



SERANGOON JUNIOR COLLEGE

JC2 Preliminary Examination

ECONOMICS

9757/01

Higher 2

PAPER 1

11 September 2017

2 hours 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and civics group on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use an HB pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Start your answer to each case study question on a new sheet of writing paper.

Fasten your answers to each question separately.

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

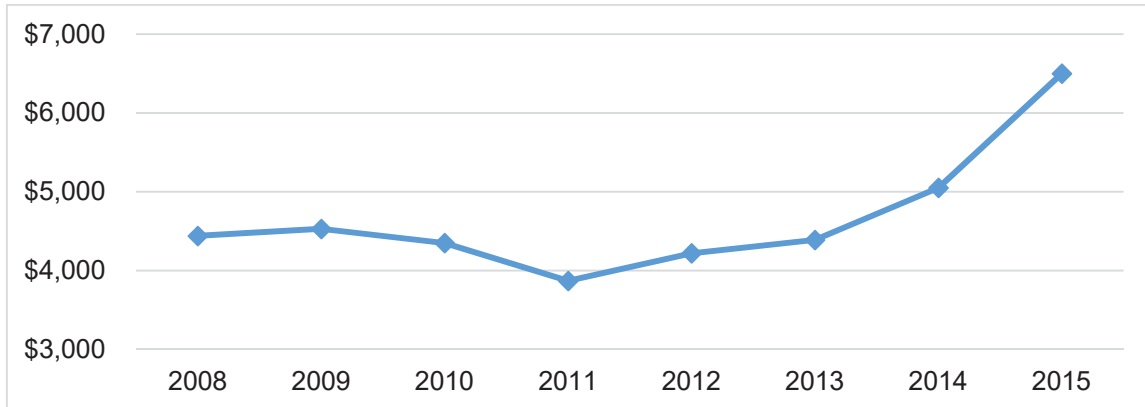
This document consists of **7** printed pages and **1** blank page.

Answer **all** questions.

Question 1

The automobile and energy industries

Figure 1: The world price of lithium (US\$)



Source: Metalary, accessed Aug 2017

Extract 1: The electric car revolution is accelerating

Electric cars will outsell fossil-fuel powered vehicles within two decades as battery prices plunge, turning the global automobile industry upside down and signalling economic turmoil for oil-exporting countries.

The Bloomberg New Energy Finance (BNEF) forecast says adoption of emission-free vehicles will happen more quickly than previously estimated because the cost of building cars is falling so fast. The seismic shift will see electric cars account for a third of the global automobile fleet by 2040 and displace about 8 million barrels a day of oil production - more than the 7 million barrels Saudi Arabia exports today.

China, the US and Europe will drive demand for battery powered cars over the next 25 years, according to BNEF. These governments which have already been the most advanced in providing subsidies and installing charging points, will reap the benefits sooner than other emerging economies like India.

"Electric cars are intrinsically cheaper than gas or oil fuelled cars because they're simpler and their maintenance is a lot easier," said Francesco Starac, Chief Executive Officer of Enel SpA, in an interview in Rome.

While traditional car suppliers may be hurt by electric vehicle growth, some commodities will get a lift. Demand for lithium will rise significantly when electric vehicles become mainstream as the commodity is a vital component for lithium-ion batteries. Extraction of lithium from brine requires a lengthy evaporation process that lasts between 8 months to three years.

Source: Bloomberg, July 2017

Extract 2: Should Tesla be worried about competition?

Tesla Superchargers are a network of 480-volt fast-charging stations built by Tesla Inc. to allow longer journeys for their all-electric manufactured vehicles through quick charging of the vehicle's battery packs. Such convenient charging options to its car users has given Tesla a competitive edge, given that no other player has been able to replicate this kind of network so far. While other car makers are working on fast charging alternatives, competing with Tesla on the charging network might be tough for other automakers, given its first mover's advantage. Tesla is the only automaker exclusively developing electric cars on a significant scale and this gives it an edge over other automakers that also need to focus on their traditional models.

Source: Forbes, 4 Jan 2016

Extract 3: Intense competition leads to low profit margins for automakers

Japanese automakers Toyota and Honda have among the highest profit margins in the business at 13.8% and 13.1%, respectively. In contrast, General Motors (GM) has a relatively lower margin of 8.5% and Ford the lowest with a margin of 8.2%. The biggest reason for the difference between Japanese and American manufacturers' profit margins is the weak Japanese yen. The yen depreciated by 29.2% against the US dollar over the past two years. Toyota exports about 56% of the vehicles it manufactures in Japan—more than both Nissan and Honda. This helps it to achieve higher margins.

Japanese automakers are also known for using common components across different models. This results in significant cost savings for the manufacturer. However, in the US, labour problems and significant healthcare costs contribute to their lower profit margins.

The automobile industry in general has lower profit margins primarily because of intense competition and compliance to stringent fuel emission standards and fuel efficiency requirements.

Source: Market Realist, 5 Feb 2015

Extract 4: Car industry: What Australia could learn from state support around the world

Car manufacturing is a proud pillar of the western world's industrial history, but the industry was facing serious problems which afflicted automotive superpowers such as the US, the UK, France and now Australia, where Toyota will close all of its factories by 2017. But in recent years some of those countries have at least stopped the decline of the industry. Government intervention has been key in rebuffing the global pressures such as cheaper labour elsewhere, deteriorating consumer confidence and excess factory capacity that have seen car plants shut all over the world since the credit crunch exposed an over-expanded and over-leveraged industry.

The US was the most successful example of intervention with the managed bankruptcies of GM and Chrysler which were supported financially by the government. "Despite being seen as a free market, the US had an industrial policy to rescue those car manufacturers and get them to shift to new low-carbon vehicles," said Professor David Bailey of Aston University. Without government intervention, the US car industry would not have survived on its current scale, he said.

If it were a free market, two of Detroit's biggest companies would have gone bankrupt as they were not fleet-footed enough for a global car market that had seen the likes of Toyota enter GM and Chrysler's backyard. But the Bush and Obama administrations took the view that the collapse of two-thirds of the US automobile industry would have ramifications that stretched far beyond the industry, with hundreds of thousands of jobs at risk in the supply chain.

Source: The Guardian, 10 Feb 2014

Extract 5: Big six energy firms braced for government price crackdown

UK Prime Minister, Theresa May, said the energy market was not working after a flurry of price rises by the big six companies – British Gas, E.ON, EDF Energy, npower, ScottishPower, and SSE – and dozens of smaller suppliers. A government crackdown is expected, most likely in the form of a price cap on the standard variable tariffs affecting nearly two-thirds of households.

Steep hikes in fuel bills by the big six, who control more than 80% of the market, have prompted calls for action by consumer groups. The suppliers have blamed a series of factors, from smart meter installation costs and green energy policies to, most frequently, rising wholesale energy costs. But the energy regulator Ofgem said in January that while wholesale costs had gone up, they were not large enough to warrant passing on to consumers.

Source: The Guardian, 17 Apr 2017

Questions

- (a) Describe the trend in the world price of lithium from 2008 to 2015. [2]
- (b) With reference to Extract 1, what can you conclude about the price elasticity of supply of lithium? Explain your answer. [2]
- (c) Analyse the likely impact of falling prices of electric cars on the market for crude oil. [4]
- (d) Explain the barriers to entry created by Tesla in the market for electric cars. [4]
- (e) To what extent does a weak yen help to boost the profits of a Japanese automaker such as Toyota? [8]
- (f) Discuss the reasons for a government's decision to either regulate or subsidise big firms such as those in the automobile and energy industries. [10]

[Total: 30]

Question 2**The benefits and costs of globalisation****Extract 6: Love imported goods, but hate losing American jobs?**

The United States (US) imported \$2.69 trillion in 2016. That includes \$2.2 trillion in goods and \$502 billion in services. America is the world's second-largest importer. The European Union imports more, at \$2.24 trillion. China is third, importing \$1.4 trillion. Combined, these countries import \$5.8 trillion, or one-third of the world's total imports of \$15.34 trillion.

The largest US import category is capital goods at \$590 billion. Businesses import telecommunication, semiconductors, computers and related equipment. Consumer goods is almost as large, at \$584 billion. Most of this is cell phones, televisions, apparel and footwear. Services is a large and growing category. In 2016, US service imports totalled \$502 billion. More than half of US imports come from five countries: China, Canada, Mexico, Japan and Germany.

US imports more than it exports. That is despite being the third-largest exporter in the world. That creates a US trade deficit of \$502 billion. Even though America exports billions in oil, consumer goods and automotive products, it imports even more of those same categories.

Everything that is imported is obviously not made in the US. For that reason, it creates US unemployment. The biggest change occurred with the growth of imports from China. In 2007, 28 percent of all imports were from China and other low-income countries. This was a dramatic rise from 2000, when this value was only 15 percent. At the same time, the US was losing manufacturing jobs. A study found that in 2000, more than 10 percent of the labour force worked in manufacturing but by 2007, it had dropped to 8.7 percent. Imports create US jobs in transportation, distribution and marketing. However, it is unlikely that these job gains offset the job losses in manufacturing.

Although America can produce all it needs, China, Mexico and other emerging market countries can produce it for less. Their cost of living is lower, which allows them to pay their workers less. That makes them better than American companies at producing what US consumers want. For example, Indian technology companies can pay their workers just \$7,000 a year, much lower than the US minimum wage. In other words, there is a trade-off between plentiful US jobs and low-cost products.

Many people say we should only buy items that are "made in America." That would solve the problem only if everyone were willing to pay higher prices.

Source: The Balance, accessed 19 Apr, 2017

Extract 7: The cost of Brazil's closed economy

Brazil is an unusually closed economy as measured by trade penetration, with exports plus imports equal to just 27.6 per cent of GDP in 2013. Notably, Brazil's trade openness lags far behind its peers among the BRICS (Brazil, Russia, India, China and South Africa) countries, all of which reached trade-to-GDP ratios of at least 50 percent in recent years.

Very few Brazilian firms export and of all Brazilian exporters, a much smaller number of firms make up the overwhelming share of exports. The top one percent of exporting firms generates 59 percent of total exports, while the top 25 percent of firms account for 98 percent of export revenue.

Brazilian exporters also lack dynamism. Brazil has a very low entry rate – very few companies become new exporters. On the flipside, established exporters have a very high survival rate.

Brazil's extraordinary lack of openness and its small number of exporters are closely related to the fact that Brazilian companies are poorly integrated into transnational value chains. This can be observed in the very high share of domestic value added in Brazilian exports, which implies that such exports incorporate few components and intermediate goods imported from other countries. The reasons behind this include precarious logistics and high transaction costs related to international trade, as well as deliberate policy decisions to favour local content over international integration.

Over the past decade, Brazilian companies have also faced serious challenges to competitiveness, such as exchange rate appreciation and defensive trade policies. Brazilian exports have remained mostly "made in Brazil," while many emerging economies today boast an export base that is largely "made in the world."

Brazil's first priority should be to remove local content requirements that keep foreign investment away and hurt local firms in the process. Opening up and moving toward integration into global value chains could produce efficiency gains and help Brazil address its productivity and competitiveness challenges.

Source: World Bank Group, 15 Feb 2015

Extract 8: What is driving Brazil's economic downturn?

Brazil's economic situation has deteriorated significantly in recent years. The economy entered into recession in 2014 and the situation worsened in 2015, with real GDP likely to have declined by 3%, while inflation has remained close to 10%. The downturn of the non-energy commodity price cycle revealed the underlying structural weaknesses in the Brazilian economy.

In the first decade of the century, Brazil benefited from strong demand, particularly from China for some of its key export commodities such as iron ore, soybeans and raw sugar. Supported by positive terms of trade effects, Brazil's annual GDP growth rate averaged 3.1% over this period.

Since the fall in world commodity prices in 2011, these terms of trade effects have reversed. As a result, GDP growth has been consistently lower than predicted, while structural weaknesses underlying the economy have resurfaced. These weaknesses include a burdensome tax system, poor infrastructure, limited competition, the high costs of starting a business and high tariff rates.

Source: ECB Economic Bulletin, Jan 2016

Table 1: Total merchandise trade for selected economies (US\$ million)

		2010	2011	2012	2013	2014	2015
Brazil	Exports	201 915	256 040	242 578	242 034	225 101	191 134
	Imports	191 537	236 964	233 398	250 556	239 152	178 798
China	Exports	1 577 754	1 898 381	2 048 714	2 209 005	2 342 293	2 274 949
	Imports	1 396 247	1 743 484	1 818 405	1 949 990	1 959 233	1 681 951
United States	Exports	1 278 495	1 482 508	1 545 703	1 579 593	1 620 532	1 504 914
	Imports	1 969 184	2 266 024	2 336 524	2 329 060	2 412 547	2 307 946

Source: WTO, World Trade Statistical Review 2016

Table 2: Exchange rates: Units of national currency per US dollar

	2010	2011	2012	2013	2014	2015
Brazilian Real	1.759	1.673	1.953	2.156	2.353	3.327
Chinese Yuan	6.77	6.461	6.312	6.196	6.143	6.227

Source: OECD, accessed Aug 2017

Questions

- (a) Using Table 1, compare the change in China's balance of trade in goods with that of the US between 2010 and 2015. [2]
- (b) Explain how the theory of comparative advantage can be applied to account for the pattern of trade between the US and her trade partners. [3]
- (c) With reference to Extract 6, explain the 'trade-off between plentiful jobs and low-cost products'. [3]
- (d) (i) With reference to Table 2, how does the value of the Brazilian Real in 2015 compare to its value in 2010? [1]
- (ii) How could the difference in the value of the Brazilian Real observed in (d)(i) be explained by the fall in world commodity prices? Explain with the help of a diagram. [3]
- (e) Discuss whether Brazil's defensive trade policies is the key reason for its lack of export competitiveness. [8]
- (f) Assess whether opening up its economy is the best option for the Brazilian government to achieve sustainable economic growth. [10]

[Total: 30]**[End of paper]**

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JC2 Preliminary Examination

ECONOMICS
Higher 2

9757/02

Paper 2

18 Sep 2017

2 hours 15 minutes

Additional Materials: Writing paper

READ THESE INSTRUCTIONS FIRST

Write down your name and civics group on all the work you hand in.
Write in dark blue or black pen on both sides of the paper.
You may use a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

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

Start your answers to each essay question on a new sheet of writing paper.

Fasten your answers to each question separately.

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

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

Answer **three** questions in total.

Section A

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

- 1** Organic food products such as fresh fruits and vegetables are grown without synthetic pesticides, chemical fertilizers or genetically modified seeds. 2015 was a year of significant growth for the organic food industry despite the continued struggle to meet the seemingly unquenchable consumer demand. There was also an increase in the number of farmers converting to organic farming over time.

Source: Organic Trade Association

Discuss the demand and supply factors that determine the output of organic food products and evaluate which is the most important factor. [25]

- 2** As globalisation continues, the tearing down of trade barriers has provided some companies opportunities for growth while it has been harmful for others. Accustomed to dominant positions in protected markets, the influx of foreign competition often poses a threat to the survival of local companies.

Source: Harvard Business Review

(a) Explain the benefits that a firm enjoys when it grows in size. [10]

(b) Evaluate the various strategies a firm can adopt to respond to the challenges posed by globalisation. [15]

- 3** Information failure refers to situations in which economic agents have imperfect information regarding the benefits or costs of their actions as well as when information between the transacting parties is asymmetric in nature.

(a) Explain how information failure could lead to market failure. [10]

(b) Discuss the view that government intervention to correct the above market failure is always desirable. [15]

Section B

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

- 4 (a) Explain the domestic and international factors that could cause deflation. [10]
- (b) Discuss the alternative policies that a government could adopt to address the problem of deflation. [15]

- 5 In 2015, Singapore's GDP at 2010 market prices grew by 2%, the total population grew by 0.8%, inflation was -0.5% and overall unemployment stood at 2%.

Source: <http://www.singstat.gov.sg>, accessed 17 August 2017

Discuss the limitations of these statistics in both assessing the changes in the standard of living in the Singapore economy in 2015 and comparing it with that of other economies. [25]

- 6 Many people feel that free trade is unfair. Some blame it for the loss of jobs; others for their countries' increasing balance of payments deficit.

Source: World Economic Forum.

- (a) Explain how free trade helps to alleviate the problem of scarcity. [10]
- (b) Assess the relevance of protectionism in view of the statement above. [15]

End of Paper



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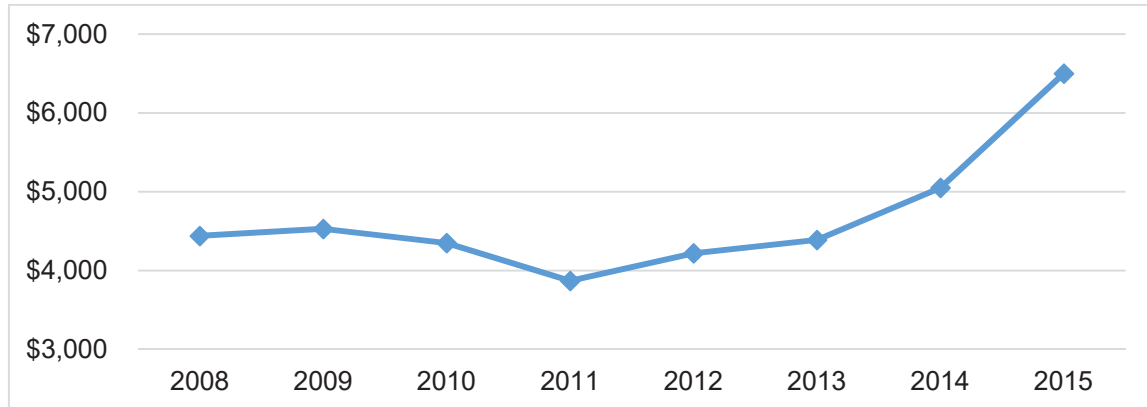
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Figure 1: The world price of lithium (US\$)



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Source: Bloomberg, July 2017

Extract 2: Should Tesla be worried about competition?

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The US was the most successful example of intervention with the managed bankruptcies of GM and Chrysler which were supported financially by the government. "Despite being seen as a free market, the US had an industrial policy to rescue those car manufacturers and get them to shift to new low-carbon vehicles," said Professor David Bailey of Aston University. Without government intervention, the US car industry would not have survived on its current scale, he said.

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Extract 5: Big six energy firms braced for government price crackdown

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Source: The Guardian, 17 Apr 2017

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[Total: 30]

(ai)	<p>Describe the trend in world lithium prices from 2008 to 2015.</p> <p>Overall trend: world lithium prices rose from 2008 to 2015.</p> <p>Refinement: World lithium price fell between 2009 to 2011.</p> <p>Sharp increase from 2014-2015 of about 37%.</p>	[2]
(aii)	<p>What can you conclude about the price elasticity of supply for lithium?</p> <p>Supply of lithium is likely to be price inelastic. Extract 1 mentioned that lithium extraction requires a lengthy process that lasts between 8 months to 3 years which means that it takes a long time for firms to increase output. As a result, in the short run, when prices rise, quantity supplied can only rise by less than proportionately.</p> <p>Marking scheme:</p> <ul style="list-style-type: none"> • State price inelastic of supply [0.5] • Case evidence [0.5] • Explanation [1] 	[2]
(b)	<p>Analyse the likely impact of falling prices of electric car on the market for crude oil.</p> <p>Fuel powered car and electric car are substitutes → Falling prices of electric car → fuel powered cars relatively more expensive → fall in its demand as consumers switch to the cheaper electric cars, ceteris paribus. [1m] → fuel powered cars and petrol are complements → fall in demand for petrol as well as crude oil since petrol is made from crude oil [1] → surplus of crude oil → downward pressure on prices [1] → thus equilibrium quantity and price of crude oil will fall. [1]</p> <p>Marking Scheme:</p> <ul style="list-style-type: none"> • Explain the effect on fuel powered car (Identify determinant as change in price of substitutes): 1m • Explain the effect on crude oil (identify factor as complements): 1m • Surplus, downward pressure on price: 1m • Effect on P and Q: 1m <p>Note: diagram is not required, if students are able to explain the impact clearly, can go up to 4m.</p>	[4]
(c)	<p>Explain the barriers to entry created by Tesla in the market for electric cars.</p> <ol style="list-style-type: none"> 1. Explain briefly what BTE is <ul style="list-style-type: none"> ➤ Barriers to entry are obstacles that prevent new competitors from easily entering an industry or area of business. 2. Barriers to entry created by Tesla 	[4]

1. Economies of scale

- Case material: “Tesla is the only automaker exclusively developing electric cars on a significant scale” in contrast to other auto makers who have to produce traditional cars as well. This suggests that Tesla is able to enjoy greater economies of scale which gives it an edge over its competitors.
- When Tesla develops electric cars on a large scale → workers able to specialise their task (e.g. designing, manufacturing, assembly etc) → overall productivity rises → unit COP falls
- Produce on a large scale → able to buy parts (e.g. batteries) in bulk at a discounted rate, in fact Tesla makes most of the parts in house → total cost spread over a larger output → cost savings → AC falls.
- When AC falls → able to price the car competitively → deters potential firms from entering as they could make subnormal profits if they were to set such a low level of price.

2. Tesla’s Superchargers network serves as a BTE for other firms to enter the market

- Extract 2 mentioned that Tesla Superchargers are a fast charging network which allows longer journey for their all-electric manufactured vehicles through quick charging of the vehicle’s battery packs, this serves as a form of barrier to entry.
- This is because Tesla’s Superchargers network is only compatible to Tesla’s electric cars. New firms who want to enter this market must be able to develop their own charging network so as to run their electric cars. Such efficient superchargers like those of Tesla take time to develop and if rivals’ chargers are not as efficient then their electric cars cannot function well → i.e they are poor substitute of Tesla’s electric cars → low demand for their cars → low revenue which cannot offset the high costs of developing electric cars. Therefore, the exclusive ownership of a resource (supercharger network) prevents new firms from entering the industry.
- *(Another eg of exclusive ownership of an important resource can be the extensive network of superchargers that Tesla has. As the network is extensive there would not be any prime area available for competitors to locate their charging stations. Without the convenience of charging their cars, demand will be very low)*

OR

- Given that currently no other player has been able to replicate Tesla’s Supercharger network → this could suggest that other firms may not have accessed to the technology adopted by Tesla → thus not able to develop its charger network so as to compete with Tesla → suffers from low demand as they are unable to gain market share as consumers unwilling to switch

	<p>due to poor network of chargers → not profitable → thus firms are deterred from entering.</p> <p>Marking Scheme:</p> <ul style="list-style-type: none"> ➤ Any well elaborated point on EOS: 2m ➤ Any well explained point on other relevant type of BTE: 2m 	
(d)	<p>To what extent does a weak yen help to boost the profits of a Japanese automaker such as Toyota?</p> <p>Meaning of weak yen → yen has depreciated or the foreign currency such as USD has appreciated. One USD can buy more yen.</p> <p>Profits = TR – TC</p> <p>How much profits increased depends on both revenue and cost factors but the weak yen may play a bigger role in boosting Toyota's profits.</p> <p><u>A weak yen can boost Japanese automakers' (eg Toyota) total revenue</u></p> <p>Price of Toyota cars lower in USD → demand is price elastic as there are many close substitutes such as Ford, GM and Chrysler cars which are now relatively more expensive → US consumers switch to cheaper Toyota cars → qty demanded increases by more than proportionately → total export revenue increases.</p> <p>In addition, the TR which is in US dollar, when converted back to yen, would increase TR even further given that the value of the USD dollar has appreciated against the yen.</p> <p>The weak yen also boosted Japanese carmakers' TR in Japan itself as it makes the price of imported cars more expensive in yen. Japanese cars become relatively cheaper. This increases the demand for Japanese cars in Japan and with more cars sold at a given price, TR increases.</p> <p>Therefore, a weak yen increases TR of Japanese carmakers both externally and internally.</p> <p>Evaluation</p> <p>However, the weak yen also increases the price of imported inputs of Japanese automakers. As Japan is a country that has limited resources, it needs to import a lot of raw materials. This increases cost of production and therefore offset the increase in TR which may reduce profits.</p> <p><u>Comment: The effect of weak yen on cost may not be very great due to the Japanese method of production that can offset this increase.</u> Extract 3 says that the Japanese automaker use common components for different car models. As a result they can buy these components in bulk and thus benefit from marketing economies of scale → lower unit cost of production. Given</p>	[8]

that Japanese automakers have higher profits than their American counterparts, these cost savings may be greater than the rise in input costs due to a weaker yen, and so overall, costs are lower.

Synthesis: Overall, weak yen is a more important reason to account for Toyota's higher profits and not falling costs

A weak yen will only have a large impact on a firm's TR if its sales are mainly in the foreign market rather than the domestic market. Given that Toyota exports more than 50% of its cars overseas compared to Nissan and Honda and that all of them use common components and therefore similar costs benefits, Toyota's higher profit margins compared to other Japanese automakers, is more likely due to a weak yen which increases its total revenue by much more.

Other evaluative points

However, the assumption is that US car makers are not changing their prices in response to a weaker yen. This is quite unlikely as the auto industry in the US is an oligopoly dominated by GM, Ford and Chrysler. As such, with the entry of Toyota cars, the major automakers may engage in a price war to maintain its market share. Based on Extract 3, it is mentioned that there is intense competition in the auto industry. If the major automakers were to reduce their prices, the quantity demanded for Toyota cars will increase by less than proportionately and therefore TR will fall.

That said, the ability of US car makers to lower price to compete with Toyota may be limited due to their higher cost of production as a result of labour problems and health care costs. Thus, the weak yen would benefit Toyota.

The higher profits of Toyota could be due to other demand factors. Toyota may have successfully marketed its cars in the US market, changing US consumers' tastes and preferences for Toyota's brand of cars. For example, Toyota could be the first Japanese automaker to sell electric cars in the US. With demand increasing, total revenue increases.

Conclusion

A weak yen benefits a Japanese company the most if it has a bigger proportion of its sales in the external market assuming all other things constant. The higher profit margins of Toyota cars compared to other Japanese automakers is evidence of this although there could be other demand factors that have boosted Toyota's TR in the overseas market.

L1(1-3 m)

Superficial explanation of how a weak yen increase TR

Limited explanation of how profits are increased.

	<p><u>L2(4-6m)</u></p> <p>(i) Revenue + any 1 other factor can go 6/6 ***Links to profits must be evident</p> <p>(ii) Detailed explanation of how weak yen boosts Toyota's TR: 3 m</p> <p>(iii) Explain how EOS helps to lower costs and therefore profits: 2 m</p> <p>(iv) Explain why it has to be a weak yen that boosted Toyota's profits and not the result of lower costs (2m)</p>	
(e)	<p>Discuss the reasons for a government's decision to either regulate or subsidise big firms such as those in the energy and automobile industries.</p> <p>Introduction</p> <p>Government intervenes in the free market to achieve both micro and macro objectives. Given that firms in the auto and energy industries are oligopolies, there is market failure due to market dominance and based on efficiency reasons, governments should regulate them. However, based on the extracts, the response of the government in the UK and US are totally opposite to each other. This is because government intervention is dependent on the state of the economy and the time period as governments would have different priorities.</p> <p><u>Reasons for govt intervening in the automobile industry</u></p> <p>i) Govt prioritise low unemployment over micro economic goal of efficiency and equity during a recession</p> <p><i>Case material : collapse of two-thirds of the US automobile industry would have ramifications that stretched far beyond the industry, with hundreds of thousands of jobs at risk in the supply chain.</i></p> <p>US car industry has loss their CA to Japanese auto makers due to their inefficiencies → American cars relatively more expensive → quote case evidence → consumers switch to cheaper Japanese cars → fall in dd for US made cars → fall in TR → fall in profits → retrenchment of workers → rise in unemployment → spread to other related industries such as those that supply parts and other raw materials to the auto industry → consumers and investors suffer loss of confidence due to falling sales and rising unemployment → fall in C and I → fall in AD → fall in NY → therefore collapse of auto industry has consequences that go beyond the industry. Thus the severity and extensiveness of the problems created by a possible collapse of the auto industry necessitates government intervention to support the auto industry</p> <p><u>How government intervention in the form of subsidies prevents job losses/reduce unemployment</u></p> <p><u>Subsidies</u> → <u>Reduce auto firms cost of production</u> → even though TR falls, with the subsidies → <u>TR can cover TVC</u> → can carry on production →</p>	[10]

reduce the risk of firms' closure and therefore preventing large scale unemployment.

Evaluation:

- Firms in auto industry have not been operating efficiently.
Case material: "credit crunch exposed an over-expanded and over-leveraged industry" and that they were not 'fleet footed enough'.
→ Overexpansion is an indication that firms do not produce at $P=MC$ due to complacency → little attempt to minimize costs of production and produce at the profit maximizing output → Result: protecting them will lead to welfare loss
 - However, it is necessary to offer some protection in the short run as the falling demand is not due mainly to the loss of competitiveness but also due to falling income as a result of the recession brought on by the financial crisis. Faced with twin problems of falling demand due to the recession as well as the competition from cheap imports it is necessary for the govt to intervene, otherwise, the recession will deepen and the welfare loss will not be confined to just the auto industry as the multiplier effect of the collapse of the industry will have ramifications on other industries as well. In times of recession, the macro goals would have priority over the micro econ goal as the magnitude of the welfare loss to society cause by unemployment takes is much greater than the welfare loss arising from inefficiency in an industry.
 - Moreover, temporary protection with stringent terms and conditions for eligibility to financial support can help the industry to get back on its feet. Extract 4 shows that the intervention was successful and the industry was able to regain its profitability.
- ii) Govt regulate energy companies to reduce their monopoly power so that there is less exploitation of consumers

Case material: *Steep hikes in fuel bills by the big six, who control more than 80% of the market,*

Market structure of energy industry → oligopoly → Six large firms controlling 80% of market → possible that they are colluding and behaving like a monopoly as all of them were increasing prices at the same time ('flurry of price hikes'). Demand for electricity is very price inelastic → no close substitutes → firms therefore have a great deal of market power. Produce at $P>MC$ (Illustrate and explain with diagram) → include concepts like allocative inefficiency, deadweight loss etc

Problem of equity: Lower income consumers spend bigger proportion of income on electricity.

How govt intervention in the form of rules and regulations help to curb monopoly power and protect consumers welfare.

To protect welfare of consumers → introduction of price cap → eg $P=AC$ or $P=MC$ → lower price → reduce monopoly exploitation → increase consumer surplus and welfare.

Evaluation

- If price is capped at $P=AC$, no incentive for firms to reduce cost or innovate as firms will only make normal profits.
- If price is capped at $P=MC$, firm will make losses and if revenue cannot cover variable costs, firms will have to close down. There will be greater welfare loss.

Conclusion

Both the energy and auto industry are dominated by big firms and inevitably there will be exertion of monopoly power and therefore exploitation of consumers. Therefore government regulation is necessary. But in the US, the auto industry is given support in contrast to regulation of the energy industry in the UK. This is because of the difference in the state of the economy in the US and the UK. With a recession still going on, the risk of excessive exploitation of consumers may be lesser whereas in the case of the energy market, the expanding UK economy could have cause energy firms to be more brazen by raising price excessively. With less macro problems to deal with, the UK would then prioritise micro economic goals more than macro-economic problems which are just the opposite of that of the US. So in short, government regulation is necessary in the case of big firms but whether it should be a priority or not would depend on what other economic problems the economy is facing.

L1 (1-4m)

Answers confined to just why the govt support the auto industry OR superficial explanation of why govt supports auto industry and regulate the energy industry.

Superficial: lack of economic analysis

L2 (5-7m)

Thorough and clear explanation, using relevant economic concepts and theoretical framework, in analysing why there is a need for govt intervention and how govt intervention helps to solve the problem

Evaluative comment (1-3m)

Evaluation of intervention : 1 m

Synthesis of why different approaches: 2-3 m

*Idea of priority of goals should be evident to move to (2-3m)

Question 2**The benefits and costs of globalisation****Extract 6: Love imported goods, but hate losing American jobs?**

The United States (US) imported \$2.69 trillion in 2016. That includes \$2.2 trillion in goods and \$502 billion in services. America is the world's second-largest importer. The European Union imports more, at \$2.24 trillion. China is third, importing \$1.4 trillion. Combined, these countries import \$5.8 trillion, or one-third of the world's total imports of \$15.34 trillion.

The largest US import category is capital goods at \$590 billion. Businesses import telecommunication, semiconductors, computers and related equipment. Consumer goods is almost as large, at \$584 billion. Most of this is cell phones, televisions, apparel and footwear. Services is a large and growing category. In 2016, US service imports totalled \$502 billion. More than half of US imports come from five countries: China, Canada, Mexico, Japan and Germany.

US imports more than it exports. That is despite being the third-largest exporter in the world. That creates a US trade deficit of \$502 billion. Even though America exports billions in oil, consumer goods and automotive products, it imports even more of those same categories.

Everything that is imported is obviously not made in the US. For that reason, it creates US unemployment. The biggest change occurred with the growth of imports from China. In 2007, 28 percent of all imports were from China and other low-income countries. This was a dramatic rise from 2000, when this value was only 15 percent. At the same time, the US was losing manufacturing jobs. A study found that in 2000, more than 10 percent of the labour force worked in manufacturing but by 2007, it had dropped to 8.7 percent. Imports create US jobs in transportation, distribution and marketing. However, it is unlikely that these job gains offset the job losses in manufacturing.

Although America can produce all it needs, China, Mexico and other emerging market countries can produce it for less. Their cost of living is lower, which allows them to pay their workers less. That makes them better than American companies at producing what US consumers want. For example, Indian technology companies can pay their workers just \$7,000 a year, much lower than the US minimum wage. In other words, there is a trade-off between plentiful US jobs and low-cost products.

Many people say we should only buy items that are "made in America." That would solve the problem only if everyone were willing to pay higher prices.

Source: The Balance, accessed 19 Apr, 2017

Extract 7: The cost of Brazil's closed economy

Brazil is an unusually closed economy as measured by trade penetration, with exports plus imports equal to just 27.6 per cent of GDP in 2013. Notably, Brazil's trade openness lags far behind its peers among the BRICS (Brazil, Russia, India, China and South Africa) countries, all of which reached trade-to-GDP ratios of at least 50 percent in recent years.

Very few Brazilian firms export and of all Brazilian exporters, a much smaller number of firms make up the overwhelming share of exports. The top one percent of exporting firms generates 59 percent of total exports, while the top 25 percent of firms account for 98 percent of export revenue.

Brazilian exporters also lack dynamism. Brazil has a very low entry rate – very few companies become new exporters. On the flipside, established exporters have a very high survival rate.

Brazil's extraordinary lack of openness and its small number of exporters are closely related to the fact that Brazilian companies are poorly integrated into transnational value chains. This can be observed in the very high share of domestic value added in Brazilian exports, which implies that such exports incorporate few components and intermediate goods imported from other countries. The reasons behind this include precarious logistics and high transaction costs related to international trade, as well as deliberate policy decisions to favour local content over international integration.

Over the past decade, Brazilian companies have also faced serious challenges to competitiveness, such as exchange rate appreciation and defensive trade policies. Brazilian exports have remained mostly "made in Brazil," while many emerging economies today boast an export base that is largely "made in the world."

Brazil's first priority should be to remove local content requirements that keep foreign investment away and hurt local firms in the process. Opening up and moving toward integration into global value chains could produce efficiency gains and help Brazil address its productivity and competitiveness challenges.

Source: World Bank Group, 15 Feb 2015

Extract 8: What is driving Brazil's economic downturn?

Brazil's economic situation has deteriorated significantly in recent years. The economy entered into recession in 2014 and the situation worsened in 2015, with real GDP likely to have declined by 3%, while inflation has remained close to 10%. The downturn of the non-energy commodity price cycle revealed the underlying structural weaknesses in the Brazilian economy.

In the first decade of the century, Brazil benefited from strong demand, particularly from China for some of its key export commodities such as iron ore, soybeans and raw sugar. Supported by positive terms of trade effects, Brazil's annual GDP growth rate averaged 3.1% over this period.

Since the fall in world commodity prices in 2011, these terms of trade effects have reversed. As a result, GDP growth has been consistently lower than predicted, while structural weaknesses underlying the economy have resurfaced. These weaknesses include a burdensome tax system, poor infrastructure, limited competition, the high costs of starting a business and high tariff rates.

Source: ECB Economic Bulletin, Jan 2016

Table 1: Total merchandise trade for selected economies (US\$ million)

		2010	2011	2012	2013	2014	2015
Brazil	Exports	201 915	256 040	242 578	242 034	225 101	191 134
	Imports	191 537	236 964	233 398	250 556	239 152	178 798
China	Exports	1 577 754	1 898 381	2 048 714	2 209 005	2 342 293	2 274 949
	Imports	1 396 247	1 743 484	1 818 405	1 949 990	1 959 233	1 681 951
United States	Exports	1 278 495	1 482 508	1 545 703	1 579 593	1 620 532	1 504 914
	Imports	1 969 184	2 266 024	2 336 524	2 329 060	2 412 547	2 307 946

Source: WTO, World Trade Statistical Review 2016

Table 2: Exchange rates: Units of national currency per US dollar

	2010	2011	2012	2013	2014	2015
Brazilian Real	1.759	1.673	1.953	2.156	2.353	3.327
Chinese Yuan	6.77	6.461	6.312	6.196	6.143	6.227

Source: OECD, accessed Aug 2017

Questions

- (a) Using Table 1, compare the change in China's balance of trade in goods with that of the US between 2010 and 2015. [2]
- (b) Explain how the theory of comparative advantage can be applied to account for the pattern of trade between the US and her trade partners. [3]
- (c) With reference to Extract 6, explain the 'trade-off between plentiful jobs and low-cost products'. [3]
- (d) (i) With reference to Table 2, how does the value of the Brazilian Real in 2015 compare to its value in 2010? [1]
- (ii) How could the difference in the value of the Brazilian Real observed in (d)(i) be explained by the fall in world commodity prices? Explain with the help of a diagram. [3]
- (e) Discuss whether Brazil's defensive trade policies is the key reason for its lack of export competitiveness. [8]
- (f) Assess whether opening up its economy is the best option for the Brazilian government to achieve sustainable economic growth. [10]

[Total: 30]**[End of paper]**

Suggested Answers**Questions**

- (a) Using Table 1, compare the change in China's balance of trade in goods with that of the US between 2010 and 2015. [2]

Both China's trade surplus and US' trade deficit rose.

However, China experienced an improvement in her trade surplus but US experienced worsening trade deficit.

or

China's trade surplus increased more significantly (by 226.7%) than the rise in US' trade deficit (by 16.3%)

- (b) Explain how the theory of comparative advantage can be applied to account for the pattern of trade between the US and her trade partners. [3]

The theory of comparative advantage states that even if one country has absolute advantage in the production of both goods in a 2-commodity-2-country model, it will still be mutually beneficial for both countries to specialize in the goods that they can produce at a lower opportunity cost and exchange.

US has natural factor endowment of oil reserves → able to produce one unit of oil at a lower opportunity cost than China → US gives up less of alternative goods such as television → more cost-efficient for US to specialize in production of oil since she can produce cheaper oil compared to China → US exports oil to China

China has factor endowment of large labour supply → able to produce low-end labour-intensive manufactured such as footwear or television at a lower opportunity cost compared to US → since China can produce such goods cheaper, China exports the goods to US → US imports those good she lack comparative advantage in.

- (c) With reference to Extract 6, explain the 'trade-off between plentiful jobs and low-cost products'. [3]

Opening up → specialize based on CA and remove trade barriers such as tariffs → cheaper M and imported inputs → lower cop → lower price of final goods (low-cost products) → reduce dd for local substitutes → less production → fall in derived demand for local workers → rise in unemployment → cheaper goods obtained at the expense of plentiful jobs

Or

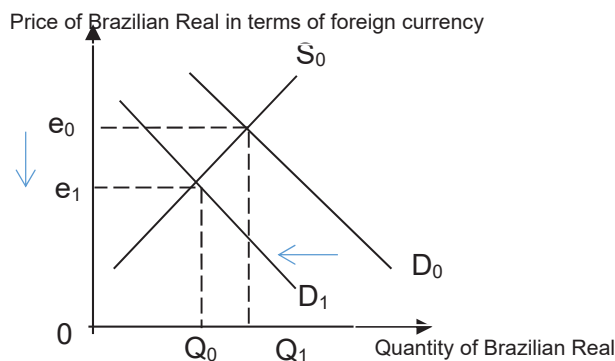
To protect domestic employment → e.g. tariffs on imports → reduce Qdd of imported goods because more expensive → increase demand for local substitutes → greater production in local firms → rise in derived demand for labour → more local job opportunities → fall in unemployment → plentiful jobs locally but imported goods more expensive → higher cop → higher price of final goods (high-cost products) → plentiful jobs obtained at the expense of cheaper goods.

- (d) (i) With reference to Table 2, how does the value of the Brazilian Real in 2015 compare to its value in 2010? [1]

The Real has depreciated.

(ii) How could the difference in the value of the Brazilian Real observed in (d)(i) be explained by the fall in world commodity prices? Explain with the help of a diagram. [3]

- Brazil export commodities such as soybeans, iron ore and raw sugar which are price inelastic in demand due to the nature of the good being a necessity.
- Fall in world commodity prices means fall in prices of soybeans, iron ore and raw sugar exports → given $PED_x < 1$ → Q_{dd} will rise less than proportionately, ceteris paribus → Brazil's X revenue will fall.
- Since X revenue fall, there would have been a fall in demand for Brazilian Real → surplus of Brazilian Real in foreign exchange market exerts downward pressure on exchange rate → depreciation.
- Diagram



(e) Discuss whether Brazil's defensive trade policies is the key reason for its lack of export competitiveness. [8]

Answer outline

Export competitiveness can be in terms of price and quality of exports.

When the country's share of the exports to the rest of the world falls, this could be a sign of declining export competitiveness.

Lack of export competitiveness could be driven by the country's own supply-side capacity, its government policies and external factors. The question is whether Brazilian govt's own trade policies is the key reason for the country's lack of export competitiveness. To determine whether it is the key reason, need to discuss the relative importance of the different reasons for Brazil's lack of competitiveness.

Introduction:

Brazil has remained a relatively closed economy. Brazil's lack of export competitiveness is driven by the country's own supply-side capacity, government policies as well as external factors. One of the government policies mentioned was its defensive trade policies. These refer to trade policies that support or protect domestic firms from foreign competition through various means such as tariffs, quotas, subsidies to domestic firms and rules and regulation. She imposed tariffs and favoured local content as it is stated that 'Brazilian companies have also faced serious challenges to competitiveness' due to defensive trade policies.

Direction: To explain how tariffs cause exports to lose competitiveness and other factors contributing to the country's inability to keep export prices competitive.

Body:

P1: Tariffs imposed by Brazilian government and rules and regulations that favour local content can cause exports to lose competitiveness.

E1: Tariffs → raises cost of production for foreign producers exporting their goods to Brazil → increases the price of Brazil's imports → local firms depending on foreign imported inputs such as steel to produce final goods will face a rise in their cost of production, assuming revenue remains unchanged → lower profits will reduce the supply of the goods → shortage of final goods such as steel-related products will exert upward pressure of price of these goods → higher price of final goods including those exported out → X loses price competitiveness.

P2: Defensive trade policies also reduce competition for local firms which may result in exports losing price competitiveness.

E2:

- Defensive trade policies such as tariffs will raise the price of imported goods → Quantity demanded for imports will fall and consumers will switch over to buy domestic substitutes → local firms are assured of rise in demand to generate revenue and profits → lack of competition in the industry due to protectionist measures → complacency of local firms due to lack of competitive pressure on profits → 'Brazilian exporters also lack dynamism' → does not engage in cost-cutting measures to keep prices low → fall in productivity → higher average cost → higher price of exports → X lacks price competitiveness

P3: However, there are other factors such as poor infrastructural facilities and appreciation of Brazilian Real which contributed to X losing price competitiveness.

E3:

- Poor infrastructural facilities such as absence of efficient transportation system → local firms may face higher cost of production due to greater costs incurred in delivering goods → lower profits will reduce supply of goods → shortage drives up price of X → X lose competitiveness for reasons other than defensive trade policies
- The appreciation of Brazilian Real means that more foreign currency is needed to purchase 1 unit of Brazilian Real → making Brazil's X more expensive in foreign currency → worsening the problem of higher X prices.

Evaluation:

The lack of export competitiveness could have taken place internally due to 'high costs of starting a business' as well as poor infrastructural facilities. The high barriers to trade in some industry may internally have caused complacency to arise which caused prices of goods to be higher than they should be.

Given that Brazil is a developing country, it is highly likely that it may lack the funds to develop the economy sufficiently to support firms to produce efficiently. This could also lead to higher price of exports.

Although it seems like defensive trade policies such as tariffs or quotas may limit supply of goods and cause price of exports to be higher for firms dependent on imported inputs, given that Brazil is not a very open economy to begin with, this means that a large number of local firms depend on local inputs to produce their final goods which are exported out. Hence, the defensive trade policies may not be the main reason for exports losing competitiveness but may worsen the problem of export losing competitiveness due to internal problems.

Mark scheme

	Understanding, Analysis & Application
L2	Answer will provide clear accurate explanation how both defensive trade policies and other factors cause export to lose price competitiveness. Reference must be made to tariffs/quotas

L1	Answers in this level will be descriptive or will contain errors in the explanation of how tariffs or other factors cause X to lose price competitiveness.
	Evaluation
1-2	Assess the extent to which defensive trade policies play a role in causing X to lose price competitiveness

- (f) Assess whether opening up its economy is the best option for the Brazilian government to achieve sustainable economic growth. [10]

Introduction:

Brazil's economy is in a recession with inflation. Its weak economic performance is due to both falling prices of its exports as well as supply side factors such as inefficiency in production. One of the reasons for its economic problems is its closed economy and thus some recommended opening up its economy.

Direction: Aims to explain and evaluate how opening up of economy and other policies can help the country to achieve both actual and potential economic growth to ensure economic growth is achieved without depleting resources for future generation.

Thesis:

Policy 1: Signing FTA

- Opening up via signing FTA → boosts external demand due to specialisation based on CA → rise in (X-M) → rise in income in one sector triggers further rise in induced spending in other sectors → multiple rise in AD → boost EG in SR.
- Opening up e.g. lower trade barriers → increase competition in domestic markets → spurs domestic firms to become more efficient → can increase productivity due to contestable market → can boost X competitiveness → boost economic growth.
- Through FTAs Brazil can have greater access to foreign markets. This means that domestic firms can grow in size and benefit from large scale production further enhancing export competitiveness → rise in (X-M) → boost economic growth in SR.
- Opening up its economy also means that it would allow more foreign investments into the country. Foreign investments not only provide the needed funds for capital formation. It also benefits Brazil when there is transfer of technology and expertise. There could also be a rise in exports when these foreign firms produce goods and services in world markets. Hence there is a rise in AD and so real GDP rises. Furthermore, rise in I can help to increase country's productive capacity of economy → rise in LRAS → rise in potential economic growth → allowing for sustainable economic growth.
- Greater ability to import cheaper resources also means that Brazil will be able to slow down the rate of utilizing her fixed resources → rate of depletion of resources slowed down → allowing for more sustainable growth

Evaluation:

1. Even with signing more FTA → FDI may not increase large extent → poor infrastructure → cop may be high → domestic firms may not be able to penetrate foreign

markets → export earnings may not increase significantly and so economic growth may not be significant.

- The increased competition could be a threat especially for the less efficient firms. As consumers switch demand towards relatively cheaper foreign goods, the demand for Brazil's goods and services fall. This will reduce the revenue and profit of domestic firms. Some will be forced to shut down.
- Need to improve on infrastructure (structural reform) → build better infrastructure → rise in G and I → AD and LRAS increase → boost actual and potential EG

2. Brazil is dependent on export of primary commodities such as soybeans whose terms of trade is declining due to falling export prices. With such an area of specialisation, the benefits of international trade for Brazil may not be significant unlike other countries that specialise in high value-added industries such as high end manufacturing.

3. However, opening up may tackle the root cause of complacency problem amongst domestic firms which lack 'dynamism' → increased competition will ensure their become more cost-efficient → produce at lower cop to produce more competitive exports so as to sustain market demand → boost export competitiveness further aiding in economic growth.

Policy 2: Supply-side policies such as investment in skills training and increase competition in domestic industries

- Need training of workers policy and reduce power of market dominance to ensure they do not limit competition and subsidising smaller firms to ensure they can match the low price of big firms in the midst of competition → enhances productivity of firms → boost FDI and X → rise in AD and LRAS → boost actual and potential EG

Evaluation:

1. Need funds to invest in human capital. Brazil's government may not have sufficient funds to do so. Furthermore, there may be little incentive for workers or the unemployed to go for training especially when the employment prospects is low or when they do not perceive high returns to re-skilling or re-training.
2. Time lag – longer time for supply-side policies to take effect.
3. Long term effect is positive.

Synthesis and Conclusion

Opening up its economy is certainly one of the ways to spur domestic firms to become more efficient with the increased competition. The increased flow of FDIs also increases the country's productive capacity as well as generate export earnings for the country. In addition, through FTAs, Brazilian firms are able to gain access to international markets, thereby generating export earnings for Brazil to enjoy economic growth. These gains can be realised if Brazilian firms are competitive globally. The extract mentioned that only a few Brazilian firms are able to penetrate the global market because of their lack of competitiveness. As such, I think that whilst opening up its economy is good, more fundamentally, Brazil needs to work at improving its infrastructure, tax system, and its labour force – in order that the country is able to penetrate foreign markets successfully in new export industries. Thus, supply-side policy, though take a long time, is the best option to achieve sustained economic growth.

Mark Scheme

	Understanding, Analysis & Application
L2	Answer will provide a good range of suitable policies and will explain how Brazil can achieve sustainable growth through their application.

	Use of AD/AS analysis to explain how economic growth can occur.
L1	Answers in this level will provide only superficial explanation of policies and will have only limited link to increases in economic growth
	Evaluation
1-3	Examine the analysis and consider whether the policies can achieve both actual and potential growth. Candidates may indicate that effectiveness of policies might differ in extent and possibility of protectionist measures to protect infant industry in order to boost economic growth in future. A conclusion will be provided.

Q1. Organic food such as fresh fruits, vegetables and dairy products is grown without synthetic pesticides, chemical fertilizers or genetically modified seeds. 2015 was a year of significant growth for the organic food industry despite the continued struggle to meet the seemingly unquenchable consumer demand. There was also an increase in the number of farmers converting to organic farming over time.

Source: Organic Trade Association

Discuss the demand and supply factors that determine the output of organic food and evaluate which is the most important factor. [25]

Introduction

In the farming industry, organic produce has become such an appetite for consumers to the point where the demand cannot be met due to a huge shortage of growers. Producers have responded to this growing demand by making the transition to certified organic food production.

Definition: Market equilibrium occurs when buyers and sellers come together and exchange at a mutually agreeable price and quantity. When the market is in equilibrium, there is no tendency for the price or the quantity exchanged (that is, the quantity bought and sold) to change as quantity demanded equals to the quantity supplied. Demand and supply in the free market will determine the equilibrium output. Hence, changes in the demand and supply will impact the market equilibrium.

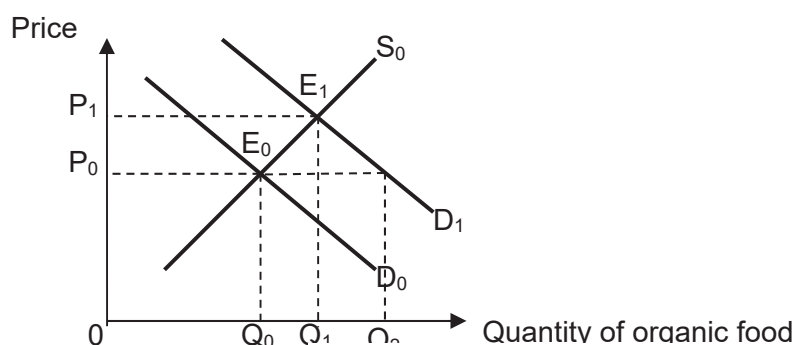
Direction: The factors which determine the output of organic food are technological advancements and economies of scale which affect supply as well as factors such as tastes and preferences, and income level that influence demand.

Body

Selecting food is one of the most common activities that consumers pursue many times each day. But this selection requires taking into account different factors (e.g. price and taste) and may involve a complicated decision-making process in order to satisfy these different factors.

P1: Although the organic food sector comprises only a small percent of all food sales, the perceived environmental and health benefits of organic food have received increasing recognition and broader acceptance among consumers, hence a shift of taste and preference from inorganic food to organic food.

As the technology advances, people have easier and more convenient access to Internet and social media to find out more information about the enhanced health benefits of consuming organic food. Furthermore, since society has been adopting health-conscious eating habits and government has been promoting healthy lifestyle, the demand for organic food has only been steadily growing. In the minds of consumers, this trend of “eat good, feel good, look good” is convincing and rapidly growing as it has greatly contributed to why the majority of consumers are choosing organic. Environmentally conscious consumers are willing to pay a much higher price for sustainable products such as organic and locally-produced foods as ethical considerations are becoming important factors in their decision making process. Rise in demand for organic food → rightward shift of DD curve from DD0 to DD1.



→ Ceteris paribus, at the original price of the organic food OP_0 , there is now a shortage of the good Q_0Q_2 . The resulting shortage causes the price of the organic food to increase. As the price of the organic food increases, its quantity demanded falls while the quantity supplied increases. These changes are illustrated by a movement up the demand curve D_1 and a movement up the supply curve S_0 respectively.

L1: Price will continue to rise until the market is in equilibrium at price OP_1 and there is a rise in equilibrium output of OQ_1 of organic food being traded.

P2: The global economic growth in the last decade contributed to a rise in demand for organic food.

Since organic food is considered a luxury good, any change in consumer income directly affects the percent change in demand, which will constitute how much consumers are willing and able to spend. If the amount of disposable income increases within consumers, they will feel more confident and compelled to spend those extra dollars towards better quality luxury goods, in this case organic foods. Conversely, the same transpires when there is a decrease in income where consumers will choose inferior food as opposed to purchasing the luxury good. Due to the relatively more rapid growth in emerging markets and developing economies such as India and Philippines, as the income increases, consumers shift their purchases away from higher quantities of food and into higher quality food. This simple analysis of the relationship between income and consumption is crucial for understanding and/or forecasting the likely future of the organic food industry.

L2: As the standard of living increases, consumers are very likely to purchase more quantity of organic products.

P3: Income growth, and the high standard of living that is enjoyed in the high-income nations of the world, is likely to be the single most important determinant of organic food consumption.

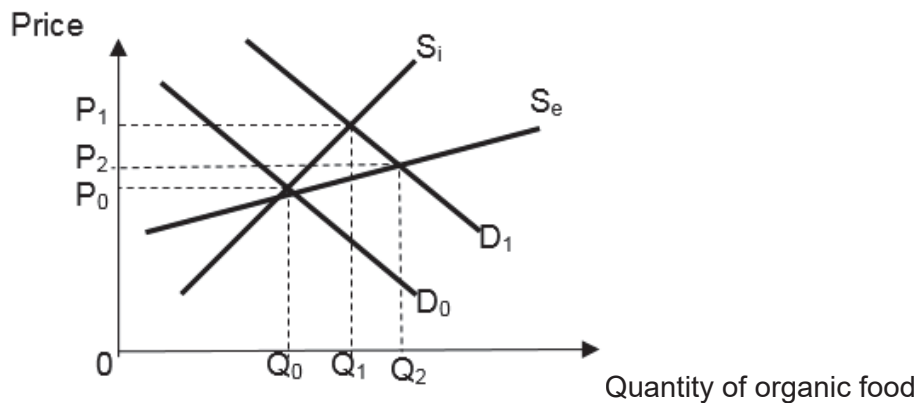
Because any perceived benefits, no matter how small, become affordable to wealthy consumers. Price premiums also become inconsequential to individuals and families with high incomes. As per capita incomes rise, we can expect a shift into organic food. An important implication of this is that low-income individuals in the USA, and low-income nations will be less interested in organic food, if it is more expensive than conventional food. For individuals and nations with low level so purchasing power, the perceived benefits of organic food are unlikely to outweigh the lower prices of conventional food. As incomes increase above subsistence levels, health issues shift from a lack of food and starvation to healthy diets and nutrition. Those who can afford it will purchase products that are perceived to be healthy, including organic food, even if the purchase price is considerably higher than conventional food.

L3: To summarize, market information about the benefits and costs of consuming organic and nonorganic foods will determine the future market shear of organic food in the food and beverage industry.

P4: The price elasticity of supply for organic food is likely to be less than one and hence, the rise in demand due to the 2 factors analysed earlier will likely lead to a mild rise in equilibrium output.

Although retailers have been flocking to the industry to capture the customers' high willingness to pay, farmers have not followed suit. Despite the opportunity to fetch higher prices for their products, farmers have been slow to convert to organics. One reason is the high transition costs (barrier to entry) to be labelled a certified organic producer. In order to be titled a certified organic grower, one must follow and go through a three-year transition period in compliance with organic restrictions and requirements. During this time period farmers experience much lower crop yields making their costs surge; a primary element for

which growers won't go organic. Also, the benefits that come with organic growing such as receiving higher and premium prices for those organic products are not included in this 36-month process, yet another hindrance for farmers to transition to become certified organic producers. Additionally, organic farm operations are subject to added fees and regulations. Organic production practices are often management-intensive, requiring greater managerial time, skill, and decision making. Organic certification requirements can also require that a farmer not use chemicals or synthetic fertilizers for three years prior to the land becoming available for organic food production. Thus, some of the transition costs are incurred prior to reaping the benefits of organic conversion. Hence, the supply of organic food is price inelastic. Farmers are not able to respond easily to a rise in a demand and price by releasing the stocks into the market for sale.



L4: Hence, as seen in the figure above, with the same rise in demand, the extent of rise in equilibrium output for organic food is smaller from Q_0 to Q_1 rather than from Q_0 to Q_2 .

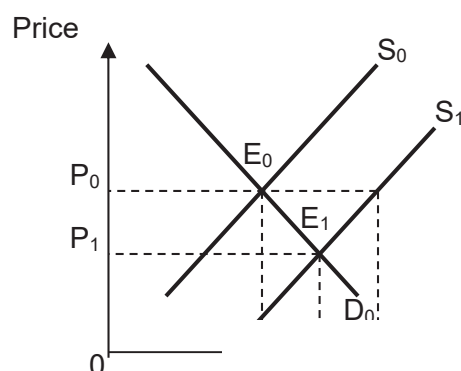
E5: However, the rapid technological advancement and reaping of more economics of scale may change the outlook of organic food production.

Firstly, the technology of organic food production is changing rapidly, as producers discover more efficient production processes that result in larger quantities and higher qualities of organic food produced at lower costs. Similarly, a cost-saving technological or regulatory change in the processing, transportation, packaging, marketing, advertising, or certification of organic food will also result in larger quantities produced by profit-motivated suppliers.

Secondly, as the fledgling organic food industry develops, it will capture economies to scale associated with the growth and development of organic food markets. An example is marketing economies. A large firm can capitalise on its bargaining power to buy its inputs in bulk at favourable rates. Similarly, the organic food of the firm can also be sold in bulk at reduced distribution costs too. For instance, it is more cost efficient for a large firm to transport large quantities using a large truck instead of several small vans. Large firms can also afford to advertise organic food in the national press and other forms of media. Although the advertising expenditure may be substantial, the advertising average cost may be lower than that of a smaller firm because cost of advertising is spread over the larger output level. Specifically, as the infrastructure and institutions for organic food production, processing, and distribution become larger and more established, the per-unit cost of organic food

→ decline fall in cost of production, assuming total revenue constant

→ higher profit per unit of computer-based products

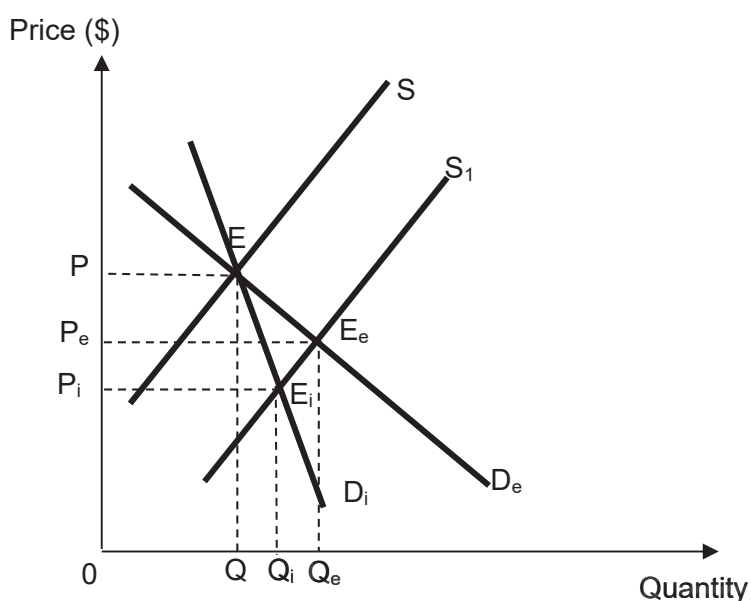


- rightward shift of the supply curve from S_0 to S_1
- Ceteris paribus, at the initial price $0P_0$, a surplus of Q_0Q_2 arises and this surplus exerts a downward pressure on price. Producers lower the price to get rid of their excess stock. As price falls, producers will reduce their quantity supplied of the good as shown by a movement along the supply curve. Consumers increase their quantity demanded of the good as illustrated by a movement along the demand curve D_0 .

L5: Price will continue to fall until a new market equilibrium is established at point E_1 . The new equilibrium output of $0Q_1$ is higher than before the increase in supply.

P6: The price elasticity of demand for organic food is likely to be less than one and hence, the rise in supply due to the 2 factors analysed earlier will likely lead to a mild rise in equilibrium output.

Individuals who are committed to the ideals and lifestyle associated with organic food, OR who have high incomes, and are unaware or insensitive to price changes are unlikely to discontinue purchasing organic food. The first group is very unlikely to alter organic food purchases based on price movements, due to strong convictions about the complex interactions between agricultural chemicals, human health, and the environment. The second group of consumers does not alter consumption habits when prices of organic food change, simply because they spend a very small fraction of their income on food. As a result, price increases are unimportant to these individuals, and consumption decisions are unlikely to be affected by price → demand for organic food for these groups of consumers is price inelastic. This means that a rise in price of organic food will lead to a less than proportionate fall in quantity demanded of organic food, ceteris paribus.



L6: Hence, as seen in the figure above, with the same rise in supply, the extent of rise in equilibrium output for organic food is smaller from Q_0 to Q_i rather than from Q_0 to Q_e .

Synthesis

The conclusion is the cost efficiency factor (supply) is more important to determine the output of organic food in the **short run**. This is because the switching costs are much higher for farmers: regulations, three years of fallow ground, uncertain yields. The price they receive for a single unit of an organic product, therefore, is less valuable if it comes with greater risk and uncertainty. The organic market can only grow as far as farmers are willing to start growing organics.

However, the income factor (demand) will be more important to determine the output of organic food in the **long run** because demand for organic food is income elastic. As the affluence level increases, the demand for organic food will increase significantly. Luxury consumer goods such as organic food will continue to replace necessities, as high-income consumers can afford to pay for product attributes that are perceived to be healthy or good for the environment. As a result, many agricultural producers have found organic production practices to be a profitable alternative to conventional crops. Furthermore, though transition costs are high, the cost advantages of eliminating chemical and fertilizer bills, together with crop rotation advantages can contribute to net returns. Therefore, we may see a potential growth of the organic food market.

Conclusion

Consumers' interest in organic food has exhibited continued growth for the past two decades, which has attracted entrepreneurs and corporations seeing a big potential for this industry. This led to the creation of standards and regulations to guide the organic food industry. There are clear challenges on both demand and supply sides. Consumers are becoming more sophisticated in their purchasing decisions of organic food as they become more educated and affluent, and companies are focusing on supply chain management in order to ensure high quality, traceability, and supply continuity. The future extent of the increment in organic food output will depend on the market forces (market value).

Level	Knowledge, Understanding, Application and Analysis	Marks
L3	For a balanced and well-explained answer that uses application and analysis to discuss the importance of demand and supply factors (total 4 factors) in influencing the output of organic food. Good analysis on relative importance of demand and supply factors and PED, PES, IED, CED (any 2) or the relative magnitude of shifts are considered in the given context.	15-20
L2	For a good attempt to discuss the importance of demand and supply factors but limited in analysis. For well-developed one-sided answers OR underdeveloped two-sided answers which did not consider other factors such as elasticities of dd/ss concepts or why the rise in demand is faster than the rise in supply.	9-14
L1	For some knowledge but limited applications of demand and supply factors on how it influence output changes. Answer may be irrelevant.	1-8
Level	Allow up to 5 additional marks for Evaluation	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on which factor is more important to determine the output of organic food	4-5
E2	For an answer that makes some attempt at a judgement on which factor is more important to determine the output of organic food	2-3
E1	For an answer that gives an unsupported evaluative statement(s) about the demand and supply factors that determine the output of organic food	1

2 As globalisation continues, the tearing down of trade barriers has provided some companies opportunities for growth while it has been harmful for others. Accustomed to dominant positions in protected markets, the influx of foreign competition often poses a threat to the survival of local companies.

Source: Harvard Business Review

(a) Explain the benefits that a firm enjoys when it grows in size. [10]

(b) Evaluate the various strategies a firm can adopt to respond to the challenges posed by globalisation. [15]

(a)

Intro:

- Clarify what “size” means to a firm / define : The idea of greater quantity of production or market share must be expressed
- Firm’s objective: Benefits to a firm must be expressed in the idea of achieving profit maximisation
- Direction statement: Benefits a firm enjoys comes in the form of cost savings from exploiting EOS or from revenue advantages that a firm may gain from being large.

TS1: Firms can enjoy cost savings when they grow large through exploiting economies of scale.

E1: One source of EOS that firms can enjoy comes from marketing EOS.

- When firms are larger, they can enjoy lower average costs from purchasing inputs in bulk.
- Larger firms are likely to make up a larger proportion of a supplier’s revenue stream and thus are more important customers than a smaller firm.
- These larger firms will then have stronger negotiating power than smaller firms and can negotiate for discounts for bulk purchases of inputs.
- The lower price that large firms pay for inputs will allow them to have a lower average cost of production

E2: Another source of EOS that firms can enjoy comes from financial EOS

- Larger firms are often considered more credit-worthy than smaller firms and are able to enjoy lower interest rates on loans.
- Larger firms will often have more physical assets that they are able to offer as collateral in negotiating for a loan.
- Larger firms also earn greater amounts of revenue and have more stable revenue streams and thus are considered to be more likely to be able to repay the loan.
- Since large firms are considered more credit-worthy, banks are willing to offer lower interest rates for loans to large firms since the risk of defaulting on the loan is lower
- Large firms are thus able to borrow at cheaper rates whether to purchase capital goods, inputs or even to finance expansion.
- The lower costs of repaying loans allow for larger firms to have lower average costs.

TS2: Firms can enjoy revenue advantages when they grow sufficiently large. This can be from domination of the market OR from diversification into multiple markets.

E1: When firms grow in size, this might involve the firm expanding into different markets. This can be expanding into different product markets or geographical markets.

- This allows the firm's revenue stream to be more stable in the face of changes.
- If demand in a particular country / demand for a particular good falls, it can be mitigated by changes in the demand from other countries / for other goods

E2: Firms that have large size can have greater market power and thus use that to maximize their revenue.

- Firms that grow larger and take up a larger part of the market can better establish barriers to entry in the form of limit pricing / predatory pricing
- When a firm has sufficient market power, they are able to influence the market price through increasing or decreasing their output
- Large firms can then use limit pricing / predatory pricing to prevent the entry of other firms into the market
- This prevents competitors for entering the market and taking away demand from the incumbent large firm thus ensuring that the revenue earned will continue to be high in the long run
- Large firms that earn supernormal profits can also use these profits to invest in research & development to do product innovation thus differentiating their product
- This makes other companies goods poorer substitutes, thus the XED of their good would be more inelastic.
- This makes the demand for their good more stable in the face of competitor's pricing strategies and the revenue more consistent.

Level	Marks	Description
L3	8-10	<ul style="list-style-type: none"> • An answer that explores both costs AND revenue advantages of being a large firm • An answer that explains two sources of EOS OR provides a very detailed answer on one source of EOS • AND • An answer that explains one or more source of revenue advantage with economic theory • Total of 3 key ideas
L2	5-7	<ul style="list-style-type: none"> • One sided answer than only considers cost advantages OR revenue advantages without exploring the other • An answer that briefly explains the advantage without any economic theory or application to the context of a firm's decisions • OR two-sided answer lacking in detail / rigour
L1	1-4	<ul style="list-style-type: none"> • Answer is generally descriptive with little or no economic analysis • Does not identify/explain any source of EOS • Vaguely understands the aim of achieving profits but does not consider profits as revenue/costs

(b)

Intro:

- Clarify and expand on definition of globalization
- Identify main challenges of globalization: greater competition for consumers / greater competition for limited FOP
- Direction statement: There are many strategies a firm can undertake to cope with the challenges of globalization.

TS1: Globalisation poses a challenge to firms in the form of greater competition for consumers. This can reduce the demand / revenue / profits of the firm. Globalisation can also pose a challenge in affecting the costs of a firm.

E1: Globalization poses a challenge to firms in the form of greater competition for consumers. This can reduce the demand / revenue / profits of the firm.

- Continued globalisation involves the removal of trade barriers such as tariffs and quotas/restrictions on foreign imports of goods and services
- This allows for imports to become more price competitive / allows for greater competition between imported goods and domestic goods
- A firm that is in the domestic market will face a fall in demand due to the entrant of foreign company into the market
- This will be reflected as a fall in the demand faced by an individual firm as more foreign companies enter the domestic market
- Assuming the costs of the firm remain unchanged, the fall in revenue caused by a drop in demand would lead to lower profits earned
- If the profits fall into subnormal profits, this can cause the firms to shut down in the long-run

E2: Globalisation can also pose a challenge in affecting the costs of a firm.

- The removal of barriers to trade can also result in the increase in the demand for exports of a country
- The increase in demand for goods and services would lead to greater derived demand for factors of production such as labour
- This greater demand for factors of production leads to a shortage and subsequently leads to higher price of FOP. The increase in FOP price leads to an increase in per unit costs of production ceteris paribus.
- For firms that are not involved in the export sector and do not enjoy an increase in demand, the increase in costs would lead to a fall in the profits of the firm.

TS2: Firms can respond to the challenges of globalisation by expanding in size.

- In the face of globalisation, the firms can respond to the challenges by expanding. This can either be done through expanding their production, merging with other firms and entering foreign markets.
- If the firm is able to take advantage of the lower barriers to trade by entering foreign markets, they are able to enjoy access to a larger market thus increasing the demand for their goods.
- When there is greater demand, the firm can be justified in expanding to a larger scale of production thus allowing them to exploit greater EOS and lowering the average costs.

Evaluation:

- The feasibility of such a strategy depends on the presence of EOS in the particular market as well as relative costs of production of the firms.
- Not all markets have significant EOS for firms to exploit by increasing scale of production.
- Some products that are highly personalised and require personal attention do not have significant technical EOS to be exploited because it is difficult to mass produce.
- This is thus more feasible for firms in markets where the production process is easily automated and scaled-up.
- Furthermore, the ability of a firm to expand into foreign markets depends on the differences in production costs that may result from differences in factor endowments.
- A firm that is producing a labour-intensive product is unlikely to be able to expand into a market such as China because the abundant labour in China would make the production of that same product much cheaper for Chinese firms.
- As such, the feasibility of entering a foreign market depends on the costs of production relative to the costs of the firms in the foreign market.

TS3: Firms can respond to the challenges of globalization undertaking innovation and product differentiation.

- Firms can respond to greater competition from foreign imports by engaging in greater investment in innovation and R&D.
- This can take on the form of product innovation where the firm invests money into developing improvements in their production process.
- An example could be the investing into developing better machinery that can use less fuel to run and thus produce more output for the same amount of fuel.
- This can increase the productivity of their production, meaning that they are able to produce more output for the same amount of inputs.
- This results in a fall in per unit costs of production.
- This can mitigate any increase in costs of production caused by greater competition for limited factors of production.
- This can allow firms to lower the prices they charge in order to compete with foreign imports.
- Firms can also undertake product innovation where they invest into developing improvements on the quality of their product.
- This can take on the form of producing goods with better designs, more features or made out of more durable materials.
- This will increase the desirability of the goods thus changing consumers' tastes and preferences.
- Beyond increasing the demand for their good, this will also result in product differentiation where consumers will view other products as poor substitutes for a firm's goods because of the difference in quality.
- This makes the XED of the firm's good more inelastic, making the fall in import prices have a smaller impact on the firm's revenue.

Evaluation:

- The feasibility of such a strategy depends on the firms' ability to engage in research and development.
- Research and development is often very costly, takes a long time to show results and may not always yield positive results for the money invested in it.

- Research and development involves high amounts of expenditure, thus firms that are small and earn little or no supernormal profit are unlikely to have the funds to engage in such a strategy.
- At the same time, research and development taking a long time to show results could mean that the firm may have to suffer through many periods of subnormal profits. If the firm does not have sufficient funds to endure these losses, the firm may end up shutting down before the strategy yields any impact.
- Finally, not all research and development projects can yield improvements or the extent of the improvements may not be significant. This can end up increasing the total costs of the firm without a large enough increase in the revenue of the firm thus worsening the profits of the firm.

TS4: Firms can respond to the challenges of globalization by reducing costs via outsourcing OR sourcing for cheaper FOP from foreign sources.

- Globalization does not only increase the flow of finished goods and services but also increases the flow and mobility of factors of production such as raw materials and labour.
- One way firms can then address the challenges of globalization is by purchasing FOP from other countries that have those FOP in greater abundance and thus lower price.
- An example would be hiring of foreign labour from developing nations that have abundance of people and thus people are willing to work for lower wages.
- This allows the firms to cut costs and subsequently price competitiveness and profits.
- Another aspect of globalization is in the improvements of transport and communications technology.
- This gives firms the option to outsource certain parts of their production process to be done in other countries.
- The increased speed and lower costs of transportation allows for firms to produce different parts of their goods in different countries before finally assembling them into one finished product.
- The improvements in communication technology also make it easier for firms to coordinate between different branches in different countries.
- This allows for the rise of multi-national corporations that make it possible for firms to best exploit different prices of factors of production to produce goods at lower costs.

Evaluation

- Just like with the strategy on research and development, the ability to outsource requires a lot of expenditure and initial investment on the part of the firm to set up the networks and partnerships to make it feasible. This again makes it a difficult strategy for small firms with limited profits to use.
- At the same time, globalization may not always be applied equally across all countries and all goods. The lowering of the trade barriers may only be for specific goods and services. Barriers to foreign investment and barriers to mobility of FOP such as immigration laws may still pose problems for firms attempting such a strategy.
- Hence, the available resources of a firm and the way the government chooses to implement trade policies can greatly affect the feasibility of such a strategy.

Conclusion

In conclusion, globalization poses a challenge in terms of falling revenue from competition from imported goods and services as well as increasing costs from greater competition for the

limited factors of production. At the same time, it presents certain opportunities such as the ability to enter into foreign markets and the access to greater pools of resources via outsourcing. However, these strategies all require significant expenditure on the part of the firm and thus do not favour small firms that have limited supernormal profits. Furthermore, globalization is not a homogeneous process and can occur unequally across countries and different markets. Thus the specific policies and the way a government chooses to allow the country's economy to become more globalized will drastically affect the degree of challenge that globalization poses and the feasibility of certain strategies.

Level	Marks	Description
L3	8-10	<ul style="list-style-type: none"> - An answer that explains the challenges of globalisation with regards to revenue / costs - An answer that offers multiple strategies that are clearly linked to reducing costs or increasing the revenue of the firm - Answers provided effectively use economic reasoning to explain how costs fall or revenue increase - Explanation of strategy is applied appropriate to the context of globalisation
L2	5-7	<ul style="list-style-type: none"> - An answer that explains the challenges of globalisation with regards to revenue / costs - An answer that offers a strategy that is clearly linked to reducing costs or increasing the revenue of the firm - Answer is limited to only one strategy well-explained OR touches on two strategies but the explanations of the strategy lack detail / rigour
L1	1-4	<ul style="list-style-type: none"> - A generally descriptive answer lacking in economic analysis - Describes the challenges of globalisation without any reference to revenue or costs - Suggests actions that firms can take but fail to properly link those strategies to revenue or costs clearly - An answer that does not explore any strategies but ONLY challenges of globalization

Level	Marks	Description
E3	4-5	<ul style="list-style-type: none"> - Expresses a conclusion on how effective the strategies are - Uses appropriate economic theory - Expresses a criteria / condition on which the success of the strategies are dependent on
E2	2-3	<ul style="list-style-type: none"> - Expresses a conclusion on how effective the strategies are - Some attempt to justify the conclusion but the justification lacks any link to economic theory
E1	1	<ul style="list-style-type: none"> - Makes an unjustified conclusion on whether the strategies are likely to work

3 Information failure refers to situations in which economic agents have imperfect information regarding the benefits or costs of their actions as well as when information between the transacting parties is asymmetric in nature.

(a) Explain how information failure could lead to market failure. [10]

(b) Discuss the view that government intervention to correct the above market failure is always desirable. [15]

(a)

Intro:

- Define market failure/ imperfect info / asymmetric info
- Direction statement: Both sources of information failure lead to market failure as they lead to allocative inefficiency through overconsumption OR underconsumption

Market failure refers to a situation where decisions made based on market forces of demand & supply fail to achieve efficiency in resource allocation and thus there is welfare loss to society. Imperfect information means that consumers (or sellers) do not have full relevant knowledge about the product and so they are not able to make a good decision. Consumers may have inaccurate, incorrect or incomplete information about the product. They may also have less information than sellers, in which case this leads to asymmetric information and thus market failure. Both forms of information failure lead to situations where consumers either overconsume or underconsume a particular good or service. This leads to allocative inefficiency and thus market failure.

TS1: Imperfect information leads to partial market failure as the consumers fail to recognise the true benefit/cost of consuming a good and therefore under/over consume it leading to allocative inefficiency.

Consumers and producers make cost-benefit decisions based on the information that they have. When the costs and benefits that they perceive of consuming certain goods and services are not accurate, this can result in them making decisions that do not maximise their welfare. An example of this can be seen in the market for sugary drinks. Consumers of sugary-drinks make decisions on how many drinks to consume based on the costs and benefits that they perceive of consuming those drinks. An example of the benefits to a consumer would be the enjoyment of the taste and the burst of energy they may get when drinking those drinks. A cost that the consumer may perceive would be the price that they need to pay in order to purchase the drink. However, many consumers may fail to consider the possible long-term damage that consuming sugary drinks may have on their health. An example of this would be that regular consumption of such high amounts of sugar can lead to obesity and other related ailments such as diabetes. This is likely to be because the enjoyment of the sugary drinks is immediate whereas the health problems it may cause are often slow to occur and often do not show any outward signs until the problem is quite advanced. Thus consumers often discount these costs involved in consuming sugary drinks and do not take them into account when making the decision on how many sugary drinks to consume.

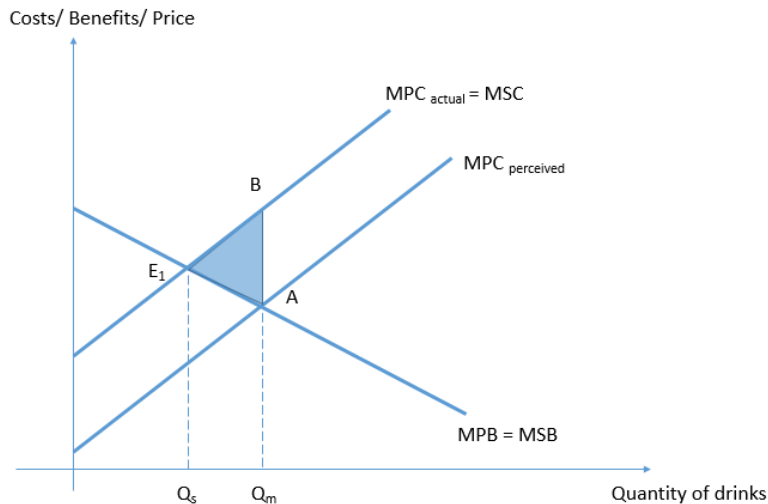


Fig 1. Imperfect info causing market failure in market for sugary drinks

This situation is illustrated in figure 1. In this situation, we assume that there are no positive externalities involved in drinking sugary drinks, making the marginal private benefit (MPB) the same as the marginal social benefit (MSB). Since the consumer fails to take into account the harm to their health, the marginal private cost perceived ($MPC_{\text{perceived}}$) is less than the actual marginal private cost (MPC_{actual}). Assuming there are no negative externalities involved, the actual marginal private cost is also equal to the marginal social cost (MSC). The consumers choose to purchase a quantity of drinks up to where the MPB is equal to their perceived MPC. This is because they believe this quantity maximises their welfare. However, since the actual MPC is higher than the perceived MPC, the quantity that will actually maximise their welfare is at Q_s , where MPC_{actual} intersects MPB. This results in a situation of overconsumption as Q_m is more than Q_s . For each unit between Q_s and Q_m , the costs to society (MSC) is greater than the benefits gained (MSB), resulting in there being a net loss of welfare for each unit consumed. The sum of these losses is seen by area E_1BA , making up the deadweight loss as a result of overconsumption. Thus the imperfect information causes allocative inefficiency and the market fails.

TS2: Asymmetric information leads to partial market failure in the form of causing adverse selection. This would lead to under consumption/under provision of a good leading to failure to achieve allocative efficiency.

Asymmetric information refers to a situation in which the economic agents (e.g. consumers and producers) involved in a transaction do not have the same amount of relevant knowledge, resulting in a distortion of incentives and inefficient outcomes. Adverse selection is one outcome of asymmetric information and this leads to market failure. It describes a situation in which the uninformed side of the market must choose from an undesirable or adverse selection of goods. One situation we can see this happening is in the market for second-hand cars. The second hand car market best exhibits this. Sellers of second hand cars will have more knowledge of their cars than buyers. This includes any engine faults or other car issues. However, they are likely to withhold this information from buyers in order to sell their cars off at a higher price. Buyers are aware of this and thus offer a lower price for second hand cars. However, sellers of good quality second hand cars will not want to sell their cars at such a low price. This eventually results in sellers of high quality second hand cars leaving the market, resulting in only low quality second hand cars being available for sale, ultimately causing market failure.

TS3: Asymmetric information leads to partial market failure as it can lead to the moral hazard problem which leads consumers to overconsume goods that may have some risk of harm or underconsume goods that can minimise potential losses, thus leading to allocative inefficiency.

Moral hazard occurs when one party has unequal information about the behaviour of the other party after the transaction has taken place. A common example would be in the case of fire insurance. The insurance company offers the insurance policy to a homeowner based on the expected risk of the house catching fire and the potential losses that may result. The asymmetry arises when the homeowner's behaviour changes after he has purchased that insurance policy. Since the homeowner no longer bears the cost incurred of any fire damage, he is likely to underconsume any goods that serve as precaution to fires. An example of this would be that the homeowner is not likely to purchase enough fire alarms or fire extinguishers as he no longer has to bear the cost of the house catching fire and thus has no incentive to prevent those fires. At the same time, the homeowner may then overconsume certain risky goods. An example would be that the homeowner may now purchase electronic appliances that do not have sufficient fire safety standards or purchase furniture that can pose potential fire hazards. As such, the fact that the insured party no longer has to take on the costs involved with their house catching fire leads them to underconsume precautionary goods and overconsume risky goods. This leads to allocative inefficiency and the market fails.

Level	Marks	Description
L3	8-10	<ul style="list-style-type: none"> • An answer that explains both types of information failure • Answer uses appropriate economic theory and diagrams to show WHY the market fails and the corresponding loss of welfare • Strong answers should be applied to appropriate contexts
L2	5-7	<ul style="list-style-type: none"> • One sided answer that only explains one type of information failure • OR answer that addresses both types of information failure but explanation is lacking in detail/rigour with regards to economic theory • OR answer is explained within a particular context without any supporting use of economic theory terms • Answer should be able to express how the market has failed (under OR over consumption)
L1	1-4	<ul style="list-style-type: none"> • Answer is generally descriptive with little or no economic analysis • Able to identify / define the concepts of imperfect info or asymmetric info • Able to express the idea that the market will produce a quantity that does not maximise social welfare

(b)

Intro:

- Reiterate view that market failure justifies government intervention to maximise social welfare
- Direction statement: Government intervention can often improve the efficiency of resource allocation when addressing market failure due to information failure. However, it is not always desirable for the government to do so considering the trade-offs involved in implementing the policies and the possibility that markets may find their own more efficient solutions.

TS1: Government intervention can address market failure due to imperfect information. Policies: subsidies/taxes; regulations; public campaigns

One way that governments can intervene to address imperfect information is through the use of public campaigns to correct this misperception. Governments can fund the running of advertising campaigns that educate the general population on the dangers of consuming too much sugar. At the same time, the government can complement this with the use of regulation such as labelling. The government can implement a rule that drinks with high sugar content must be labelled with a warning or that drinks with healthy amounts of sugar can be given a label that identifies them as healthier alternatives. This can help change the perception and the tastes and preferences of the consumers. When consumers understand the full costs involved in drinking sugary drinks and are able to easily identify them, this would lead them to demand less of those sugary drinks and thus address the overconsumption.

Evaluation:

However, the effectiveness of advertising campaigns is not always certain. It can depend strongly on the government's ability to put across the message in a convincing manner. If they are unable to do so, it is not likely to persuade people to consume less. At the same time, sugary drinks can prove to be habit-forming to some extent, thus causing the tastes and preferences for the good to be very strong and hard to change. The running of these campaigns involves expenditure on the part of the government with regards to producing educational material. This may prove to be a strain on the government's budget thus incurring opportunity cost in the form of less funding for other projects. How desirable this form of intervention is depends largely on how effective it is in changing people's mind-sets compared to the costs incurred.

With regards to regulation, these regulations can cause firms to incur additional costs and thus may deter potential investors from investing in the country due to these restrictive rules. This can have a negative impact on the macroeconomic growth of a country if it adversely affects the level on investment. Thus such interventions may not be desirable if the welfare gained in correcting the market failure is less than the welfare loss due to being less attractive to investors.

TS2: Government intervention can address market failure due to adverse selection.

Policy: Lemon law

Governments can address adverse selection through the implementation of a "lemon law". Such a law would allow consumers to be refunded in the case where they unknowingly purchase a faulty or low-quality product while thinking they were purchasing a high-quality one. When such a law has been implemented, consumers are now willing to pay a price as if they are purchasing a high-quality car even when they are unsure. This is because even if they unknowingly purchase a low-quality car, they would be able to get their money back and thus do not incur a loss of welfare. This would ensure that prices are kept high enough that the sellers of high-quality cars do not exit the market and thus preventing the problem of adverse selection.

Evaluation:

One possible consideration when using this policy is that the lemon law may not always be well understood. Some consumers may misunderstand this to be like a warranty and thus be careless with the second-hand cars they buy and trying to claim a refund for damages that they cause themselves. This causes a situation of moral hazard if consumers successfully abuse the lemon law in this way as consumers would no longer bear the cost of their reckless behaviour. This abuse could lead to sellers of second-hand cars to be reluctant to sell their cars as they are wary of being taken advantage of by

unscrupulous buyers. In such a situation, the government intervention is undesirable as it could potentially collapse the market for second-hand cars. Thus the desirability of this intervention depends heavily on the government's ability to successfully implement it and monitor for abuse.

TS3: Government intervention can address market failure due to adverse selection.

Policy: regulations / screening

Governments can address adverse selection in the second-hand market through imposing rules regarding screening and signalling. A possible policy that could be implemented is making it mandatory of potential sellers to go for a vehicle inspection first before they are allowed to sell their cars. The certificate of inspection then serves as a signal to the potential buyers that correct the asymmetric information, allowing the buyers to know whether the quality of the car is high-quality or low-quality. Buyers are then able to offer prices according to what quality of car they are receiving, eliminating the problem of adverse selection.

Evaluation:

However it is not always desirable that the government intervene. It is possible for the market to implement this solution themselves. Since the sellers of high-quality cars and the buyers of high-quality cars both gain welfare in the transaction of high-quality cars, there is sufficient incentive for the sellers to incur extra costs in order to signal the quality of their cars to potential buyers. Thus it is not necessary for government to implement such a law as the sellers can engage in their own solution. It is more desirable for the market to find their own solution to this as it will reduce the strain on government resources that would be involved in the enforcement and monitoring of this laws.

Level	Marks	Description
L3	8-10	<ul style="list-style-type: none"> - An answer that explains at least two government measures in detail, addressing both sources of market failure - Answer must include an analysis of the strengths / weaknesses of the measures
L2	5-7	<ul style="list-style-type: none"> - An answer that explains at least one government measure in detail - OR two government measures adequately done - If only one intervention for one source, cap at 5m
L1	1-4	<ul style="list-style-type: none"> - A generally descriptive answer lacking in economic analysis - Limited explanation of different government measures to deal with the market failure

Level	Marks	Description
E3	4-5	<ul style="list-style-type: none"> - Expresses a conclusion on whether government intervention is desirable - Articulates clear criteria on how to judge when intervention is desirable vs when it is not desirable
E2	2-3	<ul style="list-style-type: none"> - Expresses a conclusion on whether government intervention is desirable - Attempts to justify the conclusion but answer is lacking in rigour or application to context
E1	1	<ul style="list-style-type: none"> - Expresses an unjustified conclusion on whether government intervention is desirable

Explain the domestic and international factors that could cause deflation. [10]

Introduction:

Definition: Deflation is a sustained decrease in the general price level of an economy, or negative inflation rate.

Direction of essay: This essay aims to explain how deflation occur due to a persistent fall in AD and/or persistent increase in AS that arises due to domestic factors and/or international events that is beyond a country's control.

P1: Deflation could be due a decrease in the components of AD that results from domestic factors.

E/E: A decrease in AD can be caused by a decrease in any of the components of AD – consumption expenditure (C), investment expenditure (I), government expenditure (G) and/or net exports (X-M) that arises due to domestic situation in the country. For example, when an economy experiences a recession, consumers would probably reduce their consumption expenditure (C) as the risk of losing their jobs increases.

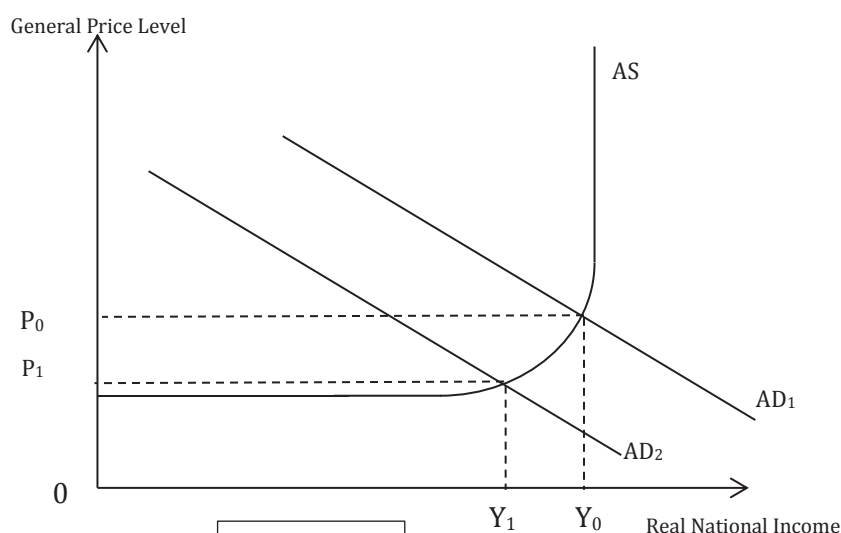


Fig 1.

There will also be a fall in investment as recession usually result in lower business confidence as investors are uncertain about their future returns on their investment. As both investor and consumers demand lesser quantity of products at each given price level during recession, there will be a leftward shift of AD from AD_0 to AD_1 , resulting in a surplus at the original general price level. Due to the surplus, there will be a downward pressure on the general price level from P_0 to P_1 .

L1: However, if consumers expect a further fall in general price level in the future, they will start to hoard money, delaying consumption in anticipation of lower price in the next period. Business would see it as a fall in demand and will postpone investment. This will further decrease AD, which will bring about a further fall in general price level, hence resulting in a deflationary spiral, whereby the economy cannot recover, leading to even lower prices in a vicious cycle.

P2: Deflation could be due a decrease in the components of AS that arises from domestic factors.

E/E: An increase in AS can be caused by a fall in cost of production due to increase in labour productivity within the country. As Singapore is shifting towards a more technology-enabled

operation due to subsidy given to firms to engage in R&D. With greater use of capital goods, it means an increase in efficiency as it will help to increase labour productivity as more output could be produced within the same man/hr.

Moreover, during the period 2004 to 2014, Singapore relaxed her immigration policy to attract foreign workers and immigrants. The increase in the supply of foreign workers in Singapore have resulted in an increase in labour productivity and productive capacity, causing a rightward shift of LRAS.

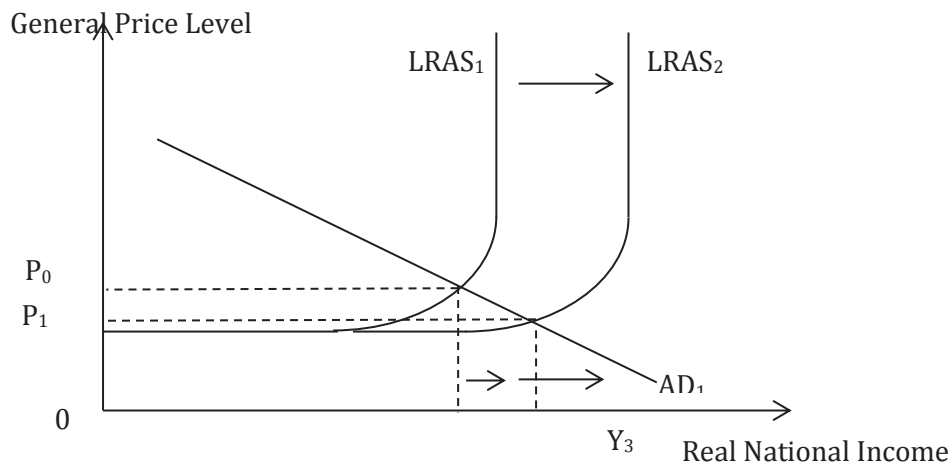


Fig 2.

L2: Deflation will only occur if the both domestic policies such as R&D and relaxation of immigration policies are long-term and effective. This will bring about persistent increase in LRAS (fig2) → rightward shift of LRAS curve → fall in cost of production → downward pressure on price from P_0 - P_1 .

Deflation could be due a decrease in the components of AD and increase in AS that results from international factors.

P3: One of the international factors that cause a fall in general price level is due to recession faced by trading partners resulting in a decrease in AD.

E/E: When Singapore's trading partners such as USA is facing recession arising from subprime crisis, there will be a fall in US purchasing power resulting in a fall in demand for Singapore exports. This will cause a fall in Singapore net exports revenue especially when USA is Singapore major trading partner. The fall in AD would be expected to be large, shifting AD curve to shift left as seen in Fig 1. At the original general price level, there was a surplus causing a downward pressure on the general price level from P_0 to P_1 .

L3: Deflation would occur when the fall in general price level is persistent. This would most likely to occur when USA is entrenched in a recession that would take a long time for her to recover.

P4: One of the international factors that cause a fall in general price level is due to recession faced by trading partners resulting in a decrease in AS.

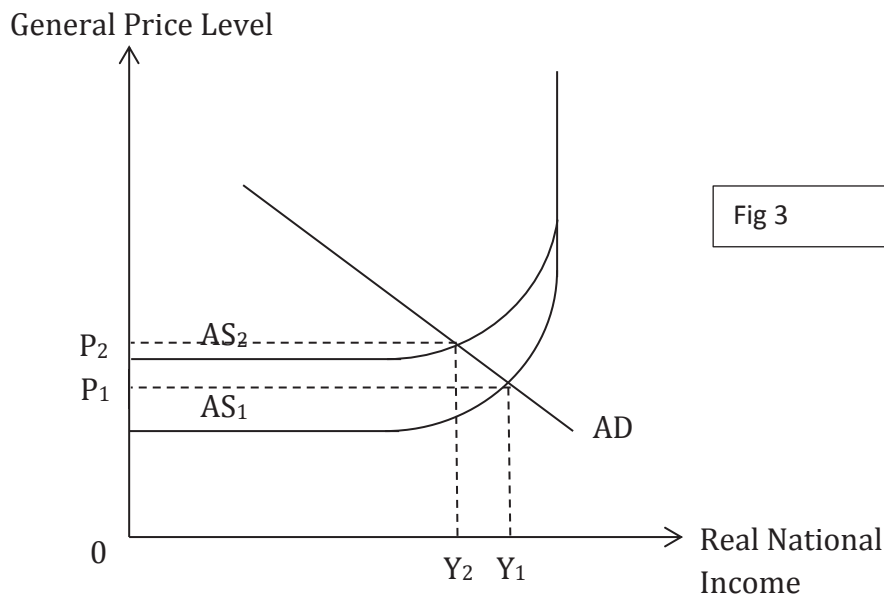


Fig 3

E/E: An increase in AS can be due to a fall in cost of production that arises from international events that is beyond the country's control. For example, Singapore is a small and open economy that are heavily dependent on the import of key factor inputs. For example, American has been increasing global supply of oil due to its shale production boom. Due to this increasing global supply of oil, there has been an increasing fall in the global price of oil. Given that oil is a major factor of production → the falling price of oil will cause a fall in COP → increase AS → a downward pressure on GPL. Moreover, given that oil is a major component in the computation of CPI, a falling price of oil will also indicates a falling CPI, hence illustrating **a persistent fall in GPL.**

Conclusion:

Deflation spiral could arise with both domestic and international factors occurring together. In an interconnected economy together, it is often difficult to distinguish which is the main trigger that result in deflation. Even when deflation starts with either a fall in AD or an increase in AS, it is often challenging to separate the two, the moment deflation spiral downwards.

Marking scheme

Level	Descriptors
3	Thorough explanation of at least one domestic and one international factors causing deflation. Students have to explain the factors that cause a fall in AD and an increase in AS. To achieve 9m and above, students must be able to link to persistent fall in GPL. Usage of relevant examples.
2	Adequate explanation of how domestic and/or international factors cause demand-pull and cost-push inflation in Singapore Explanation of one type of inflation only [Max 5m for both domestic and international factors] Explanation of only 1 source of factors, either domestic or international factors. [max 5m]
1	Smattering of ideas. Listing rather than explanation of how deflation occurs.

Substantial conceptual errors. Generally weak answer. Limited application of economic analysis.
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Discuss the alternative policies that a government could adopt to address deflation. [15]

Introduction:

If deflation is caused by a persistent increase in AS, there will be an increase in material standard of living as there is an increase in real income together with falling prices. It brings about higher purchasing power, hence greater consumption of goods and services.

However, if the cause of deflation is due to a persistent fall in AD, it will bring about undesirable consequences such as lower material standard of living as consumers would delay consumption in anticipation of lower price in the next period. This results in lower consumption of goods and services and thus, lower material standard of living.

Hence, Government would have to intervene by implementing expansionary demand management policies to address the cause of persistent decrease in AD rather than the increase in AS.

Body:

P1: A government could pursue expansionary fiscal policy to address deflation.

E/E: When deflation is caused by persistent decrease in AD, the government could increase the level of government expenditure and/or reducing corporate and personal income tax. The increase in government expenditure, for example on infrastructure such as roads and ports would increase AD.

Furthermore, by reducing taxes such as the personal income tax, there will be an increase in disposable incomes. This will result in a rise in consumption. Reducing corporate taxes will result in a rise in post-tax profits which will induce more investments on capital goods by firms. Together with a rise in government, consumer and firm spending, there will be an increase in AD. The increases in induced consumption spending that result from an initial increase in an autonomous component of AD will cause an increase in general price level such that it will help to mitigate the extent of the fall in prices due to deflation, bringing about price stability.

EV1: For countries such as Japan that is running high on budget deficit (Japan's gross government debt is 226% of GDP) for many years. The government may need to borrow money from the commercial bank to fund the expansionary fiscal policy. However, when government competes with the firms for the limited supply of funds in the bank, it will lead to an increase in interest rates. This will increase the cost of borrowing for firms and households, which will cause a fall in investment and consumption. This will crowd out the initial increase in AD due to the increase in government expenditure.

P2: A government could implement expansionary monetary policy to address deflation.

E/E: When deflation is caused by persistent decrease in AD, the government could implement expansionary monetary policy such as increasing money supply to reduce interest rates. A reduction in interest rates will reduce the cost of borrowing for both investment and consumption. Investors are more incentivised to borrow and invest more due to greater increase in the rate of returns. Similarly, there will also be an increase in consumption.

Furthermore, a fall in interest rates will result in an outflow of hot money. This will increase the supply of domestic currency in the foreign exchange market causing depreciation of the

country's currency against other currencies. Depreciation will cause the price of exports to be lower in terms of foreign currency and price of imports to be higher in terms of domestic currency. This will incentivise consumers to switch to consume domestically produced goods over imports. With depreciation, there will be an increase exports revenue and consumption expenditure.

L2: If the increase in consumption, investment expenditure and export revenue is long term due to the implementation of expansionary monetary policy, it will counter the problem of the persistent fall in AD, hence, addressing the problem of deflation.

E2: One of the main limitations lies with the responsiveness of investment and consumption to changes in the prevailing interest rates in the economy. This means the extent of change in AD would depend on the interest elasticity of C and I. Changes in C and I are greatly influenced by consumers and investors' economic outlook. Generally during deflation, if the **root cause** of deflation is due to economic recession, whether if it is domestic or international factors, the outlook is generally pessimistic. Even if interest rate is kept low, consumers and investors might not be keen to consume or invest due to poor economic performance. Fear of retrenchment and falling business confidence may cause consumers to save more, firms to downsize despite the fall in interest rates.

P3: To address deflation, Government could adopt depreciation of the exchange rate.

E/E: Government could depreciate her currency by intervening in the foreign exchange market via buying more of foreign currency. This is similar to what Japan's Prime Minister Shinzo Abe's is doing in addressing deflation. The depreciation of Yen will cause the price of exports to be lower in terms of foreign currency and price of imports to be higher in terms of domestic currency. Assuming that demand for both imports and exports are price elastic, Q_{dd} for exports would \uparrow more than proportionately while Q_{dd} for imports would \uparrow more than proportionately. Thus, $\uparrow TR_x$ while $\downarrow TEM$. Net exports would increase, assuming if Marshall-Lerner condition (i.e.: sum of price elasticity of demand for exports and imports greater than one) holds, depreciation would lead to an increase in net export revenue (X-M).

L3: The increase in net exports (X-M) would lead to an increase in AD, hence an increase in general price level, which help to mitigate the fall in prices due to deflation.

EV3: However, a weaken currency does not necessary means that there will be an increase in net exports. The country would to consider the **current economic condition** of their trading partners. If their trading partners are experiencing recession, even with depreciation, net exports might not necessary increase. Furthermore, their trading partners might see it as a form of protectionist measures and might retaliate.

Moreover, it is important to consider the **characteristics of the country**, whether if it is heavily reliant on imports. Japan depends heavily on imported raw material. It is more reliant than it was before the Fukushima disaster since nuclear power has been sharply curtailed. Depreciation would only increase the import expenditure as demand for imports is price inelastic. Thus, the increase in net export via depreciation is limited, reducing the effectiveness of exchange rate policy in addressing deflation.

Conclusion

Even if there is an increase in GPL due to the implementation of the above policies, wages have to keep in pace to ensure that the increase in consumption is in tandem with the increase in exports and investment to bring about a persistent increase in GPL. However, increase in wages is seldom in tandem with an increase in exports and investment. This will resulting in worsening of domestic demand. Hence, limiting the effectiveness of the policies of addressing

deflation. Therefore, to achieve price stability, the government would have to look into increasing wages to ensure that the increase in consumption is in tandem with the increase in exports and investment. Moreover, the government must also be able to respond quickly in terms of the implementation of policies taking into account of the root cause of deflation, the characteristics of the country and also the current economic conditions.

Marking scheme

Level	Knowledge, Application, Understanding and Analysis
3	There must be explanation of the reasons for why certain policies were chosen to tackle different sources of deflation. Eg, cause of the deflation and other factors.
2	Undeveloped analysis at least 2 policies to tackle deflation without or limited reference to source of deflation.
1	Answer shows some knowledge of the policies to tackle deflation but lacks analysis Good explanation of policies but focus on inflation instead of deflation.
E3	Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as in a good summative conclusion. For this question, a lot of the evaluation would be done in the body of the answer. So the conclusion is mainly a synthesis of their argument which may also include some fresh insights or observations
E2	Largely unexplained judgements. Some attempt at evaluation or a summative conclusion Relevant to the question but does not explain the judgement or base it on relevant analysis
E1	Mainly unexplained judgement.

In 2015, Singapore's GDP at 2010 Market Prices grew by 2%, the total population grew by 0.8%, inflation was -0.5% and overall unemployment stood at 2%.

Discuss the limitations of these statistics in both assessing the changes in the standard of living in the Singapore economy in 2015 and comparing it with that of other economies. [25]

Essay outline:

- Explain the uses of Singapore's GDP at 2010 Market Prices to measure material SOL. Explain the relationship why there is a need to use real GDP per capita to measure material SOL.
- Discuss the uses of inflation and unemployment data to measure SOL.
- Discuss the limitations of using real GDP per capita to measure SOL over time.
- Discuss the limitations of using inflation and unemployment data to measure SOL over time.
- Explain why and how real GDP per capita is used to measure SOL over space.
- Explain PPP with reference to measuring SOL over space
- Conclude with some discussion about the relevance/importance of statistics in assessing changes in the SOL.

Introduction:

Definition: Standard of living includes both material and non-material well-being of an individual or household. The material well-being consists of quantity and quality of the goods and services available for consumption while the non-material well-being include quality of life such as the quality of the environment, leisure hours.

Direction: As standard of living embraces both material and non-material well-being of the population, we need to consider statistics such as GDP growth, inflation and unemployment rate to assess the change in standard of living of a country as well as a basis of comparison with that of other economies.

Thesis:

P1: GDP data can be used to assess the material SOL of Singapore.

From the data given, Singapore's GDP at 2010 Market Prices grew by 2%. It means that there is an increase in the value of real output (qty or volume of goods) by the country after taking inflation into consideration. With the rise in real incomes, people are better off because more goods and services have been produced and made available for consumption. More wants are satisfied, thus increasing the material standard of living of its people.

However, an increase in real GDP may not reflect an improvement in the standard of living of an average Singaporean. It does not necessarily mean that the *average* citizen is able to enjoy 3% more goods and services. This depends on the rate of population increase. If the population grows faster than national income, the individual's share of real national income will be falling. Hence, standard of living might be under or overstated if population growth is not taken into consideration. Hence, a more accurate indicator of changes in standard of living over time is real GDP per capita.

Since population growth is 0.8% which is lower than the growth of real GDP of 2%, this means that real GDP per capita is 1.2%. Thus, a real GDP per capita growth of 1.2% could mean that on average, each person has 1.2% more goods to consume now. Overall, there is an improvement in material SOL in Singapore.

P2: Inflation data can be used to assess the material SOL of Singapore.

Inflation rate is the percentage change in price level from year to year. Price changes are measured by CPI, which gives the change in the price of fixed basket of goods and services commonly purchased by households in specific period of time. Any changes in the index reflect solely price changes. An inflation rate of -0.5% mean that prices on average decreased by 0.5%. This means that there is a decrease in the cost of living (how much it cost to buy a common basket of goods – basket of goods refer to goods consumed by the average household) in the country. This could translate to a higher material SOL in Singapore as with the same money income, purchasing power increase.

P3: Unemployment data can be used to assess non- material SOL of Singapore.

Unemployment rate is a key indicator of the state of the labour market. The statistics given is 2% which is considered low in the international standard. The low unemployment rate indicates that Singapore is experiencing high employment continuously. This means that majority workers who are looking for work are able to find work. The stress of getting employed in Singapore is lesser compared to another country with high unemployment rate. Low unemployment could also be linked to having lower crime rates and social issue given that majority of people are employed and have less tendency to commit crimes. Overall, there should be a rise in non-material well-being of an average person in Singapore \.

[Transition statement] Limitations of the indicators:

Real GDP, inflation and unemployment rate appear to be useful in assessing the level of standard of living across time. However, there are some limitations in using the statistics especially when it is used to measure SOL over time.

P4: GDP data might not be a good measure of material SOL in Singapore over time.

Real GDP per capita is a statistical mean (average) and it does not reflect the income distribution among the people in the country. An increase in real GNP per capita does not mean that all individuals benefit equally from economic growth since there is bound to be inequalities in the distribution of income. In fact, the distribution of income may become more unequal when the country enjoys economic growth. The rich experience a faster rise in income as they usually have the skills that employers are looking for. For the poor, they experienced difficulty in getting employed as they often lack the skills required. Thus, they will have to settle for low-paying job, worsening income inequality. To make meaningful comparisons of standards of living over a period of time, we have to make use of supplementary indicators such as the Gini coefficient when assessing the change in material SOL in Singapore. Gini coefficient helps to assess if there is equity in the distribution of the increased output. This will give us a better overview how equitable the income distribution. A fall in the Gini coefficient value reflects an improvement in the income distribution in Singapore and hence higher SOL for the average person.

[Optional point] Real GDP per capita does not take into account the type of output produced. A country's output includes both consumption and investment good. If the increase in Singapore's real GDP per capita is due to an increase in investment in capital goods, consumers are no way better off in their current standard of living given that current living standard depends on the level of consumption goods. Moreover, if the production of capital good is at the expense of consumers' goods, it will worsen the current level of standard of living but improve future standard of living. Thus, additional information on the real consumption per capita would be more useful.

P5: Inflation data might not be a good measure of material SOL in Singapore over time.

In the earlier paragraph, it is the changes in the price of the fixed basket goods and services commonly purchased by households in specific period of time will reflect the changes in price as measure by CPI. The statistics gave inflation rate as -0.5%. However, it does not necessary means that the fall in price has been broad-based, resulting in an increase in material standard of living.

The complication lies with how the CPI basket is constructed. CPI is computed by combing the prices for different items and groups according to their weight in their basket. Thus, price changes in items with larger weights will have a greater impact on the CPI than those with smaller weights. Accommodation and private road transport together account for more than a third of the CPI index in Singapore. Given the implementation of macro-prudential measures on housing and car purchases in 2015, it has a significant impact on the prices of both accommodation and car purchases. That explains why there is negative inflation of -0.5%.

Moreover, CPI is based on the consumption pattern of the average household, it may not reflect the inflation experience of individual households with different consumption patterns. For those who are not purchasing cars or housing would not be able to experience an increase in material standard of living.

P6: Unemployment data might not be a good measure of material SOL in Singapore over time.

Unemployment rate excludes workers who are not actively seeking for a job and therefore they are not part of the labour force. So if there are many unemployed workers who are discouraged from looking for a job due to a prolonged recession, the unemployment rate falls because they are not considered as unemployed and they are also not considered as part of the labour force. The unemployment rate also does not separate those who have full time jobs and part time jobs. So even though the unemployment rate is low it may hide the fact that many could be just part timers and therefore, SOL could be lower than what the data show as part timer normally earns less. In the case of Singapore, we have many foreign workers. A more accurate data is the unemployment rate of Singapore workers rather than all workers. There are many other limitations of the unemployment rate. As such it is necessary to have other information to supplement data on unemployment to get a more accurate picture of SOL.

P7: GDP data might not be a good measure of non-material SOL in Singapore over time.

Moreover, real GDP per capita figure is quantitative rather than qualitative. They do not reflect changes in the quality of goods and services nor the non-material standard of living. While output in quantitative terms has improved over the years, the *quality* of life may have suffered due to the faster pace of life resulting in higher stress, lesser leisure time for friends and families, congestion and environmental degradation. Eg, A U.S. Bureau of Labour Statistics report indicates that of the 20 countries covered, average annual hours worked were highest in Singapore at well over 2000 hours, in 2011. In contrast, Singapore was ranked 20th in terms of GDP per hour worked (an indicator of a country's productivity). The longer hours spent at work means that fewer hours are available for leisure, for family and friends. Hence, the non-material standard of living in Singapore, or the quality of life may suffer as people experience a higher level of stress.

Therefore, taking into account of these limitations, we would have to consider supplementing with other indicators such as Human Development Index (HDI). HDI will provide a composite measure of three dimensions of human development: living a long and healthy life (measured by life expectancy), being educated (measured by adult literacy and gross enrolment in

education). This will give us an overview of how material and non-material standard of living could be assessed over time.

Synthesis: Usefulness of indicators to measure standard of living over time.

To assess whether material standard of living has improved over time in Singapore, indicators such as Singapore's GDP at 2010 Market Prices, inflation and unemployment are useful as they do give an overview of the material standard of living. However, for non-material standard of living, it is hard to determine as the indicators given do not touch on non-material standard of living. Although non-material standard of living could be inferred via unemployment indicator, it is still hard to determine unless there is further supplementary data such as HDI to support unemployment data.

Comparison of standard of living across different countries:

Transition statement:

Real GDP per capita is used to measure standard of living over time in Singapore. It is also used as a yard stick to compare standard of living across different countries especially since population growth is different for different countries. Moreover, real GDP per capita has already factor in inflation, the inflation data stated in the preamble would become irrelevant when we are comparing standard of living across countries.

P8: The use of GDP data as measure to compare SOL of Singapore with other countries might be limited due to difference in cost of living.

Real GDP per capita is used as a basis to compare the relative economic strengths of different countries. To facilitate comparison between countries, the GDP estimates of countries need to be converted into a universally accepted currency (e.g. US dollars) at the current market exchange rate.

However, the exchange rate may not reflect the internal purchasing power of the country's currency. Eg, Singapore's GDP per capita is 5 times larger than Malaysia but it does not mean that Singapore standard of living is 5 times greater than Malaysia as we would need to consider the cost of living in Malaysia. If the cost of living is lower in Malaysia, then Singapore's standard of living based on the exchange rate is overstated.

Therefore, purchasing power parity (PPP) is a better alternative compared to exchange rate. It ultimately equalize the purchasing power of two differing currencies by accounting for differences in inflation rates and cost of living. PPP is a rate of exchange that would allow a given amount of money in one country to buy the same amount of goods in another country after exchanging it into the currency of another country. Eg, if a basket of goods costs S\$100 and RM250 in Singapore and Malaysia respectively, then the purchasing power parity between the 2 currencies is S\$1: RM2.50. This will ensure that cost of living has been taken into account. Converting real GDP per capita to real GDP (PPP) per capita will be a more appropriate measure to measure material standard of living across countries compared to using just exchange rate.

[Optional] P9: The use of GDP data as measure to compare SOL of Singapore with other countries might be limited due to difference in accounting method and accuracy of estimates of GDP.

There is no internationally agreed method of measuring national income as not every country uses the same basis for their figures. In some countries, due to different accounting convention adopted, self-consumed items grown by farmers are classified under non-marketable items. In undeveloped countries, self-sufficiency is common and it is not recorded whereas in a

Singapore, this would be included in the NY statistics. However, in undeveloped countries, it could not be said that the well-being of undeveloped country is lesser simply because it is not reflected in the statistics.

Furthermore. It is difficult to compare living standard between developed and developing countries as due to varying accuracies in data collection. Especially the varying degrees of underground economy activities between countries. It is difficult to capture the data as they are usually illegal transaction are not computed in national income accounting. Hence, comparing the relatively more accurate estimates of Singapore with a third world countries will yield misleading results.

Conclusion:

To use these statistics to assess the changes in the standard of living in Singapore and across countries is challenging as there are limitations involved. One of the greatest challenge is to obtain accurate information especially when it is across space, such as developing countries. Most of the data collected may not be accurate due to the sampling size. Most of the information collected are through surveys and from a relatively small number of companies and establishments to ensure timelessness and also to reduce respondent burden. However, as a result, due to the limited pool of sample, the data collection may not be accurate.

Despite the above limitations of the statistics, real GDP per capita and unemployment rate are useful indicator to measure standard of living across time and space. However, other indicators such as literacy rates, patients per doctor, types of housing, pollution level must be taken into account when comparing the standard of living across time and space to account for non-material standard of living.

Level	Knowledge, Application, Understanding and Analysis
<p>High L3</p>	<p>Thorough knowledge about the facts and theory with an excellent ability to describe and explain the statistics in a precise, logical and reasoned manner.</p> <ul style="list-style-type: none"> • Excellent understanding of the uses and limitations of the statistics given. • Were able to assess both the standard of living in Singapore and in comparison with other countries using the statistics given. • Explain why purchasing power parity is used for international comparison. <p>Relevant and real-life examples were given to showcase the ability to apply to relevant current situation.</p>
<p>Low L3</p>	<p>Expect a good knowledge of the facts and theory of the question. Clear evidence of the ability to use fact and theory with accurate reference to the question.</p> <ul style="list-style-type: none"> • Good understanding of the uses and limitations of the statistics given. • Were able to assess both the standard of living in Singapore and in comparison with other countries using the statistics given. • Explain why purchasing power parity is used for international comparison. <p>Hypothetical Examples were given to showcase the ability to apply to relevant current situation</p>
<p>High L2</p>	<p>There should be evidence of an ability to identify facts. Answer is relevant to the question but the theory may be incompletely explained.</p> <ul style="list-style-type: none"> • Adequate use of indicators to measure material and non-material SOL. • One sided comparison over time or space.

	<ul style="list-style-type: none"> • Cap at L2 if the student did not go beyond explaining the purpose of unemployment rates and inflation rate indicators. .
Low L2	<p>Expect an accurate although undeveloped explanation of the facts relating to the question. Do not expect a clear logical presentation.</p> <ul style="list-style-type: none"> • Some use of indicators to measure SOL • Presentation may not be clear. • Not much evidence to support the assumption • Could not organise ideas properly
High L1	<p>Answer shows some knowledge it does not indicate the meaning of the question has been properly grasped. Basic errors of theory or an inadequate development of analysis may be evident</p> <ul style="list-style-type: none"> • Some explanation of the indicators without much reference to the question.
Low H1	<p>Answer is mostly irrelevant and only contains a few valid points in an irrelevant context.</p>
E3	<p>Well-reasoned/explained judgment Synthesises economic arguments to arrive at well-reasoned judgements and decisions such as in a good summative conclusion</p>
E2	<p>Largely unexplained judgements Some attempt at evaluation or a summative conclusion Relevant to the question but does not explain the judgement or base it on relevant analysis</p>
E1	<p>Unsupported evaluative statement or judgement One that lacks explanation</p>

Q6. Many people feel that free trade is unfair. Some blame it for the loss of jobs; others for worsening balance of payments deficit. *Source: adapted from World Economic Forum.*

- (a) Explain how free trade helps to alleviate the problem of scarcity. [10]
 (b) Assess the relevance of protectionism in view of the statement above. [15]

SUGGESTED ANSWERS TO PART A

Introduction

Clarify key terms: Scarcity arises because there are limited economic resources but unlimited human wants. Thus, resources are scarce or insufficient to satisfy all wants. Without free trade, each country would have to be self-sufficient and can only consume what it can produce with its given resources.

Direction: Free trade is needed to extend a nation’s consumption possibility frontier beyond its production possibility frontier i.e. it enables the people in the country to consume more goods and services than what the country could produce on its own. Hence, the Theory of Comparative Advantage can be used to explain how free trade alleviate the problem of scarcity.

Body

P1: Countries should specialize and trade goods which they have comparative advantage in arising from differences in factor endowments as they can benefit in terms of efficiency in resource allocation.

- A country is said to have comparative advantage in the production of a good if it can produce that good at a lower opportunity cost than another country.
- The opportunity cost of producing Good X is the amount of the other good which has to be sacrificed in order to produce an additional unit of Good X.
- The assumptions are there are two countries in the world, USA and China, producing two goods, cloth and wheat. Both countries have the same amount of resources which are fully employed and equally divided between the productions of both goods before specialisation. There are constant returns to scale and perfect mobility of factors of production within the country. Transport cost is negligible and there is free trade between the two countries.

Table 1 below shows the possible output before specialization.

Country/Goods	Cloth (metre)	Wheat (kg)
USA	500	500
China	400	100
World	900	600

From Table 1, we can see that by dividing their resources equally in the production of wheat and cloth, USA can produce 500m of cloth and 500kg of wheat. To produce 1 more unit of cloth, the resources for wheat production has to be channelled to produce more cloth. As a result, the output of wheat falls by 1kg. So the opportunity cost of producing 1 m of cloth in USA is 1 kg of wheat. China can produce 400m of cloth and 100kg of wheat. By the same reasoning, China’s opportunity cost of producing 1 m of cloth is 0.25 kg of wheat.

Since China incurs a lower opportunity cost of producing cloth, China is said to have a comparative advantage in the production of cloth. Hence, China will specialise in cloth production. According to the Theory of Comparative Advantage, both countries will gain if each specialises in the production of the good in which she has the comparative advantage. Hence, USA, which has the comparative advantage in wheat will specialise in the production of wheat and China will specialise in the production of cloth. In this way, both countries are being cost-efficient as they are producing efficiently in terms of what they give up least in → they are being both productively efficient and resources are also allocated in the most efficient manner.

P2: To benefit from free trade based on comparative advantage, mutually beneficial terms of trade have to be established between the two countries.

Table 2 below shows the output after specialisation.

Country/Goods	Cloth (metre)	Wheat (kg)
USA	0	1000

China	800	0
World	800	1000

Assuming constant returns to scale, the output of wheat in the USA will double after specialisation. Initially, only half of its resources are allocated to wheat production and the total output is 500kg. However, after specialisation, all its resources in cloth production are transferred to wheat production. In other words, the total amount of resources allocated to wheat production has now increased by 100%. This results in the same % increase in total output, assuming constant returns to scale. This means that total output of wheat increases to 1000kg which is twice that of the amount before specialisation.

To show how both countries can gain from trade, mutually beneficial terms of trade must be determined. In a two-country, two-commodity model, the terms of trade must lie within the opportunity cost ratios of the two countries for trade to be mutually beneficial.

From Table 1, we observed that the opportunity cost of producing 1 kg of wheat in USA is 1 m of cloth and the opportunity cost of producing 1 kg of wheat in China is 4 m of cloth.

For the USA to produce 1 m of cloth, she forgoes 1 kg of wheat. Thus, she is willing to trade only if she can get more than 1 m of cloth for every kg of wheat she exports to China. Similarly for China to produce 1 kg of wheat, she forgoes 4 m of cloth. Thus she is not willing to pay more than 4 m of cloth for every kg of wheat imported from USA.

Thus, for trade to be mutually beneficial, the terms of trade must lie between the opportunity cost ratios of producing the goods in the two countries i.e. 1 metre of cloth < 1 kg of wheat < 4 metre of cloth.

P3: When countries exchange goods based on their comparative advantage with mutually beneficial terms of trade, their consumer welfare will increase.

Assuming the rate of exchange or terms of trade is 1 kg of wheat 2 m of cloth, which lies within the domestic opportunity cost of production of the 2 countries and USA exports 250 kg of wheat in exchange for 500 m of cloth from China. Table 3 shows the consumption possibilities when trade takes place.

Country/Goods	Cloth (metre)	Wheat (kg)
USA	500	750
China	300	250
World	800	1000

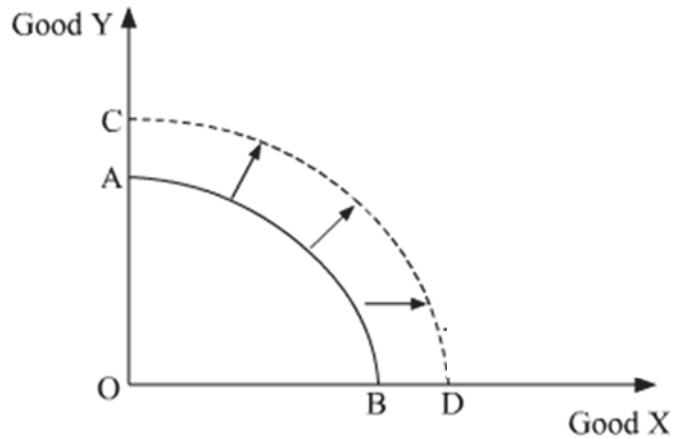
Comparing the situation before (Table 1) and after trade (Table 3), it can be seen that the USA is now able to consume 250 kg more wheat without a fall in cloth consumption. Thus, she gains 250 kg of wheat by trading with China.

China also gains from trade with the USA. Her consumption of cloth falls by 100m while that of wheat increases by 150 kg. Certainly this is better than before trade. This is because before trade, if China reduces her cloth production and consumption by 100m, she is able to produce only 25 kg of wheat. With trade, she can buy 150 kg of wheat from the USA by giving up or selling the same amount of cloth (i.e. 100m of cloth). Thus, her net gain is 125 kg of wheat.

After specialisation and trade, both the USA and China are able to consume more goods and services to satisfy their wants. They will be consuming beyond their PPCs (a point which is desirable yet unattainable before trade), hence alleviating scarcity.

P4: There are dynamic gains from trade in the form of innovation, technological advances and productivity improvements over time, leading to a rise in productive capacity.

By increasing competition, trade promotes research and development and helps to drive technological innovations, resulting in improvements in productivity and product quality over time. As countries specialise, they gain experience in the production of the goods and are able to improve their efficiency in producing it. As a result, the country will have an increase in the quality of resources. That will mean that the PPC can actually shift outwards to encompass more points outside the original PPC.



This means that people can now access the point in ABCD and thus the problem of scarcity has been alleviated.

Conclusion

In summary, free trade allows consumption to take place beyond PPC, hence alleviating the problem of scarcity. The extent of the point beyond PPC will depend on the difference in the opportunity cost incurred and the type of goods traded (terms of trade).

However, being too dependent on trade may increase the country's vulnerability to external shocks of trade partners' economic conditions which may sometimes call for the need for protectionist measures.

LEVELS	DESCRIPTION	MARKS
3	<ul style="list-style-type: none"> Shows good explanation of the CA theory using appropriate examples and terms of trade Ability to explain and illustrate well how the theory allows country is able to consume beyond the PPC and thus it is a alleviation of scarcity using either a PPC diagram or a table Shows understanding that scarcity can be alleviated through the dynamic gains from trade 	8-10
2	<ul style="list-style-type: none"> Ability to explain how the law of CA lead to increased world output but inadequately explained. CA table contains minor errors and inadequately explained OR scarcity unexplained with PPC. 	5-7
1	<ul style="list-style-type: none"> Major conceptual errors with little coherent explanations. Not linking theory of CA to scarcity CA table unexplained 	1-4

SUGGESTED ANSWERS TO PART B

Introduction

- In today's globalised world, countries are more vulnerable to changing economic conditions of trade partners and may experience economic recession and *BOP deficit* when there is a worldwide recession.
- The country may also undergo structural change due to loss of CA or sharing of expertise knowledge and may experience *structural unemployment* if the workers lack the necessary skills required in the expanding industry.
- Domestic employment and industries may also be at risk when trade partners carry out *unfair competition through predatory dumping*.
- This essay aims to explain how protectionist measures such as tariffs and subsidies are relevant to correct the problems given in the preamble and to explain the costs of protectionist measures.

Body:

P1: Protectionist policies are relevant during worldwide economic recession in order to stabilise the economy, support local industries, employment and growth.

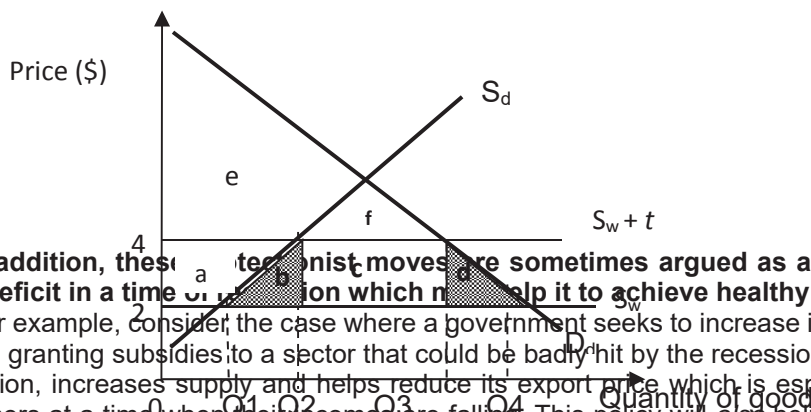
E1: Recession is marked by unemployment, and general economic contraction. As countries become increasingly dependent on external demand and investment, X and I will form large components of their GDP. Worldwide recession will cause a fall in external demand for a country's goods and services and reduced inward investments. Any fall in X and I will cause significant fall in AD which in turn gives rise to high unemployment and fall in real GDP. Hence, governments turn to protectionism during recession to assist powerful domestic industries to avoid falling profits and competition from imports as overall internal and external demand fall. This is because if governments impose for example, protective tariffs, this increases the price of imported goods relative to those that are domestically produced. This reduces the quantity demanded of imports and increases the demand for domestic substitutes. This in turn enables domestic production to increase and creates large number of jobs through some assured and increased access to the internal market in the short term.

L1: In this way, domestic employment is protected and derived demand for local workers in local industry rises and greater employment and economic growth can be attained.

Evaluation/P2: However, tariffs can result in microeconomic issues of inefficiency in the use of scarce resources and loss of consumers' welfare.

E2: This is because tariffs result in a higher price of goods which also means that consumers will consume less and hence there is a welfare loss of area d. In addition, if protective measures are on production that has no comparative advantage, the country suffers from welfare loss due to inefficiency in its resource allocation. In Figure 1 below, this is represented by area b. This is because before protectionism, for example, at a price of \$2, the consumers surplus enjoyed was areas abcdef.

The tariff raises the price to \$4 and results in a loss of consumer surplus of area abcd. Areas b and d represents a deadweight loss to the country. This is because consumer surplus of area a is transferred to the producers. Area f represents the tax/tariff revenue collected by the government. The deadweight loss is equivalent to area b and d.



P3: In addition, these protectionist moves are sometimes argued as a solution to a country's trade deficit in a time of recession which may help it to achieve healthy BOP goal.

E3: For example, consider the case where a government seeks to increase its export competitiveness through granting subsidies to a sector that could be badly hit by the recession. This reduces its cost of production, increases supply and helps reduce its export price which is especially needful to foreign consumers at a time when their incomes are falling. This policy will also help local consumers to look to domestic suppliers as they reduce the effects of imports and switch of import substitutes and hence support domestic production and employment.

L3: In this way, import expenditure is reduced and export earning rises which helps to reduce a country trade deficit → can improve current account → BOP deficit will decrease helping the country achieve healthy BOP goal.

P4: Protectionist measures can also be relevant to protect domestic employment and domestic industries in the threat of unfair competition (predatory dumping).

E4: When countries become increasingly dependent on trade in today's globalized world, they become increasingly susceptible to unfair act of competition. Trade partners may carry out predatory dumping whereby they charge their goods at a price below marginal cost in overseas market. The aim is to gain monopoly power by driving out domestic firms in the overseas market. When prices of imports are lowered, since $PED_m > 1$, quantity demanded of imports will rise more than proportionately, ceteris paribus. Demand for domestic substitutes will fall, leading to a fall in derived demand for labour → rise in unemployment of domestic workers. Since there is a fall in demand for the goods, the fall in total

revenue, assuming cost constant will result in a fall in profits which may eventually cause a firm to shut down if it continuously make losses → demise of domestic industries.

L4: By imposing tariffs on foreign goods, the price of imports will rise which will make it more difficult for foreign producers to drive out domestic producers with cheap imports → govt is able to protect domestic employment and domestic industries.

Evaluation

Protectionist measures are relevant in the context that international trade caused many unfair acts of competition to take place such that the domestic country faces large scale unemployment and closure of industries. When this happens, the reason for protectionism is strengthened because closure of industries may result in structural change in country and give rise to further structural unemployment if the workers lack the skills required in new expanding industry.

ANTI-THESIS

P5: **However, protectionism is not a foregone answer during recession as it can affect the economy negatively both in the short and long run.**

E5: Protectionism by a country can bring about “beggar thy neighbour” effects. Assume for example, USA impose an import tariff on China’s tyres. This increases the price of china’s to USA. Ceteris paribus, if the demand for China tyres is price elastic due to substitutes from other trading partners, the quantity demanded for China’s tyres will fall to a greater extent, thus reducing China’s export earnings. Assuming import expenditure unchanged, China’s net exports will fall, causing the country’s aggregate demand to fall. This fall in bring about a fall in the production of goods and services in the country and a fall in real gross domestic product or national income by a multiple amount. Hence this has “beggar thy neighbor” effects on China as its purchasing power falls and China is made poorer as its economy contracts due to fall in employment and real national income. When China is poorer, she will not be able to buy USA’s exports → reducing USA’s (X-M) and negating the impact on employment and economic growth eventually.

Evaluation:

The real danger of protectionism sometimes does not lie in one country’s actions, but in the retaliatory responses of its trading partners. This is because sometimes trade barriers by themselves may have only a modest impact on trade flows. However, other countries, especially those affected directly and significantly by protectionist measures of trading partners, may retaliate with trade barriers of their own. If countries were to take this route, retaliation against trade barriers would be met with counter-retaliation, and such trade conflicts would escalate to trade wars.

In the above example, if at the same time, China retaliated by imposing tariffs on American exports of automotive products and chicken meat, which has indeed happened, this also means that the American exports to China fall further. Hence, protectionism makes all countries poorer and protects no one and can only serve to make the recession longer, deeper and more widespread.

L4: Such was the well-known scenario that played out during the Great Depression of the 1930s, when “beggar-thy-neighbor” policies prevailed and the international economy suffered from a contraction of trade.

Conclusion:

In my opinion, protectionist measures are relevant when the country faces economic problems arising from free trade in the short run. However, once the problem is rectified, the countries should move towards free trade since trading based on comparative advantage can promote economic efficiency in resource allocation worldwide and can also help all the countries achieve their respective goals to some extent.

L3	For a well-developed answer using analysis to give a clear explanation of the costs and benefits of protectionism (using preamble).	8-10
L2	For an underdeveloped answer giving a largely descriptive explanation of the costs and benefits of protectionism (using preamble).	5-7
L1	For an undeveloped answer that shows knowledge of the costs and benefits of protectionism.	1-4

E3	For an answer that arrives at an analytically well-reasoned judgement about whether protectionism is relevant in the given context	4-5
E2	For an answer that makes some attempt at a judgement about whether protectionism is relevant in the given context	2-3
E1	For an answer that gives an unsupported evaluative statement(s) about whether protectionism is relevant.	1

Q1. Organic food such as fresh fruits, vegetables and dairy products is grown without synthetic pesticides, chemical fertilizers or genetically modified seeds. 2015 was a year of significant growth for the organic food industry despite the continued struggle to meet the seemingly unquenchable consumer demand. There was also an increase in the number of farmers converting to organic farming over time.

Source: Organic Trade Association

Discuss the demand and supply factors that determine the output of organic food and evaluate which is the most important factor. [25]

Introduction

Definition: Demand and supply in the free market will determine the equilibrium output. Hence, changes in the demand and supply will impact the market equilibrium.

Direction:

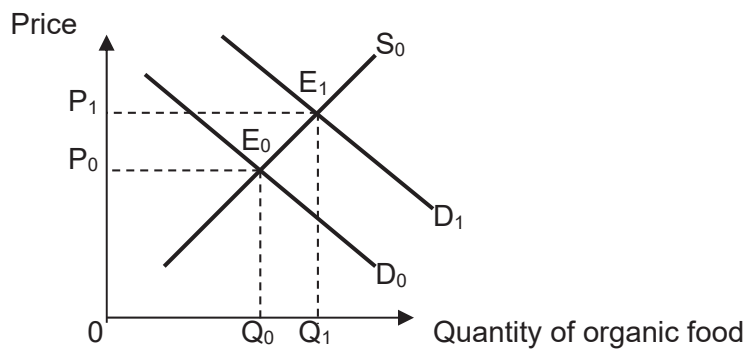
- In the farming industry, organic produce has become such an appetite for consumers to the point where the demand cannot be met due to a huge shortage of growers. Producers have responded to this growing demand by making the transition to certified organic food production.
- There are different types of organic food and there are some factors which are common to these products such as technological advancements and economies of scale which affects supply as well as factors such as tastes and preferences, income level and prices of conventional food that influence demand.

Body

Selecting food is one of the most common activities that consumers pursue many times each day. But this selection requires taking into account different goals (e.g. price and taste) and may involve a complicated decision-making process in order to satisfy these different goals.

P1: Although the organic food sector comprises only a small percent of all food sales, the perceived environmental and health benefits of organic food have received increasing recognition and broader acceptance among consumers, hence a shift of *taste and preference* from conventional food to organic food.

Since society has been adopting health-conscious eating habits, the demand for organic food has only been steadily growing. In the minds of consumers, this trend of “eat good, feel good, look good” is convincing and rapidly growing as it has greatly contributed to why the majority of consumers are choosing organic. Environmentally conscious consumers are willing to pay a much higher price for sustainable products such as organic and locally-produced foods as ethical considerations are becoming important factors in their decision making process. Rise in demand for organic food → rightward shift of DD curve from DD0 to DD1



→ Ceteris paribus, at the original price of the organic food, there is now a shortage of the good. The resulting shortage causes the price of the organic food to increase. As the price of the organic food increases, its quantity demanded falls while the quantity supplied increases. These changes are illustrated by a movement up the demand curve D_1 and a movement up the supply curve S_0 respectively.

L1: Price will continue to rise until the market is in equilibrium at price $0P_1$ and there is a rise in equilibrium output of $0Q_1$ of organic food being traded.

P2: The *global economic growth* in the last decade contributed to a rise in demand for organic food.

Since organic food is considered a luxury good, any change in consumer income directly affects the percent change in demand, which will constitute how much consumers are willing and able to spend. If the amount of disposable income increases within consumers, they will feel more confident and compelled to spend those extra dollars towards better quality luxury goods, in this case organic foods. Conversely, the same transpires when there is a decrease in income where consumers will choose the less costly normal good as opposed to purchasing the luxury good. As the standard of living increases, consumers shift their purchases away from higher quantities of food and into higher quality food. This simple analysis of the relationship between income and consumption is crucial for understanding and/or forecasting the likely future of the organic food industry.

L2: As the standard of living increases, consumers are very likely to spend an increasing amount on food quality, including certified organic products.

P3: The price of related goods is significant to affect the demand for organic food, since conventional food is readily available to consumers, often at prices below those for organically produced food products.

The production, distribution, and marketing of organic foods is more costly than conventional food due to the costs of segregation of organic products. The resultant higher production costs for organic foods accounts for the higher retail prices for organic food. Majority of consumers are likely to make price comparisons between organic and conventional foods, and switch purchases based on prices. Hence the lower price of conventional food leads to a rise in quantity demanded, ceteris paribus. Since conventional food and organic food are substitutes (positive cross elasticity of demand), consumers will switch towards conventional food, hence a fall in demand for organic food.

L3: Since the bulk of consumers are willing to “trade off” the benefits of organic food with the lower prices of conventional food, the actual prices between products are likely to be a major determinant of future organic food sales.

Evaluation

However, it is important to emphasize that not every consumer will base organic/nonorganic purchase decisions on price comparisons alone. Economic theory provides a simple model of human behaviour, based on rational, or consistent, behaviour: if the benefits of purchasing organic food outweigh the costs, then consumers will buy organic food. If, on the other hand, the costs of organic food are greater than the benefits, then the consumer will not purchase organic food. The perceived benefits of organic food purchases include enhanced health for the consumer and his or her family, a decrease in damage to the rural environment, greater health for farmers and other individuals involved in the production, processing, and distribution of food, and any perceived benefits to rural communities. The costs of purchasing organic food are simply the higher retail prices paid for organic

products that result from higher production, segregation, and certification costs. An additional cost of organic food production is the loss of profits to the agricultural chemical and fertilizer industries.

Individuals who are committed to the ideals and lifestyle associated with organic food, or who have high incomes, and are unaware or insensitive to price changes are unlikely to discontinue purchasing organic food. The first group is very unlikely to alter organic food purchases based on price movements, due to strong convictions about the complex interactions between agricultural chemicals, human health, and the environment. The second group of consumers does not alter consumption habits when prices of organic food change, simply because they spend a very small fraction of their income on food. As a result, price increases are unimportant to these individuals, and consumption decisions are unlikely to be affected by price → demand for organic food for these groups of consumers is price inelastic. This means that a rise in price of organic food will lead to a less than proportionate fall in quantity demanded of organic food, *ceteris paribus*.

For high quality goods such as organic food, income is a major determinant of consumer ability to pay price premiums for the perceived benefits of a healthy diet.

P4: Income growth, and the high standard of living that is enjoyed in the high-income nations of the world, is likely to be the single most important determinant of organic food consumption.

Because any perceived benefits, no matter how small, become affordable to wealthy consumers. Price premiums also become inconsequential to individuals and families with high incomes. As per capita incomes rise, we can expect a shift into organic food. An important implication of this is that low-income individuals in the USA, and low-income nations will be less interested in organic food, if it is more expensive than conventional food. For individuals and nations with low level so purchasing power, the perceived benefits of organic food are unlikely to outweigh the lower prices of conventional food. As incomes increase above subsistence levels, health issues shift from a lack of food and starvation to healthy diets and nutrition. Those who can afford it will purchase products that are perceived to be healthy, including organic food, even if the purchase price is considerably higher than conventional food.

L4: To summarize, market information about the benefits and costs of consuming organic and nonorganic foods will determine the future market shear of organic food in the food and beverage industry.

P5: This determinant of supply, where barriers to enter the market are very high and risky for farmers, has also contributed to this shortage in the market since there is a small amount of suppliers.

Although retailers have been flocking to the industry to capture the customers' high willingness to pay, farmers have not followed suit. Despite the opportunity to fetch higher prices for their products, farmers have been slow to convert to organics. One reason is the high transition costs (barrier to entry) to be labelled a certified organic producer. In order to be titled a certified organic grower, one must follow and go through a three-year transition period in compliance with organic restrictions and requirements. During this time period farmers experience much lower crop yields making their costs surge; a primary element for which growers won't go organic. Also, the benefits that come with organic growing such as receiving higher and premium prices for those organic products are not included in this 36-month process, yet another hindrance for farmers to transition to become certified organic producers. Additionally, organic farm operations are subject to added fees and regulations. Organic production practices are often management-intensive, requiring greater managerial time, skill, and decision making. Organic certification requirements can also require that a farmer not use chemicals or synthetic fertilizers for three years prior to the land becoming available for organic food production. Thus, some of the transition costs are incurred prior to reaping the benefits of organic conversion. Organic production techniques replace agricultural chemicals and synthetic fertilizers with labour- and management-intensive practices, which can increase the costs of production.

L5: Therefore, the supply of organic food is rising at a slower rate than the rise in demand for organic food.

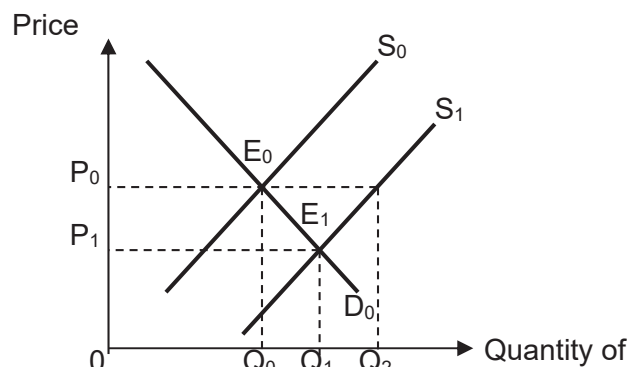
E6: However, the rapid technological advancement and reaping of more economics of scale may change the outlook of organic food production.

First, the technology of organic food production is changing rapidly, as producers discover more efficient production processes that result in larger quantities and higher qualities of organic food

produced at lower costs. Also, as organic farmers become more widespread, and the information base for organic processes grows and is disseminated to a larger group of organic farmers. Certification and segregation costs are also likely to be reduced as private and public institutions are developed. Similarly, a cost-saving technological or regulatory change in the processing, transportation, packaging, marketing, advertising, or certification of organic food will also result in larger quantities produced by profit-motivated suppliers.

Secondly, as the fledgling organic food industry develops, it will capture economies to scale associated with the growth and development of organic food markets. An example is marketing economies. A large firm can capitalise on its bargaining power to buy its inputs in bulk at favourable rates. Similarly, the organic food of the firm can also be sold in bulk at reduced distribution costs too. For instance, it is more cost efficient for a large firm to transport large quantities using a large truck instead of several small vans. Large firms can also afford to advertise organic food in the national press and other forms of media. Although the advertising expenditure may be substantial, the advertising average cost may be lower than that of a smaller firm because cost of advertising is spread over the larger output level. Specifically, as the infrastructure and institutions for organic food production, processing, and distribution become larger and more established, the per-unit cost of organic food

- decline fall in cost of production, assuming total revenue constant
- higher profit per unit of computer-based products



- rightward shift of the supply curve from S_0 to S_1 organic food
- Ceteris paribus, at the initial price OP_0 , a surplus of Q_0Q_2 arises and this surplus exerts a downward pressure on price. Producers lower the price to get rid of their excess stock. As price falls, producers will reduce their quantity supplied of the good as shown by a movement along the supply curve. Consumers increase their quantity demanded of the good as illustrated by a movement along the demand curve D_0 .

L6: Price will continue to fall until a new market equilibrium is established at point E_1 . The new equilibrium output of OQ_1 is higher than before the increase in supply.

E7: The producer adoption of organic practices is likely to depend heavily on the price premiums associated with organic food products.

Therefore, to the extent that consumers are willing to pay higher prices for organic goods, it is likely that the price difference will be large enough to cover additional production, certification, and transition costs borne by farmers who convert to organic production techniques.

Synthesis

The conclusion is the cost efficiency factor (supply) is more important to determine the output of organic food in the short run. This is because the switching costs are much higher for farmers: regulations, three years of fallow ground, uncertain yields. The price they receive for a single unit of an organic product, therefore, is less valuable if it comes with greater risk and uncertainty. The organic market can only grow as far as farmers are willing to start growing organics.

However, the income factor (demand) will be more important to determine the output of organic food in the long run because demand for organic food is income elastic. As the affluence level increases, the demand for organic food will increase significantly. Luxury consumer goods such as organic food will continue to replace necessities, as high-income consumers can afford to pay for product attributes that are perceived to be healthy or good for the environment. As a result, many agricultural producers

have found organic production practices to be a profitable alternative to conventional crops. Furthermore, though transition costs are high, the cost advantages of eliminating chemical and fertilizer bills, together with crop rotation advantages can contribute to net returns. Therefore, we may see a potential growth of the organic food market.

Conclusion

Consumers' interest in organic food has exhibited continued growth for the past two decades, which has attracted entrepreneurs and corporations seeing a big potential for this industry. This led to the creation of standards and regulations to guide the organic food industry. There are clear challenges on both demand and supply sides. Consumers are becoming more sophisticated in their purchasing decisions of organic food as they become more educated and affluent, and companies are focusing on supply chain management in order to ensure high quality, traceability, and supply continuity. The future extent of the increment in organic food output will depend on the market forces (market value).

Level	Knowledge, Understanding, Application and Analysis	Marks
L3	For a balanced and well-explained answer that uses application and analysis to discuss the importance of demand and supply factors in influencing the output of organic food. Good analysis on relative importance of demand and supply factors/PED, IED, CED and the relative magnitude of shifts are considered in the given context.	15-20
L2	For a good attempt to discuss the importance of demand and supply factors but limited in analysis. For good but one-sided answers which did not consider the importance of other factors such as elasticity values or why the rise in demand is faster than the rise in supply (max of 10).	10-14
L1	For some knowledge but limited applications of demand and supply factors on how it influence output changes. Answer may be irrelevant.	1-9
Level	Allow up to 4 additional marks for Evaluation	Marks
E3	For an answer that arrives at an analytically well-reasoned judgement on which factor is more important to determine the output of organic food	4-5
E2	For an answer that makes some attempt at a judgement on which factor is more important to determine the output of organic food	2-3
E1	For an answer that gives an unsupported evaluative statement(s) about the demand and supply factors that determine the output of organic food	1

