **Larger workforce and big domestic market** (Use AD-AS analysis) a. **Impact on AD and actual growth** (Explain impact on at least 1 component of AD) In addition, the large population provides a **large market (High C) to boost AD** and hence GDP. (can also explain how it **could attract more FDI**)	**[15]**

Abundance in labour □Comparative advantage in the production of labour-intensive goods e.g. manufacturing □ **Aid their growth in trade**

↑C, I &/or X □ ↑AD □ rise in NY via k (explain succinct k effect) □ actual growth

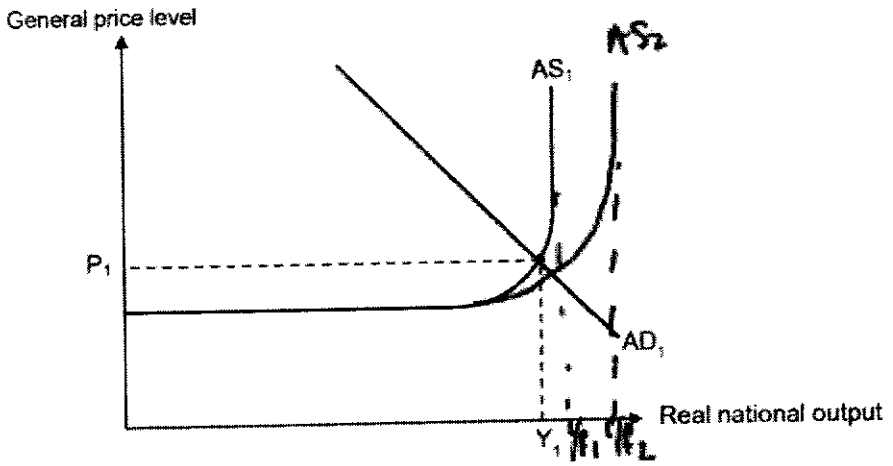


b. **Impact on AS and potential growth** (Explain at least 1 reason)

With the largest population in the world, India has the **largest potential pool of workers** I.e. resources. Hence, India's potential output (LRAS is high due to high quantity of labour) should be the largest in the world (If matched by a high AD at full employment output).

↑AS (vertical range) □ potential growth

(can also argue increase in I increases productive capacity or productivity of the economy)



Ef Comment on the impact on the extent of rise in AD &/or AS

Possible points:

- Extent of size of k: ↑AD depends on MPC. With high proportion of households belonging of low-middle income group, any increase in income could result in high proportion of income spent on induced consumption
- Large population is not equivalent to large size of labour force as India as low female labour participation rate compared to other countries.
- ↑I depends on other factors too, not just quantity of labour force and size of india's market such as ease of doing business in India
- A significant rise in wages (if above rise in productivity) of India's workers may erode the advantage of a large labour force □ rising unit cost of production negatively affects AS

R2: Explain other reason(s) that could influence India's ability in becoming world's largest economy.

"Despite advantages like a young population and global de-risking where countries reduce reliance from China as a key supplier, India must boost investment in health, education, and urbanization to sustain economic growth"

The potential output of the country is affected by other factors (explain at least 1 reason)

Quality of the resource (-)

- The skills level of India's labour force may not have increased much, especially that of women.
  - Also need to boost education and health to improve quality of workers in terms of skills/knowledge and health
  - Increase in potential growth may be slow (explain with reference to diagram)

Low urbanisation + poor infrastructure in rural areas (majority parts of India) (-)

- Low urbanisation (low proportion of people living in towns/cities)
- Deters investment □ negatively affect actual and potential growth (explain with reference to diagram)

Global de-risking from China (+)

- As investors could shift investment from China to India as it reduces reliance on China as supplier especially in critical areas such as medical technology, medicinal products, rare earths, preliminary products needed for energy transition,

amongst others, given the vulnerability of the supply chains that surfaced during the COVID-19 pandemic

□ Positive effect on India's economic growth as India could experience higher export revenue and/or FDIs (explain with reference to diagram)

(West's de-risking from China provides opportunities for other countries in Asia to become nodal points in the re-configuration of the global supply and value chain.)

E2. Extent of importance of above factors

On global derisking – depends on whether India is a choice of destination for other countries' imports and investment destination

India's export growth could be affected if global derisking leads to protectionist policies or if trade partners reallocate their supply chains away from India (or they prefer to reallocate supply chains from China to other ASEAN countries – this point is related to next 2 points).

Additionally, if global demand slows due to economic uncertainties, India's export-driven industries could suffer, limiting economic growth.

On quality of the resource – ageing population and hence workforce in the future

Currently, large proportion of the labour is young workers. However, in the future, this same group will be older, and contribute to ageing workforce which may negatively affect the quality of workers, reducing any improvement in potential growth of India.

On low urbanisation + poor infrastructure in rural areas (majority parts of India) – depends on government's willingness and ability to fund and improve on infrastructure

With low urbanisation, high proportion of people are living in poor and rural areas. Economic growth must also be inclusive to be sustainable. High levels of inequality and poverty could hinder India's potential, as large sections of the population might be not fully and efficiently utilised as labour.

Summative Conclusion:

- In my opinion, India's ability to become the world's largest economy depends **not just on the size of its population.**
- While the demographic advantage is significant, it can only be realised **IF** it is complemented by effective policies to boost the size of labour force, especially women, and boost quality of labour.
- Poor infrastructure development also limits the mobility of labour and reduce its attractiveness to investors.
- Improvement in education and health are also required. The realization of this potential will depend on India's ability to address its challenges and leverage its strengths in a holistic manner.

Marking Scheme:

Level	Descriptors	Marks
L3	• Breadth & Application	8-10

	• R1: Explain how India's large population can lead to India's achieving both actual growth and potential growth, using AD/AS analysis • R2: Explain at least 1 other reason that could influence India's ability in becoming world's largest economy. • Depth • Applies relevant **economic concepts or theories** • Explains with **rigour and detail** • Explains and illustrates with relevant **examples & context**	
L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4
Evaluation		
E3	• Takes a clear overall stand (a summative conclusion) that is **comprehensively** justified by providing **convincing** evaluative comments on the **relative importance of the requirements covered** in the body	4-5
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E1	• Provides an evaluative statement for 1 requirement Note: An opinion is NOT a STATEMENT (Tips: Use normative words: best, more, less, large/small extent)	1

Question 5

Large numbers of fresh university graduates in China are currently without jobs, despite a shortage of skilled workers in emerging "hard tech" sectors such as electric vehicles and scientific innovation. Three years of lockdown to curb the Covid-19 pandemic had aggravated the youth unemployment situation. Yet some youths are still holding out for a job that matches their aspirations.

a) Explain two economic reasons why governments are concerned with high unemployment. [10]

b) Discuss the most appropriate policy measures that should be taken to reduce youth unemployment in China. [15]

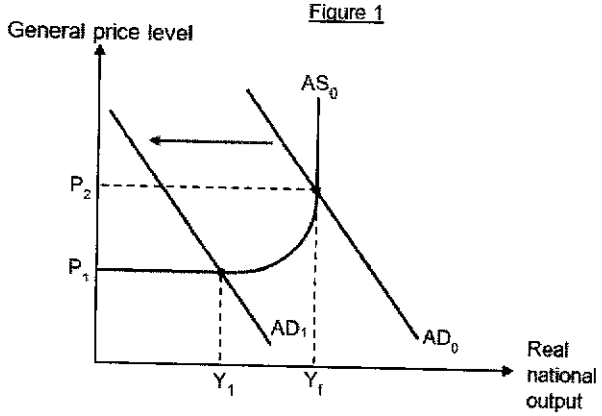
Part (a)

(R1 & R2 can be any 2 of the below)

(1) An economy with high unemployment forgoes the opportunity to enjoy a higher standard of living, due to slower economic growth relative to economy's potential

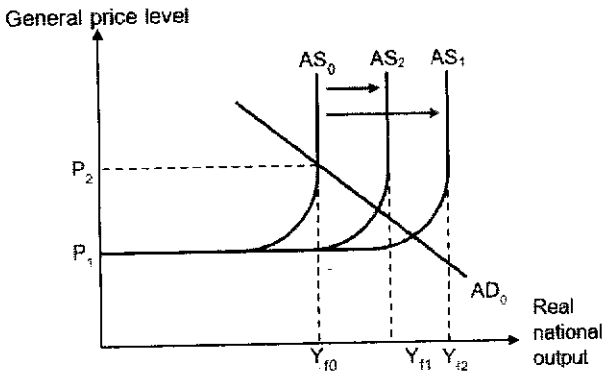
- Unemployment reduces consumer and investor confidence reduces autonomous C & I AD falls via reverse multiplier => fall in actual output until it is significantly below potential output [– when AD_0 falls to AD_1, real national output falls from Y_f to Y_1 => slower actual growth].

Figure 1



- Potential growth also slows in the long run due to fall in I which slows down the increase in the economy's capital stock, thus causing productive capacity to increase more slowly [– AS increases less, from AS0 to AS2 instead of AS1 => smaller increase in productive capacity from Yf0 to Yf1 instead of Yf2.]

Figure 2



- (optional) Economy thus forgoes the ability to enjoy better material SOL, both currently and into the future

(2) Negative impact on government budget

- Government budget could go into deficit because:
    - Tax revenues fall due to loss of income/lower profits (affecting direct tax) as well as lower consumption (affecting indirect tax)
    - Government spending on welfare payments or unemployment benefits increases
- With less budget available, government has less funds available for infrastructural development, which would hinder economic growth. If the government has to cut spending, it will exert a contractionary impact on the economy, further worsening unemployment.

(3) Loss of skills

- A country's labour force may be affected: Those who have been unemployed for a prolonged period of time may lose their skills. Moreover, the unemployed may leave the labour market due to lack of motivation to find work. This lowers the economy's productive capacity.

Marking scheme:

Level	Descriptors	Marks
L3	• Breadth & Application • R1: Explain one reason why governments are concerned with high unemployment	8-10

	• R2: Explain another reason why governments are concerned with high unemployment
	• Depth
	  • Applies relevant economic concepts or theories
	  • Explains with rigour and detail
	  • Explains and illustrates with relevant examples & context	

L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4

Part (b)

Discuss the most appropriate policy measures that should be taken to reduce youth unemployment in China. [15]

Intro:

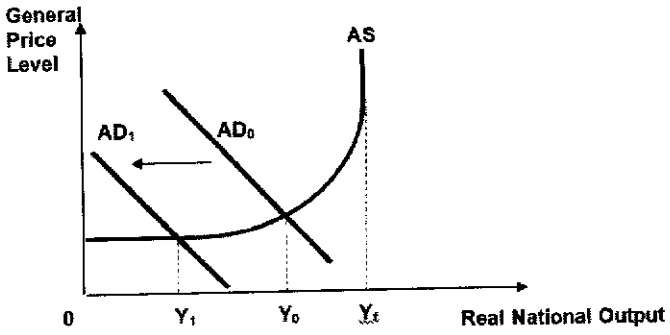
Recognise that youth unemployment in China has multiple causes: demand deficiency, structural shifts and frictional reasons. Essay can focus on addressing two causes.

[Note: answer must explain the policy and relate it to the relevant type of unemployment]

R1: Explain how demand-side policy can reduce demand-deficient unemployment

- Explain demand-deficient unemployment due to fall in AD as a result of reduced economic activity (C & I) arising from the lockdown. As shown in [redacted], when AD falls from AD_0 to AD_1, real national output falls from Y_0 to Y_1. Firms suffer from poor sales, face a rise in inventory and therefore cut back on production. As labour is a derived demand, firms will hire less workers or retrench existing workers, hence causing demand-deficient unemployment.

Figure 3



- Explain how expansionary fiscal policy or expansionary monetary policy can reduce demand-deficient unemployment [use the same Fig 3]:
    - Fiscal policy: Govt increases spending (eg. on healthcare facilities) or cuts income/profit tax C increases due to higher disposable income; I increases due to higher post-tax profits which raises MEI AD increases Y increases
    - OR Monetary policy: Central Bank lowers interest rates cost of credit falls households borrow more to spend on big-ticket items, while more investment projects have MEI>r C & I increases AD increases Y increases
- Bring in multiplier effect (succinct), and how an increase in production leads to an increase in derived demand for labour hence reducing unemployment.

Ev1 (possible points):

- Expansionary fiscal and monetary policies are appropriate options to the extent that domestic demand makes up a large proportion of China's GDP. Ability to raise domestic demand will help to increase economic activity and hence demand for labour.
- However, the policies may not be effective if the economic outlook is pessimistic since the economy just recovered from Covid – ie. difficult to stimulate consumption and investment through lowering taxes or interest rates.
- Whether increased economic activity is able to reduce youth unemployment also depends on the types of jobs created. Policies that target growth in the services sector are more likely to create jobs that are suitable for youths. If the policies are geared towards driving growth in "hard tech" sectors, youth unemployment may not decrease as they currently lack the skills to work in these industries.
- Success of expansionary fiscal policy also depends on whether government has the capacity to increase spending. China currently has high debt levels – policies that

increase government spending or lower taxes will worsen the budget deficit and hence may not be appropriate.

R2: Explain how supply side policies can reduce structural unemployment

- Explain structural unemployment arising from mismatch of skills between what the youths possess and what is required for jobs in the emerging "hard tech" industries:
    - The internet sector (exemplified by tech giants such as Alibaba Group and Tencent) which used to be major drivers of the Chinese economy have been cutting thousands of jobs in recent years following a regulatory crackdown and recurring Covid-19 lockdowns. The demand for workers in the internet sector has thus fallen substantially.
    - Instead, China is moving into "hard tech" industries (electric vehicles, scientific innovation, biopharmaceuticals and artificial intelligence) where it seeks to develop its own cutting-edge technology that can supply the rest of the world - and prevent it from being reliant on Western innovation.
    - Jobs in these "sunrise" industries require industry-specific skills and knowledge of cutting-edge technology and research. Fresh graduates who hold general degrees and youths who are laid off from the internet sector lack these skills and are thus not able to take up jobs in the rising hard tech sector. Hence there is structural unemployment.
- Explain how supply side policies can reduce structural unemployment – eg. education and skills training to equip youths with skills to work in the hard tech industries. Govt can provide funding and subsidies to encourage youths acquire relevant skills that allow them to gain employment in the sunrise industries.

Ev2 (possible points):

- Skills training is necessary but takes time, hence it will not be able to reduce youth unemployment immediately. Success also depends on whether the youth are receptive to receiving training to working in the sunrise industries – some youths may still be holding out jobs that meet their aspirations, or prefer not to work in the manufacturing industries.
- To reskill millions of unemployed youth or provide incentives to employers also requires significant financial resources from the government, which will worsen the budget deficit and may not be appropriate.
- Skills training may just be a stop-gap measure. Given the large numbers of Chinese youths graduating from university each year with "misaligned" skill sets, a more

permanent and fundamental solution to the youth unemployment problem is to ensure that university courses are designed with industries' skills needs in mind.

(Alt R2): Explain how supply side policies can reduce frictional unemployment

- Explain frictional unemployment arising from lack of information about vacancies and mismatch of expectations:
    - Lack of information – job seekers do not know who is hiring and prospective employers do not know who is interested in filling existing job vacancies. Fresh graduates, being first-time jobseekers, are likely to spend more time in the job search process.
    - Expectations mismatch – the youths may have little interest to work in hard tech manufacturing industries due to a mismatch of expectations about factors such as pay, working conditions, promotion prospects. Hence they may not take up an initial job offer but hold out for jobs that match their aspirations. The period of job search can be prolonged if the youths have other forms of support eg. from their parents.
- Explain how direct provision of job-matching services or career fairs can reduce frictional unemployment. Career counselling services to encourage youths to adopt an open mindset to trying out jobs that they may not have considered before.

(Alt Ev2 - possible points):

- The above measures may not reduce youth unemployment in China significantly if the main causes are a mismatch of skills and lack of aggregate demand. But the measures are necessary to prevent a possible loss of skills if youths stay unemployed for a prolonged period, which increases the difficulty of them getting employed in the future.
- The extent to which job matching and career counselling services can reduce youth unemployment depends on how hungry the youths are for jobs. With most youths coming from one-child families, their parents may be willing and able to support them for an extended period, which reduces their motivation to find a job quickly.
- Depending on the types and quality of the jobs available, job matching services that place youths in jobs where they would be under-employed results in under-utilisation of human capital in the economy. The youths may also feel demotivated on the job, which could reduce their productivity level. (the "bai lan" movement)
- Providing fiscal incentives requires significant financial resources from the government, which will worsen the budget deficit and may not be appropriate.

SC (possible points):

- In China, the sheer scale of the youth unemployment problem suggests that the number of graduates far exceeds job availability, and this is made worse by them not having the skills in demand. Both demand-side and supply-side policies are therefore needed to address the different causes of youth unemployment.
- In the short run, while both demand side and supply side solutions would incur government expenditure and aggravate China's debt, this spending is necessary. The risk, otherwise, is having a generation of disillusioned, demotivated youths (the "lying flat" phenomenon), which can adversely affect the economy's productivity and economic growth in the longer run.
- In the longer run, a more sustainable solution would be to align university courses more closely to industry needs so that youth unemployment can be lowered. This is in view that the number of graduates far exceeds

Marking scheme:

Level	Descriptors	Marks

L3	• Breadth & Application
	  • R1: Explain how demand-side policy can reduce demand-deficient unemployment
	  • R2: Explain how supply side policies can reduce structural (or frictional) unemployment
	• Depth
	  • Applies relevant economic concepts or theories
	  • Explains with rigour and detail
	  • Explains and illustrates with relevant examples & context
		8-10

L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4
Evaluation		
E3	• Takes a clear overall stand (a summative conclusion) that is comprehensively justified by providing convincing evaluative comments on the relative importance of the requirements covered in the body	4-5

E2	• Takes a clear overall stand which is only partially justified as ○ Only one of the requirements is well evaluated with supportive arguments presented in the answer and is linked to the context of the question • Evaluates both requirements but the overall stand is unclear	2-3
E1	• Provides an evaluative statement for 1 requirement Note: An opinion is NOT a STATEMENT (Tips: Use normative words: best, more, less, large/small extent)	1

Question 6

Singapore's comparative advantage traditionally lies in exporting high-value-added products like pharmaceuticals, while importing land-intensive food products. However, the government is actively investing in non-traditional food production, such as lab-grown meat and insect protein, to enhance food security and potentially shift its comparative advantage in this sector.

a) Explain two possible reasons for a country's balance of trade deficit. (10)

b) Discuss the extent to which the Singapore government can influence its comparative advantage in food production. (15)

a) Any 2 of the following reasons:

1. Protectionism (tariffs)

If a major trading partner imposes trade restrictions like tariffs, the exports of the country may fall so much that the balance of trade worsens into a deficit. Tool of analysis will be the tariff diagram from the trading partner's perspective, showing the reduction in import expenditure accurately.

Tariff diagram from the importing country's perspective

2. Loss of CA –

The law of comparative advantage suggests that countries should specialize in producing goods for which they have a lower opportunity cost. However, the emergence of low-cost economies like China has led many developed countries to lose their comparative advantage in low-end manufacturing. China's abundance of cheap labor, vast land, and other resources allows it to produce these goods at a lower opportunity cost, leading to specialization in mass production. This specialization enables China to achieve cost savings through economies of scale, resulting in lower prices for its exports.

As a result, developed countries face a decline in export competitiveness, as consumers and importers increasingly prefer the more affordable Chinese products. The high degree of substitutability between goods means that as Chinese exports become cheaper, the demand for similar goods from developed countries decreases. Simultaneously, the imports of developed countries rise as consumers shift their spending to these cheaper alternatives. If the demand for these imports is price elastic, the quantity demanded will increase more than proportionately, further increasing import expenditure. This leads to a

deterioration in the balance of trade for developed countries, as export revenues fall and import expenditures rise, potentially resulting in a trade deficit.

3. Higher relative inflation –

A rise in a country's inflation rate relative to others will cause her exports to be relatively expensive and imports to be relatively cheap.

Assume demand for exports is price-elastic due to the availability of substitutes, a rise in price of exports will cause quantity demanded to fall more than proportionately and the export revenue will fall.

The effect is exacerbated if the country's inflation rate is higher than other countries as the country's exports will be relatively expensive and its trading partners will switch to the relatively cheap exports from other countries, leading to a fall in the demand for the country's exports and a further fall in export revenue.

Assume domestic goods and imports are substitutes deemed by consumers to be alternatives to satisfy similar wants, with a higher inflation rate, a rise in the price of domestic goods will cause demand for imports to rise as consumers switch to the relatively cheaper imports, leading to a higher import expenditure.

As a result, a fall in export revenue together with a rise in import expenditure will worsen the balance of trade.

4. Appreciation

Version 1: Simplistic PED method

Appreciation of a currency refers to the rise in external value of the currency, whereby one unit of domestic currency buys more units of foreign currency.

This means that the price of exports in foreign currency will increase. Assuming $|PED_x| > 1$ due to wide availability of substitutes from other countries, the quantity demanded will decrease more than proportionately and the export revenue will decrease.

Price of imports in domestic currency will fall. Assuming $|PED_m| > 1$ due to the availability of domestic substitutes, the quantity demanded will increase more than proportionately and the import expenditure will increase.

With decreasing export revenue and increasing import expenditure, the balance of trade will worsen, possibly into a deficit.

Version 2: Complicated PED version

Appreciation of a currency refers to an increase in the external value of the currency.

This means that the price of exports in foreign currency will increase, leading to a decrease in the quantity demanded for exports. Since the price of exports in local currency remains unchanged, this decrease in quantity demanded, multiplied by the local currency price, will result in a decreased export revenue. The price elasticity of demand for exports (PEDx) will determine the extent of the decrease in quantity demanded and, consequently, the extent of decrease in export revenue.

The price of imports in domestic currency will decrease. Assuming |PEDm| > 1 due to the wide availability of domestic substitutes, the quantity demanded will increase more than proportionately and the import expenditure will increase.

With decreasing export revenue and increasing import expenditure, the balance of trade will worsen, possibly into a deficit.

5) External income falls

b) Discuss the extent to which the Singapore government can influence its comparative advantage in food production. (15)

R1: What is CA and how government policy can influence CA in non-traditional good production

Succinct CA theory

Comparative advantage is the ability to produce a good or service at a lower opportunity cost than its trading partners. It arises due to differences in factor endowments i.e. differences in the quantity or quality of factors of production namely natural resources, human resources, capital stock and technological capabilities.

Differences in factor endowments lead to differing factor prices which in turn affect the prices of goods and services produced by different countries. In the case of food production, Singapore's small land area and relatively higher skilled labor force mean that

the opportunity cost of allocating resources like land and labor to food production is high. This is because those resources could be used for high-value-added goods, which Singapore is more efficient at producing. Thus, Singapore does not have a comparative advantage in traditional food production.

Government policy on tech, human, and capital

Despite Singapore's limitations in traditional food production, government policy can influence its comparative advantage by altering factor endowments through investment in technology, human resources, and capital. For instance:

- Technology: Investment in R&D can advance non-traditional food production methods like lab-grown meat or insect protein.
- Human resources: Skills for non-traditional food production can be enhanced through specialized training programs and courses.
- Capital: Importing necessary capital goods or creating infrastructure for non-traditional food production can improve productivity.

As these factors change, the productivity of resources allocated to non-traditional food production could increase. As each unit of resource produces more output, the opportunity cost of each output in terms of the next best alternative like other high-value-added goods falls.

Ev1:

There is high uncertainty involved in research and development into novel ideas like lab-grown meat and insect protein. Even with substantial government funding and support, Singaporean firms may face roadblocks on the way which may not be technically surmountable and thus Singapore may not gain CA in non-traditional food production.

Requirement 2 – Singapore is unable to influence its CA in traditional food production

Singapore is largely unable to influence its comparative advantage in traditional food production due to its factor endowments. The country has a very limited land area relative to other nations, and its labour force is relatively higher skilled. Every unit of land or labor allocated to food production would otherwise be used for high-value-added industries, where Singapore excels due to its highly skilled labor force. This means that the opportunity cost of food production is particularly high for Singapore, as it sacrifices more high-value-added output than countries with abundant land and a relatively larger quantity of lower

skilled labour. Therefore, Singapore's natural factor endowments suggest that it cannot realistically develop a comparative advantage in traditional food production.

Ev2:

The Singapore government does try to increase its land size via land reclamation. But there are technical limits to how much land Singapore can reclaim which prevents Singapore from lowering its opportunity cost in traditional food production.

Evaluative Conclusion:

Given the state of uncertainty surrounding non-traditional food production. In the next few decades, it is unlikely for Singapore to gain a comparative advantage in overall food production given its limited land area and highly skilled workforce which would be better suited for production of other high-value-added goods. If technology progresses and certain technical processes improve and become scalable, Singapore's sizeable investment in non-traditional food production does seem to indicate that we can potentially gain a comparative advantage in non-traditional food production, and eventually overall food production if it becomes scalable enough. But for now, at the current rate of tech progression in the field, Singapore is unlikely to gain a comparative advantage.

Level	Descriptors	Marks
L3	• Breadth & Application • R1: Explains CA and how government policy can influence Singapore's CA in non-traditional food production (dynamic CA)	8-10

	• R2: Explains how Singapore is unable to influence Singapore's CA in traditional food production (Static CA) • Depth • Applies relevant economic concepts or theories • Explains with rigour and detail • Explains and illustrates with relevant examples & context	
L2	• Lacking in any one of the L3 criterions	5-7
L1	• Largely irrelevant response • Descriptive response with non-existent or minimal or application of economic concepts or theories • Serious and pervasive conceptual errors	1-4
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