



NANYANG JUNIOR COLLEGE

2018 JC2 Preliminary Exam H2 ECONOMICS

Paper No: 9757/01

10th September 2018
Monday

Time : 1400 – 1615 hrs
Duration : 2 hours 15 mins

READ THESE INSTRUCTIONS FIRST

Do not flip the pages of this paper until you are told to do so.

Write your name, class and name of your economics tutor in the space provided on the writing paper.

Answer **all** questions. The number of marks is given in the brackets at the end of each question. Write your answers on the writing paper provided. If you use more than one sheet of paper, fasten the sheets together.

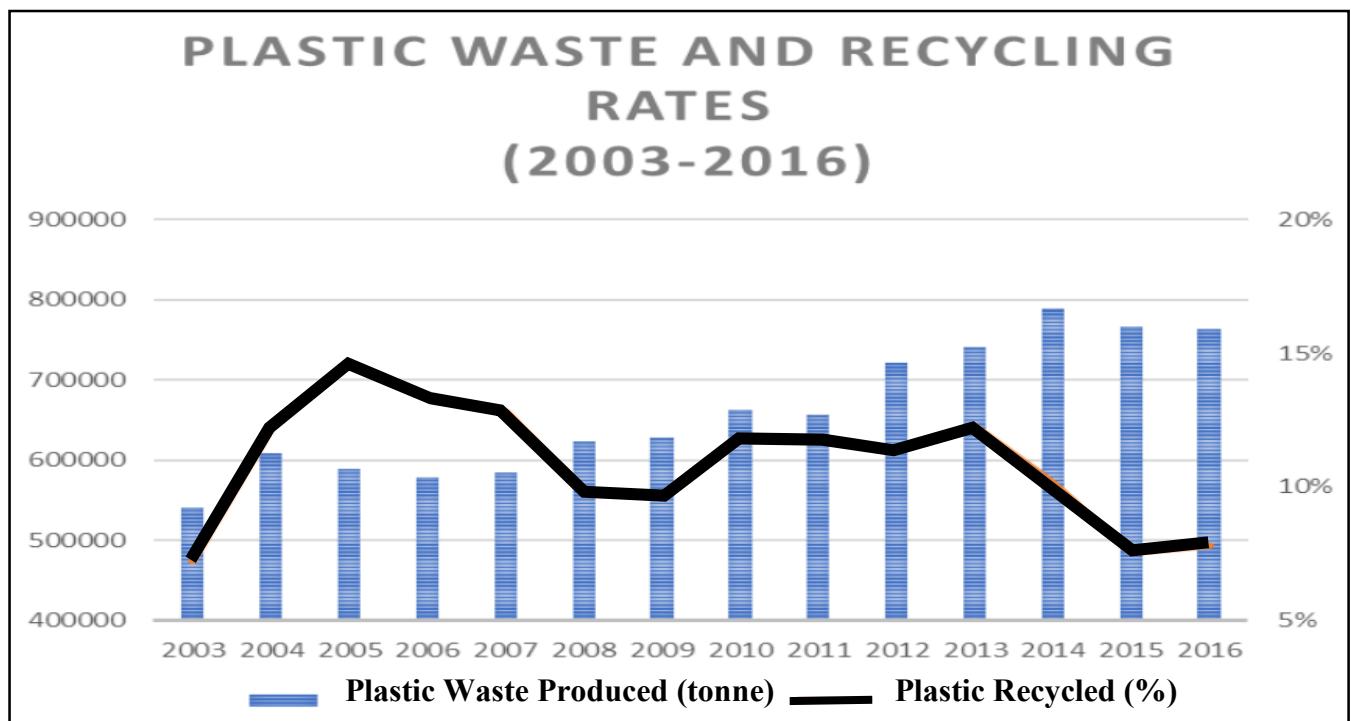
You are advised to spend several minutes reading through the data and questions before you begin writing your answers.

There are 8 printed pages including this cover page

Answer all questions

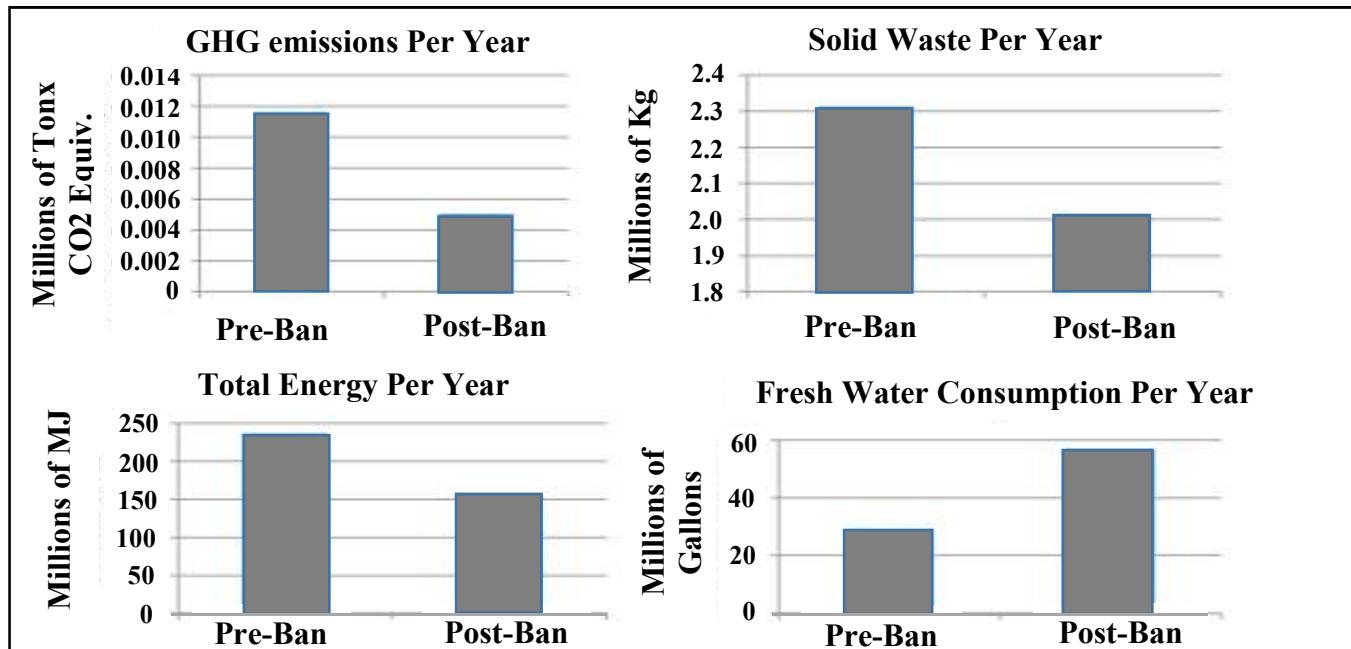
Question 1 Solutions to Tackle Plastic Bag Waste

Figure 1: Plastic Waste and Recycling Rates in Singapore



Source: National Environmental Agency (n.d.). *Waste Statistics and Overall Recycling*

Figure 2: Change in Environmental Impacts of Pre- and Post-Ban Bag-Use in San Diego



Footnote: GHG – Greenhouse gas; MJ – Megajoule; Fresh Water consumption due to paper bag production and washing of reusable bags

Source: Center for Sustainable Energy, Plastic Bag Bans: Analysis of Economic and Environmental impacts, 23 October, 2013

Extract 1: A War the World Must Win

Kathmandu alone uses around 4,700,000 to 4,800,000 plastic bags daily. In Nepal, 16 per cent of urban waste is comprised of plastic, which is 2.7 tons of daily plastic garbage production.

Besides the sheer quantity of plastic waste being produced, one of the major problems with plastic is its resistance to degradation. A conservative estimate puts the average time for one single plastic bag to completely biodegrade at 500 years. This means that not only most of the plastic we use during our lives will outlive us, but that our plastic footprint also will affect the generations to come.

The Hindu Kush Himalaya covering the connected mountains of eight countries — Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal and Pakistan — are the source of ten great rivers that provide drinking water, irrigation, hydropower and life, and eventually reach the oceans. The flow of water from the Himalayas to the oceans also carries plastics and solid waste, posing a threat to both ecosystems and people in the mountains, plains and seas. In Nepal, plastic waste is well known for clogging the rivers and streams in the mountains and hills, resulting in flash floods.

Source: A War the World Must Win, The Statesman, 3 July 2018

Extract 2: England's plastic bag usage drops 85% since 5p charge introduced

The number of single-use plastic bags used by shoppers in England has plummeted by more than 85% after the introduction of a 5p charge last October, early figures suggest.

More than 7bn bags were handed out by seven main supermarkets in the year before the charge, but this figure plummeted to slightly more than 500m in the first six months after the charge was introduced, the Department for Environment, Food and Rural Affairs (Defra) said. This shows that plastic bag consumption can be price-sensitive to UK consumers.

Retailers with 250 or more full-time equivalent employees have to charge a minimum of 5p for the bags they provide for shopping in stores and for deliveries, but smaller shops and paper bags are not included. There are also exemptions for some goods, such as raw meat and fish, prescription medicines, seeds and flowers and live fish.

Source: Adapted from England's plastic bag usage drops 85% since 5p charge introduced, The Guardian, 30 July, 2016

Extract 3: Designing a Solution to Plastic Bag Waste that Fits

Plastic bags are given out freely with purchases at supermarkets. Approximately 3 billion plastic bags were used in Singapore in 2011, resulting in an average of 1.6 plastic bags used per person on a daily basis. This high annual usage of plastic bags has been cause of much concern from environmentalists and concerned members of the public alike.

Several countries and cities around the world have already introduced legal measures such as plastic bag levies and taxes, to put an end to the practice of shoppers receiving an unlimited amount of plastic bags at no charge. These financial disincentives take two main forms – taxes that are enforced on plastic bag manufacturers or importers for the plastic bags sold by them and levies that are imposed on consumers at the point of sale. On a worldwide scale, more than 75 countries have taken steps to reduce the consumption of single-use plastic bags. About one-

third of these have instituted bans, approximately one-third have instituted fees. A tax on plastic bags would be the most direct and effective way of correcting this market failure.

On the other hand, environmental advocates, while encouraging the recycling of plastic bags, propose several alternatives to traditional plastic bags, including biodegradable or compostable bags for single-use purposes, paper bags for single-use purposes, reusable bags made from low density polyethylene (LDPE) or non-woven polypropylene, and cotton tote bags. However, in the real world, recycling carries costs that are often overlooked. For example, recycling paper could cause more severe water pollution or soil contamination as the removal of ink from paper requires harsh chemical treatment, with the resultant sludge needing to be disposed of somehow. The process of recycling could also be more energy intensive than the extraction of raw materials.

Source: Multiple sources

Questions

- (a) Describe the trend of plastic waste production and plastic recycled from 2010 to 2016. [2]
- (b) Explain the probable price elasticity of demand for plastic bags in the UK. [3]
- (c) (i) Explain the source of market failure for the plastic bag market mentioned in Extract 1. [2]
(ii) With the use of a diagram, illustrate how free provision of plastic bags worsens the issue of market failure identified above. [5]
- (d) With reference to Extract 3 and any other data, comment on the effectiveness of the solutions proposed by the environmental advocates to reduce consumption of plastic bags in Singapore. [8]
- (e) Assess the factors the Singapore government should consider when deciding between imposing a ban and a tax on plastic bags. [10]

[Total : 30]

Question 2 UK and EU - A Tale of Two Economies

Extract 4: The Evolution of the Eurozone

The common currency was an outgrowth of efforts that began in the mid-20th century, as Europe reeled from the carnage and disruption of two world wars. In 1957, this vision came closer to being a reality with the signing of the Rome treaty, which established the European Economic Community (EEC), comprising of Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. Step by step, restrictions were eased on work, travel and trade between the expanding list of EEC countries.

The European Union (EU) was established in 1993 and created much of its economic structure and institutions – including setting in motion the process of adopting a common currency, the Euro.

Advocates of the Eurozone rightly argue that it was not just an economic project that sought to improve standards of living by increasing the efficiency of resource allocation, pursuing the principles of comparative advantage, enhancing competition, taking advantage of economies of scale and strengthening economic stability. More importantly, it was a political project; it was supposed to enhance the political integration of Europe, bringing the people and countries closer together and ensuring peaceful coexistence.

Source: *The Problem with Europe is the Euro*, *The Guardian*, August 2016

Extract 5: Brexit

Countries band together to promote trade, defend human rights, protect the environment and repel threats. They sign treaties and join international groups, and each time they do, they give up a bit of independence. That happened in a big way with the creation of the European Union (EU), a free-trade zone and global political force forged from different European countries.

Freedom of movement for labour is one of the key principles of the EU. However, this ease of movement has been attacked in the UK, which had an unexpectedly high level of migration from several old Soviet bloc states after they joined the EU. Findings from the British Social Attitudes (BSA) survey revealed that Brexit was the result of widespread concern over the numbers of people coming to the UK that strained public services—millions of whom have done so under the EU's freedom of movement rules in recent years.

As a result, the people of the UK, in a June 2016 referendum, shocked the world by voting to leave the bloc they'd joined in 1973. The way many Britons saw it, the EU was expensive, out of touch and a source of uncontrolled immigration. They chose what's become known as Brexit.

Adapted from: *Bloomberg*, December 2017

Extract 6: The Pros and Cons of Leaving the EU

The Eurozone economy is growing twice as fast as the UK's. The Eurozone economy's gross domestic product grew 0.6 percent in real terms in the second quarter of the year – versus 0.3 percent for the UK contrary to appearances, this is good news for Britain. But it also illustrates what the British economy stands to lose from Brexit.

Some see the contrasting performances of the economies on either side of the Channel — highlighted by the Bank of England cutting its UK growth forecast— as a sign that worries about Brexit are beginning to weigh on British consumers and businesses.

The impact of Brexit is manifold. The pound slumped to the lowest level in 30 years on Friday, tumbling as much as 13 percent, as investors took flight at Britain's shock decision to leave the EU. The weakness of the pound is fuelling domestic inflation, constraining household spending and hurting European exports to the country.

Furthermore, uncertainty about the terms of a Brexit deal between London and the EU is putting a brake on investment, as “businesses are delaying crucial decisions,” said Bert Colijn, senior economist at ING Bank in Amsterdam.

Outside the EU, the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) and reduce its negotiating power with the rest of the world.

It seems the UK can't look anywhere else for hope. The Bank of England cut its growth forecast for this year from 1.9 percent to 1.7 percent, after a similar move by the International Monetary Fund last week. And there are few other available means to boost growth in the short term.

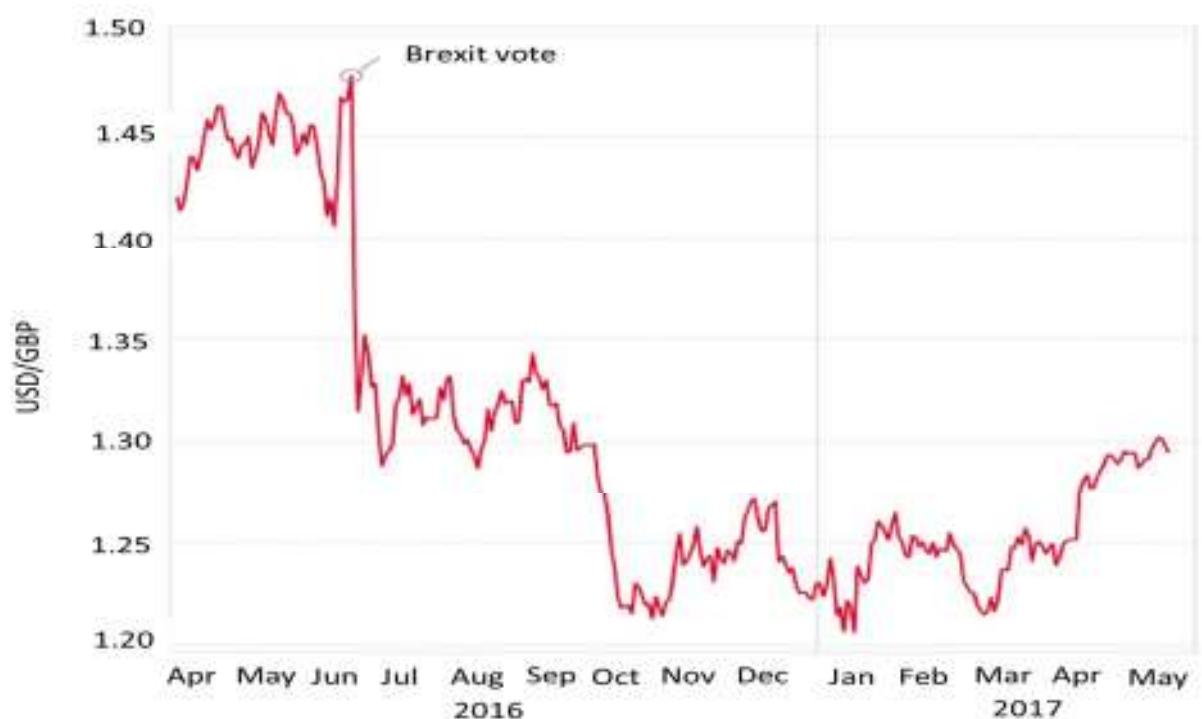
Monetary policy has run its course after a massive easing last year in the wake of the Brexit referendum. “It’s easy to forget that the UK economy has relied massively on monetary stimulus in the last year, but that is coming to an end,” Moëc noted.

Nonetheless, Brexiters said UK's departure from the EU could more than compensate for those disadvantages because it would be free to establish its own trade agreements. Furthermore, the UK will no longer be bound by the Maastricht Treaty¹ and is now able to use fiscal policy tools with greater flexibility. Currently, the UK's budget deficit is forecast at 3 percent of GDP, unchanged from last year.

Adapted from: *Politico*, August 2017

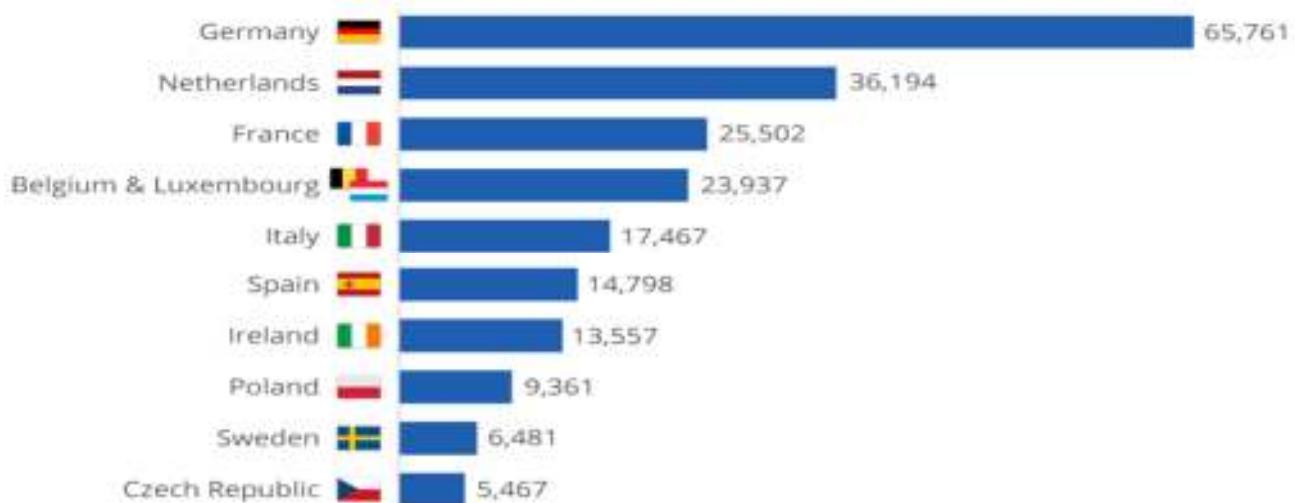
¹Article 126 of the Maastricht Treaty defines two criteria which Member States' governments should comply. These are: a deficit to Gross Domestic Product (GDP) ratio of 3% and a debt to GDP ratio of 60%.

Figure 3: USD per unit of Great British Pound (GBP)



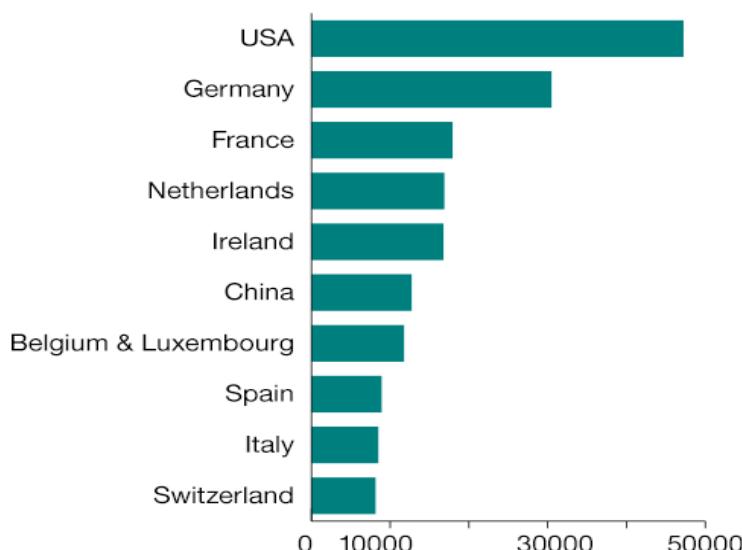
Source: *Macrobond, The Independent*

Figure 4: Import Sources of the UK in 2016, by import value (in million GBP)



Source: *Office for National Statistics*

Figure 5: Export Destinations of the UK in 2015, by export value (in million GBP)



Source: *Pink Book, Office for National Statistics*

Questions

- (a) (i) How does the value of Great British Pound (GBP) in April 2016 compare to its value in May 2017? [1]
- (ii) With the aid of a diagram, explain one possible reason for the trend above. [3]
- (b) With reference to extract 4, use PPC analysis to illustrate how the following will lead to an improvement in material standard of living:
 - (i) Pursuing the principle of comparative advantage [3]
 - (ii) Enhancing competition [3]
- (c) Explain why the weakness of Great British Pound (GBP) will hurt European exports to the UK. [2]
- (d) With reference to the data, discuss how Brexit is likely to impact the UK economy. [8]
- (e) In the light of the issues mentioned in Extract 6, discuss the policy options available to the UK government to achieve its macroeconomic goals. [10]

[Total: 30]

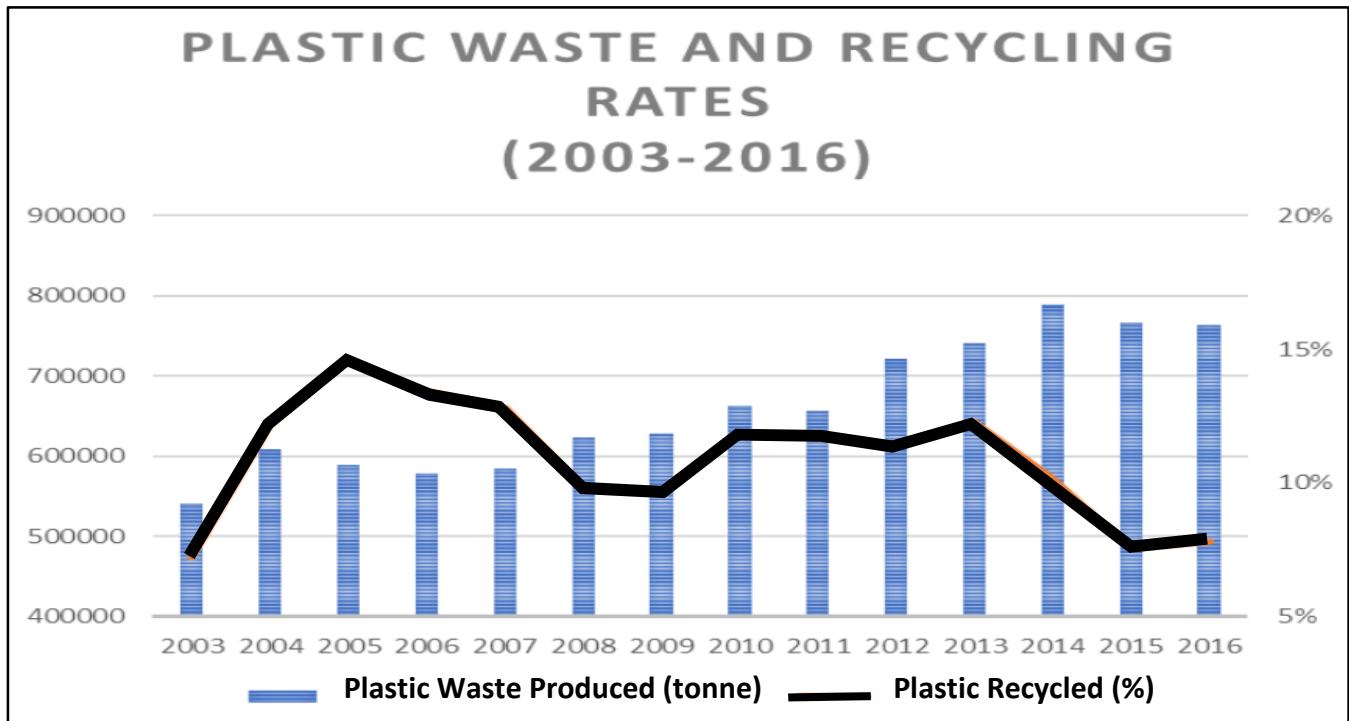
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- Question 1 Extract 3
 - © Designing a solution that fits, The Straits Times, 11 Nov 2017
 - © An Analysis of the Impact of Single-Use Plastic Bags, New York State Plastic Bag Task Force Report, 13 January, 2018
 - © Identifying and mitigating the wastage an inefficient use of plastic bags in Singapore, Singapore Environment Council, 2013
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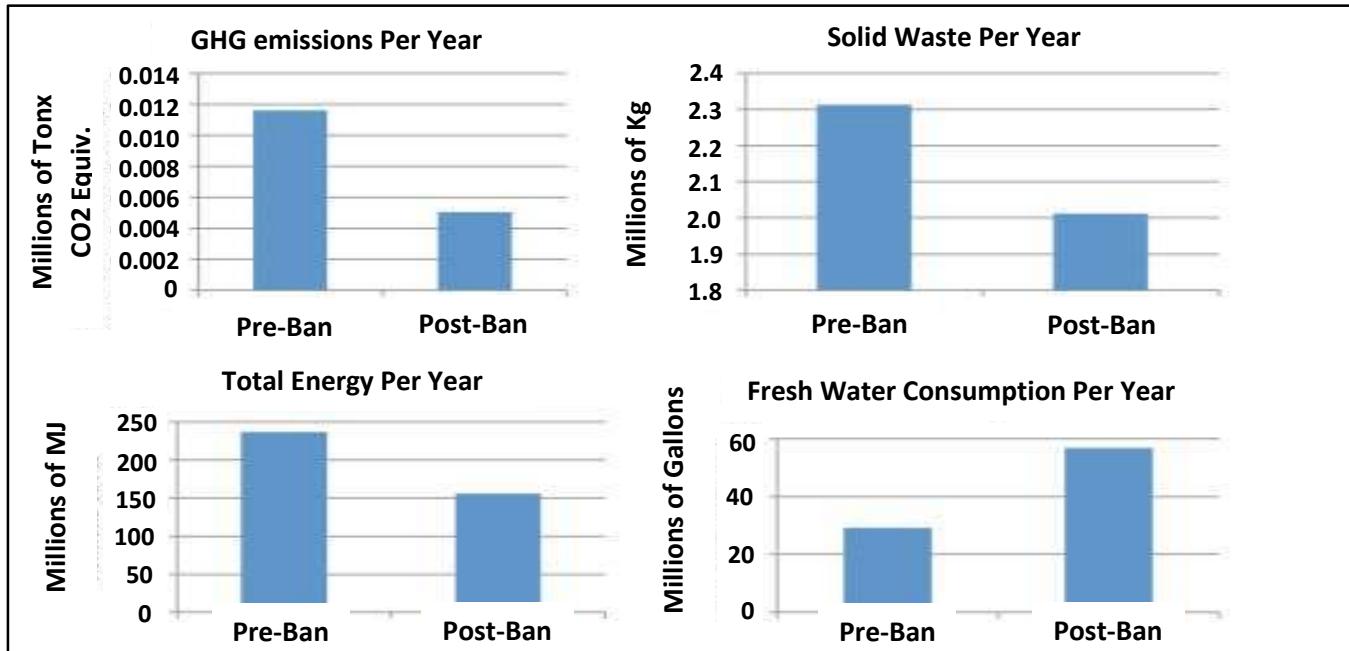
PRELIM CSQ 1

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Plastic bags are given out freely with purchases at supermarkets. Approximately 3 billion plastic bags were used in Singapore in 2011, resulting in an average of 1.6 plastic bags used per person on a daily basis. This high annual usage of plastic bags has been cause of much concern from environmentalists and concerned members of the public alike.

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Suggested answers:

- (a) **Describe the trend of plastic waste production and plastic recycled from 2010 to 2016.** [2]

Plastic waste production has been generally increasing from 2010 to 2016 [1m] and the rate of plastic recycled has been generally decreasing from 11% to less than 5% [1m].

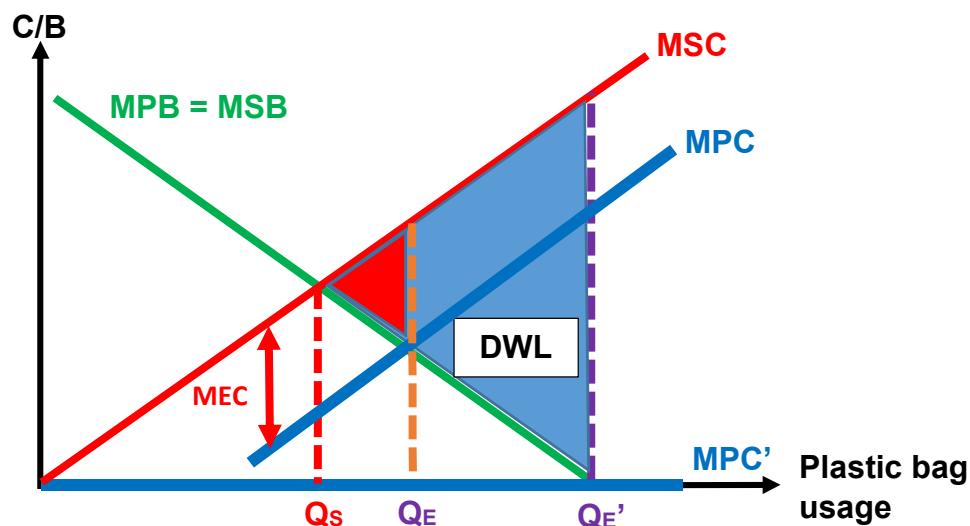
- (b) **Explain the probable price elasticity of demand for plastic bags in the UK.** [3]

- **Definition:** PED measures the responsiveness of the quantity demanded to a change in the price of the good, ceteris paribus. [1m]
- **Identification:** PED of plastic bags in the UK is **price elastic**. [1m]
- **Justification:** As mentioned in Extract 2, UK consumers are price sensitive (or the significant fall in 85% of plastic usage due to the 5p charge). This shows that UK consumers are very responsive to any change in plastic bag price. Hence, an increase in price of plastic bags will lead to a more than proportionate fall in quantity demanded of plastic bags in the UK. [1m]

- (c) (i) **Explain the source of market failure for the plastic bag market mentioned in Extract 1.** [2]

- **Identify source of MF: Negative externality due to consumption.** [1m]
- **Evidence with analysis:** From Extract 1, the damage to irrigation system and dam; contamination of drinking water, causing farmers living near the damaged dam to lose their livelihood and people who consumed the contaminated water to suffer from deteriorating health and incurring medical costs. [1m]

- (ii) **With the use of a diagram, illustrate how free provision of plastic bags worsens the issue of market failure identified above.** [5]



[1m]

- MPB: Convenience of using the plastic bags to carry goods and can be used for other purposes, such as trash bags.
- MPC: Price of purchasing the plastic bag (in a free market, there should be a price for plastic bag) and the opportunity costs of using plastic bags
- MEC: Identified in (c)(i) [1m]
- MSC = MPC + MEC
- Correct identification of Q_E and Q_s . [1m]
- Provide condition of market output that maximise net private benefit: MPB = MPC @ Q_E
- Provide condition of socially optimal output that maximise net social benefit: MSC = MSB @ Q_s with the DWL shaded in red.[1m]
- When plastic bags are provided for free, MPC = 0 (assuming no opportunity cost), market output @ Q_E' with the DWL shaded in blue, which is greater than before. [1m]

(d) With reference to Extract 3 and any other data, comment on the effectiveness of the solutions proposed by the environmental advocates to reduce consumption of plastic bags in Singapore. [8]

- **Solutions proposed by environmentalist** (Ext 3): Encourage recycling of plastic bags and use of alternative carrier such as biodegradable or compostable bags for single-use purposes, paper bags for single-use purposes, reusable bags made from low density polyethylene (LDPE) or non-woven polypropylene, and cotton tote bags
- **Objective:** Provide environmentally friendly solution to encourage the public to reuse the plastic bags or/and replace the use of plastic bags with compostable/paper bags/cotton tote bags.
- **How it works:** This will reduce the demand (fall in MPB) for plastic bags due to the availability of alternative carrier bags to substitute plastic bags, causing consumers to switch to these alternatives, effectively reducing the market output to Q_s .
- **However...**
- For recycling ('reused') of plastic bags, figure 1 shows declining recycling rate in Singapore. Possibly due to poor public education on recycling and weak government effort to encourage recycling.
- For paper bags for single-used, figure 2 shows the increase in fresh water consumption due to paper bag production and extract 3 mentions the harm to environment when these paper bags are recycled.
- For reusable bags made from LDPE, and cotton tote bags, figure 2 shows the increase in water consumption due to the washing of reusable bags.
- Given that water is a scarce resource, especially in Singapore, the increase in water consumption might pose a greater challenge to the Singapore government than the negative externality caused by plastic bags.
- Effort to encourage recycling should step up to minimise impact of plastic bag usage on the environment.

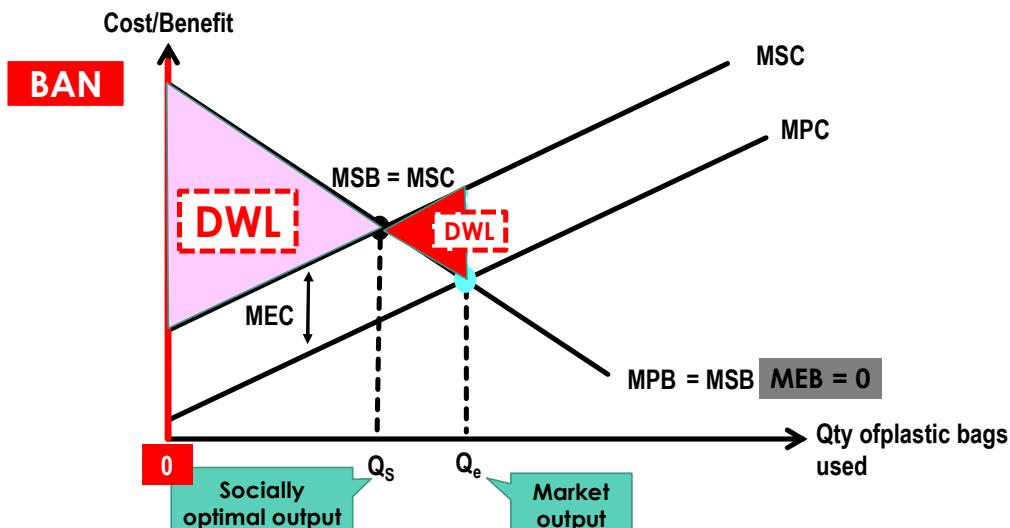
Level 1	<ul style="list-style-type: none"> Correctly identified the proposed solutions in Extract 3 Able to provide some descriptions of how the solutions are able to reduce the usage of plastic bags 	1 – 3m
Level 2	<ul style="list-style-type: none"> Use of economic framework (Benefit-Cost) to illustrate how any 2 solutions can reduce the benefits of plastic bag usage. [max 4m) Use of relevant data to evaluate the limitations of the solutions 	4 – 6m
E	<p>Stand: With the given data, it is evident that the proposed solutions will not work very well in Singapore. [1m]</p> <p>Justification should take into account of the data, Singapore characteristics and consumers behaviour. [1m]</p>	1 – 2m

- (e) Assess the factors the Singapore government should consider when deciding between imposing a ban and a tax on plastic bags.

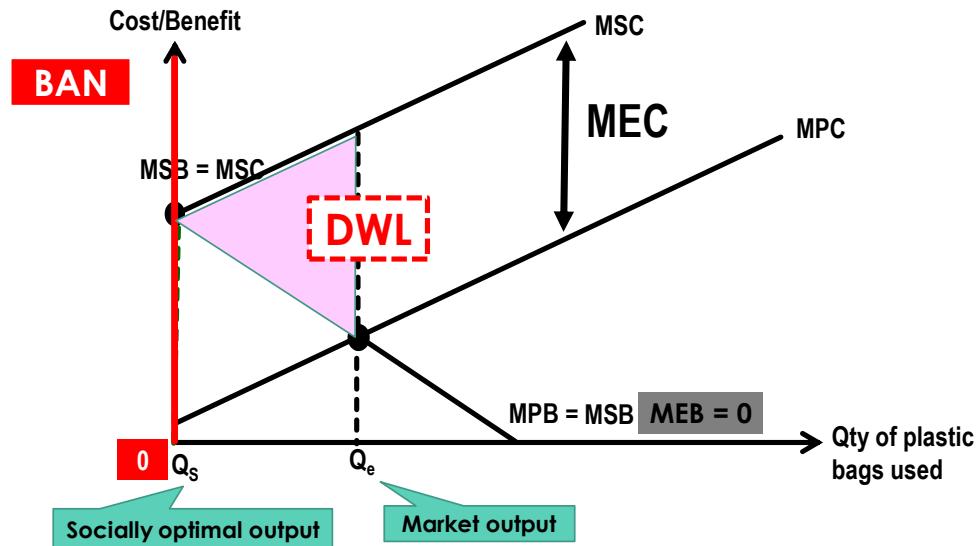
[10]

Synopsis: Students are expected to adopt the **decision making model** to answer this question. As such, the objective of the Singapore government in relation to the issue of over-use of plastic bags must first be established. The factors to consider in ascertaining which policy works better in Singapore should take into account of the costs and benefits of each policy, constraints faced by the government and unintended consequences of the respective policies, all in Singapore context.

- Objective:** reduce plastic bag usage
- Cost-Benefit analysis:** [Key argument]
 - Students are expected to weigh the costs and benefits of a ban and taxation.



- Indirect tax that is equivalent to the MEC will increase the MPC of consumers in the usage of plastic bags, reducing the market level of consumption from Q_e to Q_s .
- In this case, the use of ban will create a larger deadweight loss on society and taxation (= MEC) might be a better solution to reduce usage of plastic bags to Q_s and the tax revenue collected could be diverted to public education on recycling.



- In this case, the use of a ban might be a better solution due to the large MEC involved and the benefit of its implementation will most likely outweigh the administrative costs involved. The use of taxation in this case would be dependent on the government's ability to accurately measure the MEC, and would most probably involve some trial and error before socially optimal level of plastic bags usage could be achieved.
 - As such, the size of the MEC will determine whether a ban or taxation is a more appropriate measure.
 - In Singapore context, the size of MEC is unlikely to be too large as compared to countries that focus on agricultural productions and are dependent on domestic water sources. As such, given a generally low MEC, taxation might be a better solution for Singapore.
- Constraints:**
- Due to the implementation costs of taxation and ban, government's budget in the implementation of both measures must be considered. For governments with budget constraint, the policy with a relatively higher costs of implementation will incur significant opportunity costs which might undermine the economic development of an economy. Hence, the policy with a lower implementation costs might be chosen.
 - However, given the accumulated surpluses from the Singapore government, funding for its implementation would not be an issue.

- **Information:**
 - The choice of appropriate policy measure and the amount of taxation required to achieve socially optimal outcome is dependent on the MEC. However, MEC is difficult to measure due to the intangible costs involved which make it difficult to monetise the effects on third party. As such, the ability of Singapore government to accurately measure the value of MEC is paramount to her decision in choosing the policy measure or/and amount of taxation to ensure maximum social welfare.
 - It is also important to determine the PED of consumers on plastic bags as it would affect the effectiveness of taxation in reducing plastic bag usage. For example, if Singaporeans are not responsive to any price change for plastic bags (inelastic PED – due to habit of using plastic bags when purchasing groceries), the tax imposed will not be effective in reducing plastic bag usage significantly unless the amount of taxation is significantly large. However, if Singaporean consumers are to behave similarly as UK consumers (extract 2), PED for plastic bags will be price elastic. In this case, taxation will be effective to curb consumption of plastic bags.
- **Unintended consequences:**
 - Issues of switching to paper bags or reusable bags [refer to (d)]
- **Judgment:**
 - The most important factor to consider might be the accuracy of information collected on the monetary value of MEC. If the Singapore government believe that the MEC of plastic bag usage is large, a ban might be an appropriate measure as the benefits of implementation will outweigh any costs involved. However, if the MEC is considered to be low and only refinement to consumers' consumption habit is needed, a tax might suffice. If Singapore government is to implement a tax on plastic bag usage, consumers' PED for plastic bag has to be taken into account to ascertain the amount of taxation required to achieve the socially desired level of plastic bag consumption.

Level 1	<ul style="list-style-type: none"> • Able to demonstrate some knowledge on how a tax and ban can reduce consumption of plastic bags without adequate economic framework (benefit-cost) and utilisation of DM model. • Failed to compare the size of MEC in determining whether a ban or tax is a better solution. 	1 – 4m
Level 2	<ul style="list-style-type: none"> • Use of benefit-cost framework to illustrate how a tax and ban can reduce consumption of plastic bags • Failure to draw diagram(s) to illustrate DWL [max 5m] • Answers to include at least 2 factors. • Reference to case material and comparisons of both measures in the context of Singapore. 	5m 6 - 7m
E1	Stand: Able to arrive at a stand on the most important factor of consideration.	1m
E2	Justify: Tax and ban can be effective in reducing plastic bag usage. However, their difference lies in the degree of government intervention which is dependent on how the Singapore government perceive the extent of MEC of plastic bag usage . As such, the ability to collect accurate information on the MEC involved would be the most important factor to consider in deciding the choice of policy to adopt.	2 – 3m

Question 2: UK and EU: A Tale of Two Economies

Extract 4: The Evolution of the Eurozone

The common currency was an outgrowth of efforts that began in the mid-20th century, as Europe reeled from the carnage and disruption of two world wars. In 1957, this vision came closer to being a reality with the signing of the Rome treaty, which established the European Economic Community (EEC), comprising of Belgium, France, Italy, Luxembourg, the Netherlands and West Germany. Step by step, restrictions were eased on work, travel and trade between the expanding list of EEC countries.

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Source: The Problem with Europe is the Euro, The Guardian, August 2016

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The Eurozone economy is growing twice as fast as the UK's. The Eurozone economy's gross domestic product grew 0.6 percent in real terms in the second quarter of the year — versus 0.3 percent for the UK. Contrary to appearances, this is good news for Britain. But it also illustrates what the British economy stands to lose from Brexit.

Some see the contrasting performances of the economies on either side of the Channel — highlighted by the Bank of England cutting its UK growth forecast — as a sign that worries about Brexit are beginning to weigh on British consumers and businesses.

The impact of Brexit is manifold. The pound slumped to the lowest level in 30 years on Friday, tumbling as much as 13 per cent, as investors took flight at Britain's shock decision to leave the EU. The weakness of the pound is fuelling domestic inflation, constraining household spending and hurting European exports to the country.

Furthermore, uncertainty about the terms of a Brexit deal between London and the EU is putting a brake on investment, as "businesses are delaying crucial decisions," said Bert Colijn, senior economist at ING Bank in Amsterdam.

Outside the EU, the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) and reduce its negotiating power with the rest of the world.

It seems the UK can't look anywhere else for hope. The Bank of England cut its growth forecast for this year from 1.9 percent to 1.7 percent, after a similar move by the International Monetary Fund last week. And there are few other available means to boost growth in the short term.

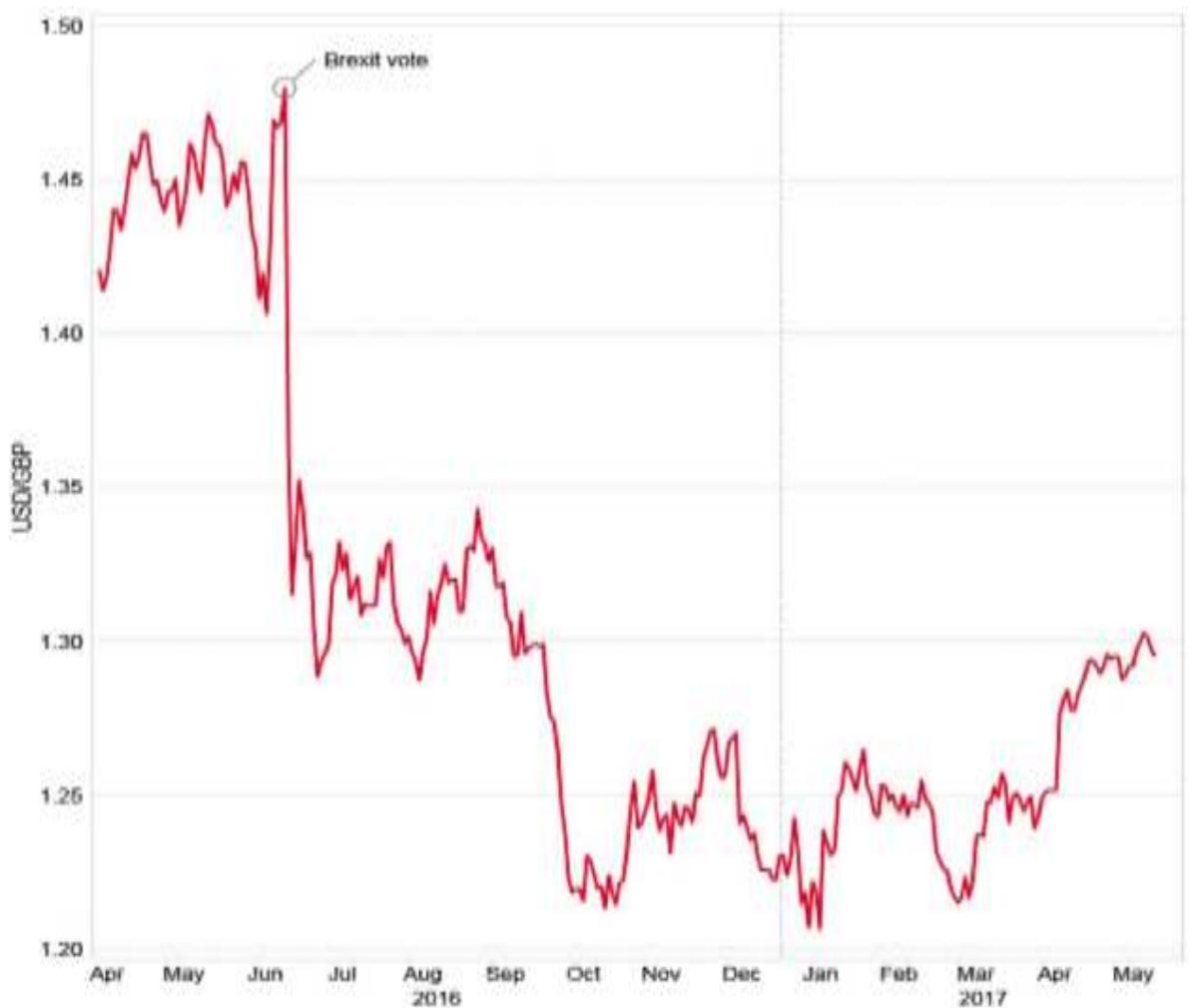
Monetary policy has run its course after a massive easing last year in the wake of the Brexit referendum. "It's easy to forget that the UK economy has relied massively on monetary stimulus in the last year, but that is coming to an end," Moëc noted.

Nonetheless, Brexiteers said UK's departure from the EU could more than compensate for those disadvantages because it would be free to establish its own trade agreements. Furthermore, the UK will no longer be bound by the Maastricht Treaty¹ and is now able to use fiscal policy tools with greater flexibility. Currently, the UK's budget deficit is forecast at 3 percent of GDP, unchanged from last year.

Adapted from: Politico, August 2017

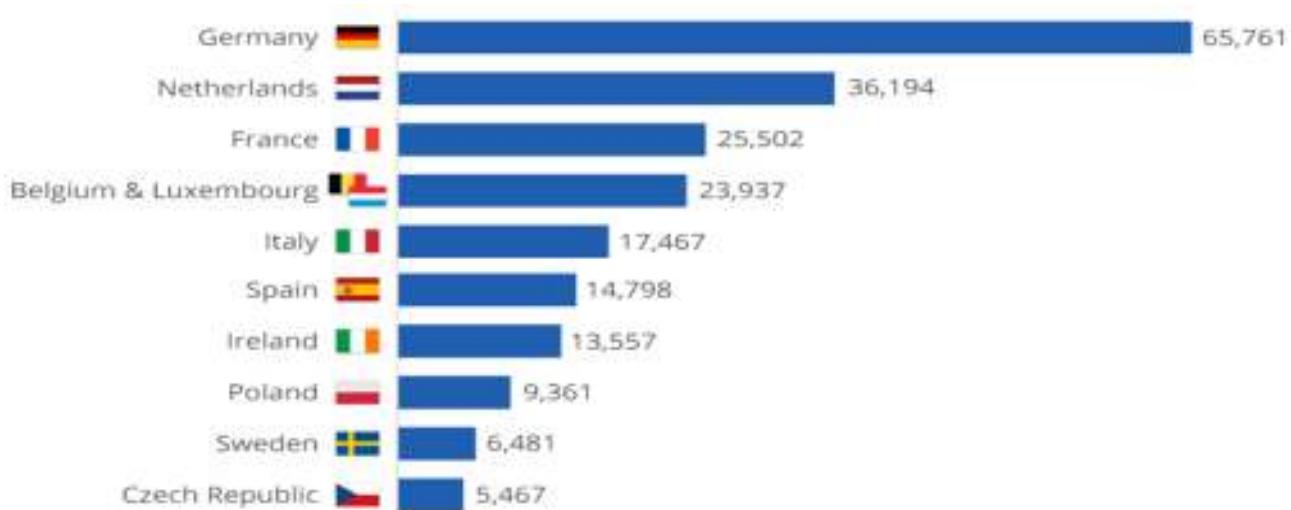
¹Article 126 of the Maastricht Treaty defines two criteria which Member States' governments should comply. These are: a deficit to Gross Domestic Product (GDP) ratio of 3% and a debt to GDP ratio of 60%.

Figure 3: USD per unit of Great British Pound (GBP)



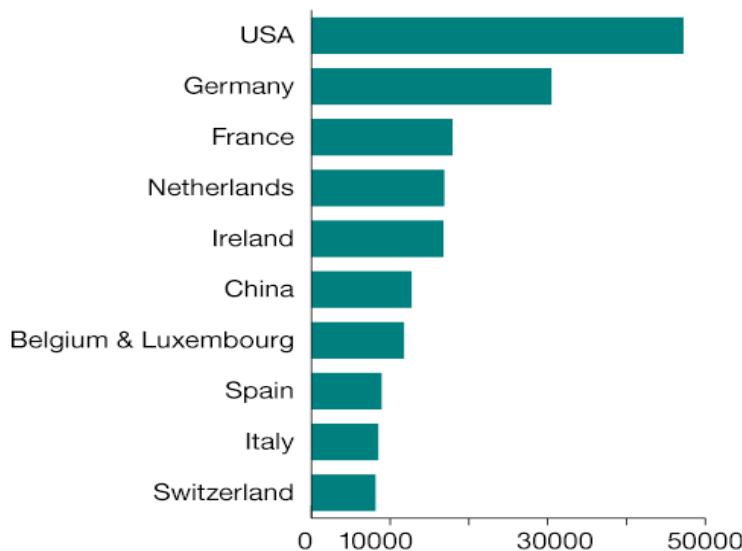
Source: Macrobond, The Independent

Figure 4: Import sources of the UK in 2016, by import value (in million GBP)



Source: Office for National Statistics

Figure 5: Export destinations of the UK in 2015, by export value (in million GBP)



Source: Pink Book, Office for National Statistics

Questions

- (a) (i) How does the value of Great British Pound (GBP) in April 2016 [1] compare to its value in May 2017?
(ii) With the aid of a diagram, explain one possible reason for the trend [3] above.

- (b) With reference to extract 4, use PPC analysis to illustrate how the following will lead to an improvement in material standard of living:
 - (i) Pursuing the principle of comparative advantage [3]
 - (ii) Enhancing competition [3]

- (c) Explain why the weakness of Great British Pound (GBP) will hurt [2] European exports to the UK.

- (d) With reference to the data, discuss how Brexit is likely to impact the [8] UK economy.

- (e) In the light of the issues mentioned in Extract 6, discuss the policy [10] options available to the UK government to achieve its macroeconomic goals.

[Total: 30]

Suggested Answers

(a)(i) How does the value of Great British Pound (GBP) in April 2016 compare to its value in May 2017? [1]

- The Great British Pound has depreciated against USD.
- Falling [0]

(a)(ii) With the aid of a diagram, explain one possible reason for the trend above. [3]

Ext 6: "investors took flight at Britain's shock decision to leave the EU." Supply for pound increases due to capital flight from economy due to uncertainty. As such, people lose confidence in the currency and started selling GBP. Hence, this increases the supply of GBP in the foreign exchange market as shown in the diagram from SS₁ to SS₂ and this caused the value of GBP to fall from \$F₁ to \$F₂. [2]

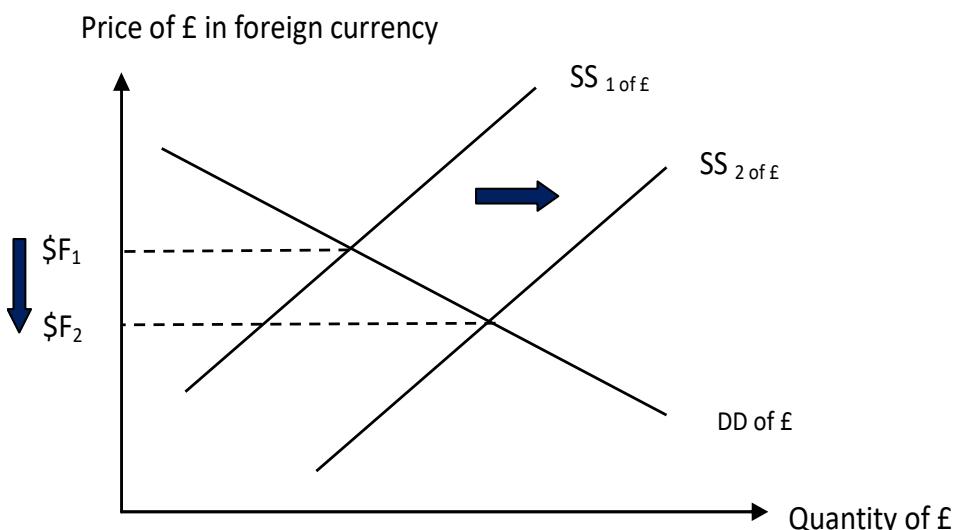


Diagram [1]

- Alternatively, students can also explain that demand for GBP falls due to low confidence in the economy.

(b) With reference to extract 4, use PPC analysis to illustrate how the following will lead to an improvement in material standard of living:

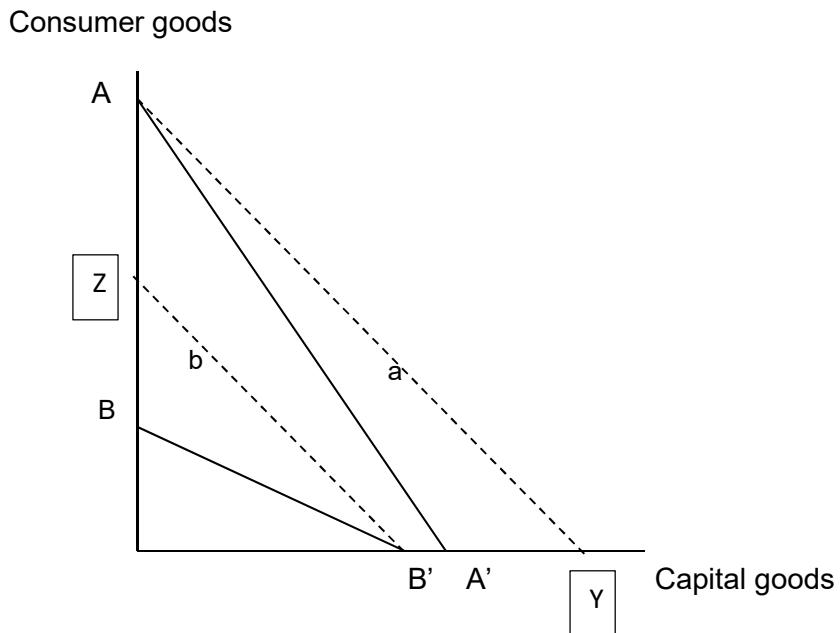
(i) Pursuing the principle of comparative advantage

[3]

Definition [1]

The Principle of Comparative Advantage states that trade can benefit all countries, if each country specialises in the production of goods in which they have a comparative advantage in. A country enjoys Comparative Advantage over another when it can produce a good with a lower opportunity cost in terms of other goods forgone.

Diagram [1]



Explanation [1]

The PPCs of country A (AA') and country B (BB') are shown. Before trade, each country is only able to consume what it produces. This means that its consumption possibilities are restricted to any point on the respective PPCs. **With trade, the new consumption point or possibilities beyond their respective PPCs** (AY for country A and ZB' for country B) is indicative of the gains to each country. Since the quantity of goods and services available to citizens of both countries have increased, there is an increase in material SOL.

(ii) Enhancing competition

[3]

With increased competition, there is more efficient allocation of resources as countries specialise in producing goods which they can produce more efficiently and at lower cost than other countries. More efficient resource allocation means that the economy is moving from a point within the PPC to a point on the PPC. [1]

[Draw diagram] [1]

Thus, material SOL improve as households enjoy higher consumption level as more output is being produced due to greater degree of division of labour and productive efficiency from specialization. [1]

Alternatively, students can explain that with enhanced competition, firms may have greater incentive to conduct R&D, leading to an outward shift of the PPC. [draw diagram] With more goods and services produced, material SOL increases.

(c) Explain why the weakness of Great British Pound (GBP) will hurt European exports to the UK.

[2]

Weak GBP → Price of imports from EU more expensive in terms of GBP [1]

Assuming PED_m>1, import expenditure for UK falls => export revenue for EU falls [1]

(d) With reference to the data, discuss how Brexit is likely to impact the UK economy. [8]

Answer Synopsis: Impacts must include both internal and external impacts, positive and negative impacts.

Intro:

Brexit refers to the leaving of UK from the European Union (EU). This answer will analyse the different impacts of Brexit on the UK economy.

Body 1: Disadvantages

One of the possible impact of Brexit could be the slowdown of the UK economy **due to fall in UK exports**. As mentioned in Extract 6 para 5 “the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) and reduce its negotiating power with the rest of the world.” Currently 44% of Britain’s exports goes to EU countries and it enjoyed the benefits of some negotiating power with the rest of the world when it was part of the European Union. However, with Brexit, the UK would not only see a fall in its exports to the EU but will also lose trade with its neighbours as it risks losing some of that negotiating power.

EV: Limited impact of fall in X as main trading partner is still USA (Fig 5)

The expected fall in UK’s export to EU, may lead to a **fall in investments** in the UK as mentioned in Extract 6 para 4 “businesses are delaying crucial decisions”. The result of falling investments in UK as well as outflow of investments from UK leads to a fall in UK’s GDP as well as a **fall in UK’s potential growth**. The fall in UK’s export and investment will lead to a **fall in its AD and hence RNY** (Draw and explain). This could lead to a rise in unemployment as demand for labour decreases when the economy contracts. Moreover, with the fall in both export revenue and FDI, the **BOP** of UK might worsen as well.

The idea of Brexit also lead to the weakening of the GBP and is likely to affect UK’s **price stability**. According to Extract 6 para 3, “the weakness of pound is fuelling domestic inflation”. Weakening of the currency will make imported raw materials more expensive in terms of GBP leading to imported inflation. (Draw SRAS curve fall leading to falling RNY and increasing GPL).

EV: The impact on price stability might be worse if the EU countries impose protectionistic policies on UK (Fig 4 shows UK mainly imports from EU countries).

Body 2: Advantages

However Brexit may provide UK with the freedom “to establish its own trade agreements with other countries” (extract 6 last para). This may raise UK’s exports and investment and hence the slowdown as predicted may not occur.

Moreover, according to extract 5, “Brexit was the result of widespread concern over the numbers of people coming to the UK that strained public services— millions of whom have done so under the EU’s freedom of movement rules in recent years.” Thus, with Brexit, the reduction in immigration would mean more jobs for British workers. This may lead to higher income and hence rising consumption and hence rising AD thus raising UK’s GDP. In addition,

the reduction in immigration can help UK to reduce the strain on its public services (Ext 5 para 2), improving SOL.

Evaluation: Overall the negative impacts are expected to outweigh the benefits in the short run due to the uncertainty which leads to fall in X and I. In the long run, if the UK manages to establish more FTAs with other countries, the fall in X and I may be mitigated. However, with rising deglobalisation, UK may not be able to renegotiate better trade deals.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> Question requirements are interpreted accurately. Well-elaborated 2-sided discussion of how Brexit is likely to impact the UK economy. Apart from the negative impacts, must have at least 1 possible positive impact. Economic analysis is accurate, complete and well supported by contextual evidence. Appropriate AD-AS diagrams are used to support economic analysis, where relevant. <p>Well-elaborated negative impact only: max 4m</p>	4 – 6
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. One-sided or sketchy answer. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 – 3
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis. Unexplained evaluative comments.	2 1

(e) In the light of the issues mentioned in extract 6, discuss the policy options available to the UK government to achieve its macroeconomic goals. [10]

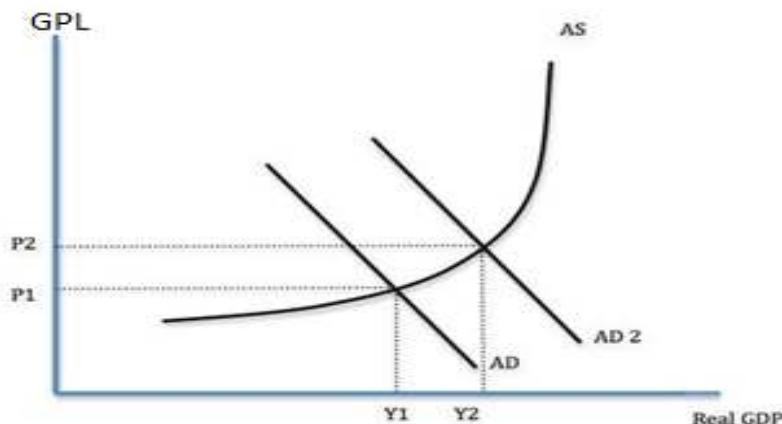
Introduction: Summarise issues faced by UK:

- **Weakened currency and inflation:** Ext 6: "The weakness of the pound is fuelling domestic inflation"
- **Business uncertainty:** Ext 6: "uncertainty about the terms of a Brexit deal between London and the EU is putting a brake on investment"
- **Fall in trade:** Ext 6: "the UK would lose trade with its neighbours (17 percent of EU exports go to the UK, whereas the EU absorbs 44 percent of UK exports) "
- **Slowdown:** Ext 6: "The Bank of England cut its growth forecast for this year from 1.9 percent to 1.7 percent"

Body 1: In view of the problem of an economic slowdown, to increase investments, UK can opt for **demand-led expansionary fiscal policy** through a package of tax cuts and increased government spending.

Tax cuts could include cuts in personal income tax and/or corporate tax.

- A fall in personal income tax would result in consumers having a higher disposable income. With a higher disposable income, consumers could afford to consume more domestically produced goods and services and this would lead to a higher overall consumption expenditure in the economy. Given $AD = C+I+G+(X-M)$, this would lead to an increase in the C component.
- A fall in corporate tax would result in firms having a higher after-tax profit. Thus, firms could afford to increase their expenditure on domestically produced capital equipment or intermediate goods and this would lead to a higher overall investment expenditure in the economy. This would lead to an increase in the investment component (I) of the AD function. This would give the domestic investment a boost and can bring back confidence of the domestic investors.
- An increase in government spending refers to government spending on final goods and services such as building more schools and hospitals as well as public transport infrastructures. This would also lead to an increase in the G component of the AD function.

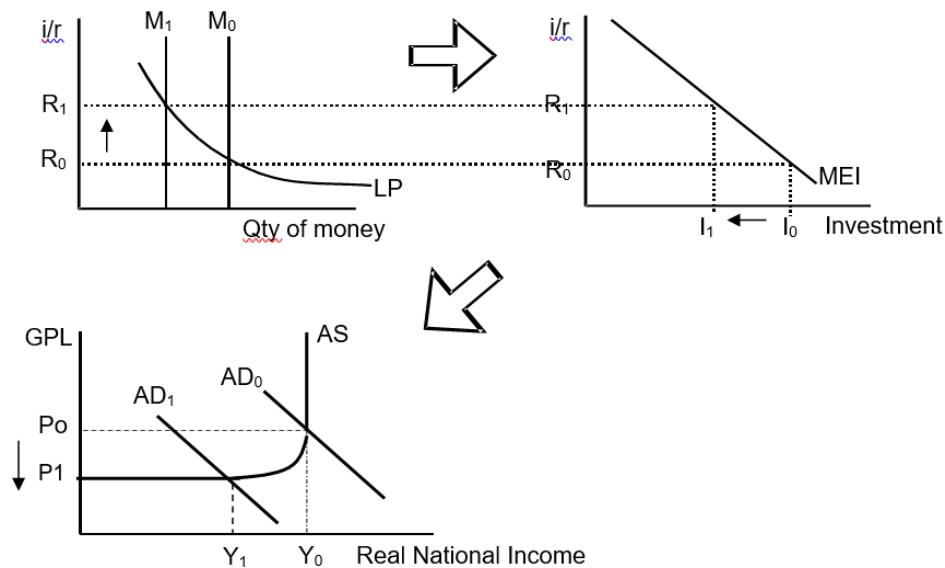


As shown in the diagram above, an increase in C, I and G components would lead to an increase in aggregate demand and the AD curve would shift to the right from AD to AD₂. The increase in real GDP would address the slowdown and increase RNY from Y₁ to Y₂ – hence achieving economic growth which is essential to the UK economy. Since demand for labour is in derived demand, increase in C, I, G component implies more production activities and greater employment opportunities for UK citizens as well.

However, expansionary fiscal policy might fuel the existing inflationary situation and government needs to address the problem separately to mitigate the effects of inflation. Additionally the effectiveness of fiscal policy is contingent on the size of the multiplier. If it is small, fiscal policy may be of limited use in altering AD. UK may have a low multiplier due to a high marginal propensity to tax (MPT). Similarly, UK being a large country, may face the problem of time lags like decision lag, execution lag.

Evaluation: Although EFP puts a strain on government budget, UK would be in a better position after Brexit as it is no longer bounded by the Maastricht Treaty. Previously, UK was unable to continue with EFP if it led to a budget deficit of more than 3% of its GDP.

Body 2: Contractionary MP: To address the problem of increasing GPL, business uncertainty and weakening currency, UK government can couple the expansionary FP with contractionary MP. By reducing the money supply from M₀ to M₁, it raises the interest rates from R₀ to R₁. With higher interest rates, the cost of borrowing rises and this reduces profitability, resulting in a fall in investments from I₀ to I₁. Furthermore, higher interest rates discourage consumption (C) as consumers may now choose to save more instead to earn the higher interest. The fall in I and C reduces the equilibrium level of national income from Y₀ to Y₁. Contractionary monetary policy also tends to lower the general price level from P₀ to P₁ as AD falls and will help to **address the rising inflation of UK**.



Additionally, the increase in interest rates will help to **attract hot money, leading to appreciation of GBP to stabilise the weakening currency**. An appreciation signals stability and strength of the economy as investors are guaranteed of their future returns. Moreover, an appreciation reduces the price of imported factor inputs, thereby **reducing imported cost-push inflation**.

Evaluation: Although Contractionary MP may adversely affect economic growth as RNY tends to fall, however in UK's case, it is expected not to have significant adversary effect on economic growth as is evident from **Extract 6** ; "monetary policy has run its course after a massive easing last year" which shows that investors were not responding to low interest rates." Thus, investments is likely to be interest inelastic. Therefore, even with an increase in interest rates, there will only be a less than proportionate fall in investments.

Note: Although EMP is theoretically possible, however, given UK's weak investment climate, EMP would not be very effective to enable UK to address its issues.

Note: Theoretically, an appreciation can help both imported inflation and can help in stopping the capital flight by inducing confidence in the UK currency. However, the Bank of England follows a flexible exchange rate system and **does not set the exchange rate** but its actions can indirectly affect the value of the pound. Thus, contractionary MP might help through the hot money channel by strengthening the GBP.

Body 3: FTA with other countries: To address the problem of falling trade as mentioned in Ext 6: "the UK would lose trade with its neighbours", UK should aim to have more FTAs with other countries of the world including the EU. FTAs would help UK to achieve her economic aims.

- Define FTA: Legally binding agreement between two or more countries that seeks to reduce or eliminate trade barriers.
- Explain that UK can sign both bilateral and multi-lateral FTAs to expand its exports markets.
- With the lowering of trade barriers against UK's X, UK will be able to leverage and trade according to its comparative advantage and increase both its export volume and value, overcoming its constraints of losing trade with its EU neighbours.
- Increase in X revenue → Increase AD → more than proportionate increase in NY (briefly explain the k effect) → increase real GDP → increase real national output → increase utilisation of existing resources → actual growth (Illustrate with rightward shift of AD curve)
- With firms increasing production → increase demand for labour, with labour being a derived demand → increase employment.
- Increase in X revenue improves current account of BOP (ceteris paribus).
- By being open to trade, UK can has benefit from its ability to import essential raw materials and food stuff more cheaply than resorting to produce such goods herself where the opportunity cost of doing so would might be high.
- Lower prices on imported inputs → lower COP → Increase SRAS → Increase actual growth, lower GPL, dampening cost-push inflation. (Illustrate with downward shift of SRAS curve)
- Lower COP would also increases UK's X price competitiveness, assuming $PED_x > 1$ → Increase in X revenue and similar effects on raising AD, actual growth and employment.
- By being open to trade, competition from foreign M lowers barriers to entry and forces firm to be cost-efficient and adopt product and process innovation → movement towards productive and dynamic efficiency,
 - Additionally FTAs encourage good relationships with other countries and may lead to an increase in FDI.
- Inward investment via FDI → increase in I component of AD → similar effects on raising AD, actual growth and employment.
- Increase in FDI → helps to build up capital stock and deepen UK's capital intensity. Increases economy's productive capacity and increases potential growth. (Illustrate with rightward shift of LRAS curve)

- Increase in FDI → transfer of technology know-hows and competition effect → encourages innovation, R&D → increases potential growth.
- FDI inflows improves capital account in SR, ceteris paribus improves overall BOP.

Evaluation: However, FTAs take a long time to materialise and other countries might not be agreeable to have FTA with UK as it has lost its negotiation power with the rest of the world after Brexit (Ext 6) and will need time to build up her credibility again.

[SS side policies are also acceptable, e.g. subsidies to address issues like domestic inflation and slow growth.]

Conclusion:

Preferably, UK should use different policies in the short run such as EFP to tackle issues like slow growth and use contractionary MP to address the weakening GBP and inflation. However, in the long term, it is better for UK to undertake SS-side policies for sustained growth. Furthermore, the government can also push for greater trade integrations with other countries such as joining economic cooperation and signing FTAs. These trade policies will invariably help to support the existing demand management and supply-side policies and help the government achieve its macroeconomic aims.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L2	<ul style="list-style-type: none"> • Question requirements are interpreted accurately. • Two well elaborated policies using appropriate economic concepts and well supported by contextual evidence. (Must address the issues mentioned in extract 6 and show clear links how the policies are able to address those issues.) • Appropriate diagrams are used to support economic analysis, where relevant. <p>Only one policy discussed, but clearly explains how at least 2 of the issues faced by UK can be addressed- max 5m</p>	5 – 7
L1	<ul style="list-style-type: none"> • Gives theoretical response by simply explaining policies without any context to the issues faced by UK. • Addresses only one issue faced by UK. • Inaccurate economic analysis. 	1 – 4
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis. Show good understanding of conflicts between policies. Judgment made is based on the information provided in case material. Unexplained evaluative comments.	2 – 3 1



NANYANG JUNIOR COLLEGE

2018 JC2 Preliminary Exam H2 ECONOMICS

Paper No: 9757/02

14th September 2018
Friday

Time : 1430 – 1645 hrs
Duration : 2 hours 15 mins

READ THESE INSTRUCTIONS FIRST

Do not flip the page of this paper until you are told to do so.

Write your name, class and name of your economics tutor in the space provided on the writing paper.

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

The number of marks is given in the brackets at the end of each question or part question. Write your answers on the writing papers provided. At the end of the examination, fasten all your work securely together.

There are 2 printed pages including this cover page

Answer **three** questions in total.

Section A

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

- 1 Analysts are forecasting a sharp rise in oil prices by the end of this year as a result of a reduction in oil flows in Iraq due to fighting between government forces and Kurdish militant groups. In addition, oil production is still being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market. In the main growth areas of Asia, consumption remains strong especially in China and India, the world's top importers.

Adapted from <https://www.reuters.com/article/oil-prices>, 23rd Oct 2017

- (a) Explain how the above-mentioned factors might have caused a sharp rise in oil prices. [10]
(b) Discuss whether a subsidy or a maximum price control is more effective in increasing the affordability for petrol due to the rise in oil prices. [15]
- 2 The merger of the UK's second- and third-largest supermarket chains (Asda-Sainsbury) could hand them control of about 30% of the grocery sales, a similar level to Tesco, meaning two businesses would account for 60% of the market in future.

Adapted from The Guardian, 3rd May 2018

- Discuss whether the UK government should be concerned with the merger of these supermarket chains. [25]
- 3 (a) Explain how consumers and firms make rational decisions in the pursuit of self-interest. [10]
(b) Discuss whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources. [15]

Section B

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

- 4 (a) Explain the key determinants of sustained economic growth. [10]
(b) Assess the extent to which the size and openness of an economy affects the choice of macroeconomic policies a government adopts to achieve sustained growth. [15]
- 5 To help Singapore achieve her productivity target of 2 to 3% each year until 2020, the Singapore government has focused on strengthening human capital, boosting innovation through tax incentives and building state-of-the-art digital infrastructure. There has also been a tightening of foreign worker policies in a bid to support innovation and automation especially among small and medium enterprises.

- Discuss whether possible trade-offs in economic aims may arise as the government implements these strategies to raise productivity in Singapore. [25]
- 6 Singapore has dropped a spot to become the world's third most competitive economy, according to a report by the World Economic Forum. But while Singapore posted an "excellent performance" across the board, it still lags behind the world's most prolific innovation powerhouses and cost pressures remain a concern.

- (a) Explain why the comparative advantage of a country may change over time. [10]
(b) Discuss the effectiveness of the various economic policies the Singapore government could adopt to maintain her competitiveness in the global economy. [15]

*** The End ***

2018 JC2 H2 Econs Prelim Paper 2

Section A

2018 JC2 H2 Econs Prelim Paper 2 Question 1

1	Analysts are forecasting a sharp rise in oil prices by the end of this year as a result of a reduction in oil flows in Iraq due to fighting between government forces and Kurdish militant groups. In addition, oil production is still being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market. In the main growth areas of Asia, consumption remains strong especially in China and India, the world's top importers. Adapted from https://www.reuters.com/article/oil-prices , 23 rd Oct
(a)	Explain how the above-mentioned factors might have caused a sharp rise in oil prices. [10]
(b)	Discuss whether a subsidy or a maximum price control is more effective in increasing the affordability for petrol due to the rise in oil prices. [15]

(a)

Question Analysis	
Command	Explain
Content	Demand, Supply, Elasticities
Context	Oil Market
Synopsis: <i>Students are required to identify the 1 demand and 2 supply factors from the preamble that caused the increase in oil prices. After which, they have to use PED and PES concepts to account for the sharp (magnitude) increase in prices.</i>	

Intro:

- State what determines price in a free market. (demand and supply)
- The reason for the 'sharp' rise in oil prices can be attributed to:
 - o Rise in Demand "...consumption remains strong especially in China and India..."
 - o Fall in Supply "...fighting between government forces and Kurdish militant groups..." together with "...a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers..."

Coupled with:

- o The PED and PES of oil being price inelastic.

Body 1:

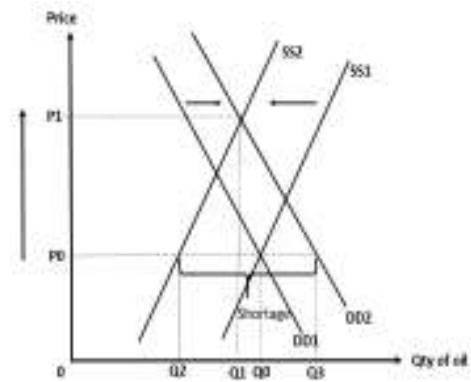
- Demand for oil rose due to rapid growth of emerging economies, China and India. Oil is required as a factor input for production processes. Thus, due to industrialisation in China and India, the demand for oil rose.
- Supply falling due to reduction in flows in Iraq due to fighting between government forces and Kurdish militant groups. As there was political and social instability in Iraq, the supply of oil was disrupted. (Iraq holds 12.1% of OPEC crude oil reserves).
- Supply of oil production being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market so as to reduce the glut due to the boom of US shale oil output. This will help to maintain the price of oil so that oil producers will not suffer from low oil prices if supply continues to rise.

Body 2:

- Demand of oil is price inelastic as it is a form of necessity for production processes.
- Supply of oil is also price inelastic as the construction time of oil rig is likely to be long. Changes in quantity supplied is also likely to be less responsive to price changes as oil production is being withheld as part of a pact between the Organization of the Petroleum Exporting Countries (OPEC) and non-OPEC producers to tighten the market.

Body 3:

- As shown in the diagram above, the increase in demand for oil will cause the demand curve to shift rightwards from DD₁ to DD₂ and the fall in supply for oil will cause the supply curve to shift leftwards from SS₁ to SS₂.
- A shortage of Q₂Q₃ now exists at the original price, P₀. During a shortage, consumers will bid for higher prices to get the limited amount of oil. And as price rises, quantity supplied will also increase according to law of supply. Thus, shortage will drive up prices and price of oil will now increase from P₀ to P₁. The magnitude of the increase in price will also be larger as demand and supply are price inelastic. At P₁, the quantity demanded is the same as quantity supplied and hence, the market is in equilibrium.



Conclusion:

- Sharp rise in oil prices will raise the cost of production in the country and this will have negative consequences on the macroeconomic goals.
- Hence, governments will have to implement policies such as subsidy and maximum price controls to curb the negative effects of rising oil prices.

Qn 1 part a)

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Question requirements are interpreted accurately. • Appropriate economic concepts (Demand, Supply and Price Elasticities of Demand and Supply) are used. • Well-developed explanation of how the factors mentioned in the preamble caused a sharp rise in oil prices. • Appropriate Demand/Supply diagram/s is/are used to support economic analysis. <p>Makes reference to the context.</p> <ul style="list-style-type: none"> - SS change in drastic (Military conflict together with the Pact amongst both OPEC and non-OPEC) - DD change is small ("remains strong", rather than 'increased growth') - DD inelastic (provides anecdotal support) - SS inelastic (provides anecdotal support) 	8 – 10
L2	<ul style="list-style-type: none"> • Addresses some question requirements accurately. • Some appropriate economic concepts (Demand, Supply and Price Elasticities of Demand and Supply). • Undeveloped explanation of how the factors mentioned in the preamble caused a sharp rise in oil prices. • Appropriate Demand/Supply diagram/s is/are used but might not be explained or used to support economic analysis. <p>Competent use of economic theory and tools of analysis (to account for the sharp rise in prices)</p> <ul style="list-style-type: none"> - Shows double shifts - Relates to PES and PES - Single shift with no reference to elasticity concepts. 	5 – 7
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. 	1 – 4

	<ul style="list-style-type: none"> Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. <p>Weak/no use of economic tools of analysis</p> <ul style="list-style-type: none"> - Single sided shift. - Confused btwn dd & ss concepts - Incorrect analysis 	
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(b) Discuss whether a subsidy or a maximum price control is more effective in increasing the affordability of petrol due to the rise in oil prices.

Question Analysis	
Command	Discuss whether
Content	Workings of subsidy and maximum price control
Context	Oil prices rising, no particular country required (students will need to bring in relevant examples to explain the answer)
<i>Synopsis:</i> <i>Students need to recognise that oil is a factor input for producing petrol. Hence, the price of petrol will rise due to rising oil prices. Students will then be required to explain how a subsidy and maximum price control work to increase the affordability of petrol and analyse which method is more effective.</i>	

Intro:

- State the importance of keeping petrol affordable :

Petrol is used to power private transport and is important to maintain mobility of labour and commerce in the economy. Efficient low cost transport is important for the running of a market economy.

- Outline the criterion to assess 'effectiveness':

We will examine two approaches available for governments to keep petrol affordable; subsidies and maximum price controls. The effectiveness of these measures will be assessed against the ability to reduce price, the costs of implementation as well as the potential side-effects.

Body 1: How a subsidy works:

- Subsidy** → reduce cost of production → SS increase from SS1 to SS2 as shown in the figure below → Price will fall from P_1 to P_2 and Quantity will rise from Q_1 to Q_2

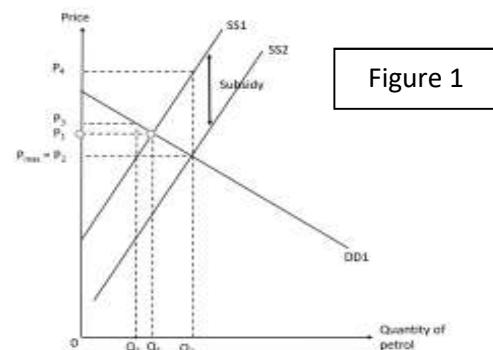


Figure 1

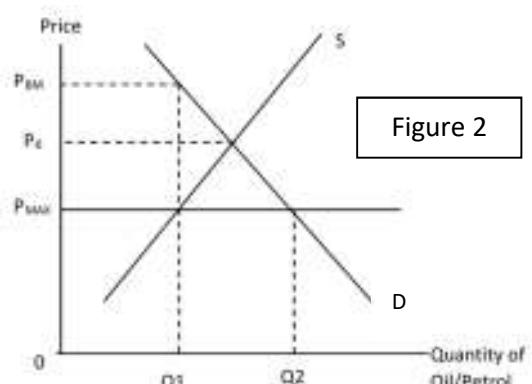
Body 2: Effectiveness of subsidy

- PRICE:** Subsidy → P falls from P_1 to P_2 and Qty will rise from Q_1 to Q_2 . Therefore, consumers can consume more petrol than before at a lower price (affordable for consumers).
- IMPLEMENTATION:** Subsidising the producer is fairly easy to do by directly funding producers/suppliers of oil producers/retailers.
- SIDE-EFFECTS:** Government also has to have sufficient funds to subsidise the consumers. If the government does not have sufficient budget to do so, it will have to either borrow or raise taxes such as personal income tax and/or corporate tax so as to raise revenue to fund the subsidies.
- OTHER CONCERNS:**

- Govts cannot be assured that the funds given to reduce the producers' costs of production will result in lower prices. Funds could just be kept as increased profits by producers not reducing prices.
- Unintended consequences: A subsidising and lowering the price of oil/petrol will have the effect of reducing the incentive for consumers to use 'greener' sources of energy. This fall in demand for alternative fuels will eventually result in a less than desirable level of pollution in the country.
- NOTE: The effectiveness of the subsidy also depends on the type of subsidy provided. A subsidy on oil would have a more far reaching effect than a subsidy on petrol. Subsidising petrol would directly benefit the end user of petrol. A subsidy on oil would not only benefit the end user of petrol but would have a more far reaching effect on the general cost of production as oil is used in the generation of electricity, which in turn affects the cost of production of almost all goods and services.

Body 3: How a price ceiling works

- **Maximum Price Control** → Price ceiling → a *legally established maximum price* → It is binding when it is set below the market equilibrium price → With reference to the figure below, it is at P_{MAX} which is below original price, P_1 .



Body 4: Effectiveness of Price ceilings

- **PRICE:** If P_{MAX} is set below the equilibrium price then the price consumers pay will be lower (more affordable). However, the quantity supplied to consumers will only be at Q_1 even though quantity demanded at this lower price is at Q_2 . This means there will be a shortage of $Q_2 - Q_1$.
- **IMPLEMENTATION:** A price control is also easy to set but policing costs may be high as the resultant shortage will encourage the formation of black markets selling at a higher price (P_{BM}). To be effective these black markets would have to be policed and brought under control.
- **SIDE EFFECT:** The primary side-effect of any form of price control would be the formation of black markets. In this case the official/legal retailers who sell at the low price of P_{MAX} would not be able to supply all the consumers (because of the shortage). Thus, consumers who are willing and able to pay a higher price, in this case P_{BM} will entice retailers to sell them at this much higher, illegal price.
- **OTHER CONCERN:**
 - The resultant shortage can lead to many other potential problems other than black markets. This could include looting, and other socially disruptive behaviour among consumers.

Body 5: Comparison and assessment:

- **AFFORDABILITY/PRICE:**
 - In terms of affordability, although both measures are able to reduce price, a subsidy ensures greater levels of consumption while a price ceiling will actually reduce levels of consumption. Subsidising production means increased output (Q_1 to Q_2 in Fig1), however, a price ceiling reducing the quantity consumed to Q_1 (Fig 2).
 - In terms of each measure's ability to reduce price, they are both equally effective. Since the demand of petrol tends to be inelastic a relatively small subsidy can result in a significant fall in the price. In the case of a price ceiling, the maximum price set could be set arbitrarily, independent of demand and supply conditions.
- **IMPLEMENTATION:** A rich government with ample budget reserves can afford to subsidise oil/petrol producers (even if the oil/petrol market is a major market in the economy). However, a government facing budget problems or with a large national debt, may be reluctant to use subsidies. On the other hand, the implementation problems associated with a price ceiling are connected with policing costs. Thus, governments with strong policing abilities like military dictatorships may implement price controls with little difficulties.

Conclusion:

Overall, subsidy seems more effective than a maximum price control as the latter creates a black market which creates more inefficiency and may eventually raise the price even higher than the original price. If maximum price control is used, macroeconomic goals (economic growth & stable prices) may be compromised due to producers facing rising cost of production (due to high prices charged in black market) and cutting back on production (due to shortage of petrol).

Nevertheless, it also depends on the country's financial capabilities as well. A government in budget deficit is unable to provide subsidies and may incur debt and worsen economic situation if it borrows. Also, provision of subsidies is not a long-term solution as it is a strain on government's budget and incurs opportunity cost. Thus, subsidies may be provided in the short-run but government has to implement other policies such as reducing the reliance on petrol by using biofuels.

Part b) Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> Well-developed explanation of how subsidy and maximum price control work to increase affordability of petrol. Detailed analysis on the effectiveness of subsidy and a maximum price control in increasing the affordability of petrol. Appropriate diagrams are used to support economic analysis, where relevant. <p>Good use of contextual examples to illustrate points. Responses that were able to distinguish between the markets for "oil" and "petrol" should get to this level.</p>	8 – 10
L2	<ul style="list-style-type: none"> Undeveloped explanation of how subsidy and maximum price control work to increase affordability of petrol Limited analysis on the effectiveness of subsidy and a maximum price control in increasing the affordability of petrol. Appropriate diagrams are used but might not be explained or used to support economic analysis. <p>Largely theoretical answer with little or no illustrative examples. Economic analysis is incomplete and/or contains some errors.</p>	5 – 7
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 – 4
Evaluation		
E3	Evaluative comments on whether a subsidy or a maximum price control is more effective in increasing the affordability of petrol.	4 – 5
E2	Attempt to explain evaluative comments is incomplete or inaccurate at times.	2 – 3
E1	Evaluative comments are unexplained or not supported by economic analysis.	1

2	The merger of the UK's second- and third-largest supermarket chains (Asda-Sainsbury) could hand them control of about 30% of the grocery sales, a similar level to Tesco, meaning two businesses would account for 60% of the market in future.	Adapted from The Guardian, 3 rd May 2018
	Discuss whether the UK government should be concerned with the merger of these supermarket chains.	[25]

Question Analysis	
Command	Discuss whether
Content	Effects of merger on the social welfare
Context	These Supermarket Chains (i.e. Asda and Sainsbury)
Synopsis: <i>Students are required to explain how the merger of Asda and Sainsbury will increase their market share and its impacts (both negative & positive) on the society (i.e. consumers and producers as a whole). Thereafter, students will need to weigh the positive and negative impacts (costs & benefits) and come to a judgment on whether the UK government should be concerned with the merger of these supermarket chains with substantiation.</i>	

Intro:

A merger refers to when two firms agree to go forward as a single firm rather than to remain separately owned and operated. In this case, firms may decide to merge to pursue cost savings and/or increased market share, with the underlying motive of increasing profits. The merger could bring about both negative and positive impacts on the society (i.e. *consumers and producers as a whole*). Thus, it is important that UK's government analyses these impacts to determine whether they should be concerned with the merger in their desire to pursue **efficiency** and **equity** which in turn maximises social welfare.

Body 1: Why would the firms merge?

Merger between Asda & Sainsbury will bring about costs savings

- The increased scale of production from merger lead to greater scope for reaping internal EOS **[Illustrate using an example of internal EOS due to merger]** which refers to a fall in AC arising from increased scale of production of a firm and thus increases profits, ceteris paribus.

Merger can lead to higher total revenue earned by Asda & Sainsbury

- By merging, Asda-Sainsbury is able to capture a larger share of the global market as the consumer base from both firms are now combined, which leads to higher demand for Asda-Sainsbury. Demand for the Asda-Sainsbury's products also becomes more price inelastic as consumers now have fewer substitutes to switch to in the same price range. With reference to Figure 1, firm's demand increases from AR to AR', Asda-Sainsbury will adjust its output to where MR'=MC. Equilibrium price and quantity sold increases to P' and q' respectively, leading to higher TR which is price multiplied by quantity sold. Profits therefore increase from area PBEAC to area P'FGAC' as seen in Figure 1.

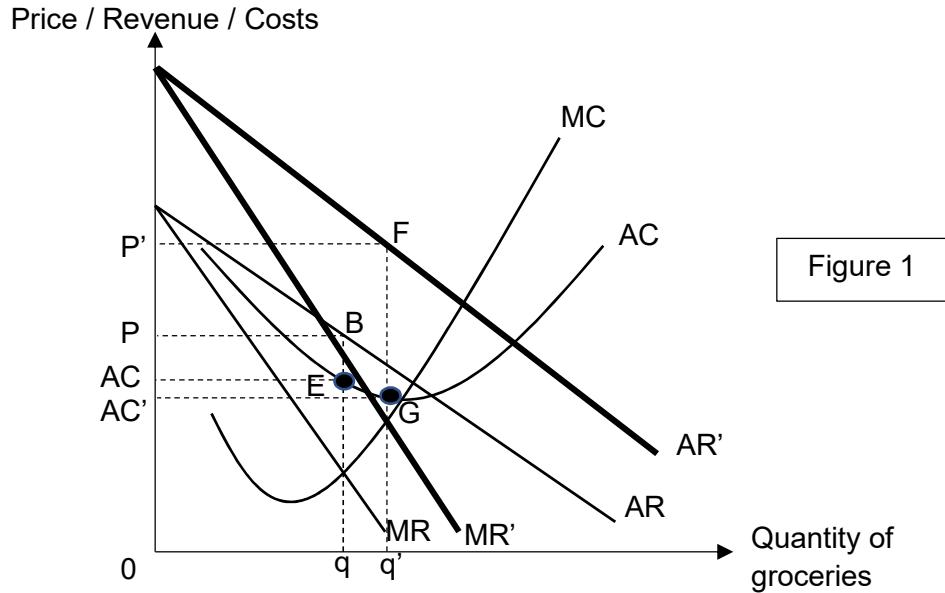


Figure 1

Body 2: Government should be concerned with the merger of the supermarkets

With less competition in the market, it may result in worsening of allocative efficiency

- The merger of Asda-Sainsbury could be intended to deter entry of potential entrants by Asda or Sainsbury given that they control about 30% market share as indicated in the preamble. In this instance, this would be considered as an example of artificial barriers to entry which could lead to possible market dominance. As a result, it would face a higher demand as Asda-Sainsbury captures a larger section of market demand. Asda-Sainsbury would also have a more price inelastic demand as there are now fewer firms in the market after the merger, which means there are fewer substitutes available in the same price range. Assuming cost conditions remains unchanged with merger, this would result in greater social welfare loss. Before the merger, the deadweight loss is represented by area abc as shown in Figure 2. There was underproduction since for the units between the profit maximising output level (Q) and the allocative efficient level (where firm's AR cuts MC), $P > MC$, society values each of the units more than the MC of producing it which yields a net gain for society. By not producing those units, society lost the potential gain in welfare. After the merger, the deadweight loss is represented by area def, which is bigger than area abc.

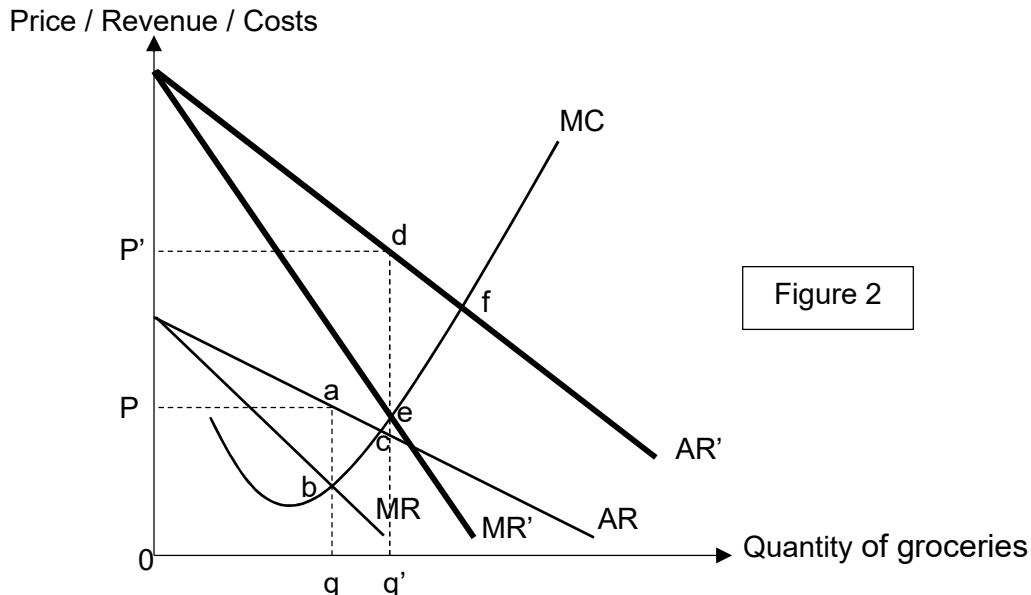


Figure 2

With the merger, there may be greater inequity

- Due to the possible market dominance of Asda and Sainsbury, consumers are now charged at a higher price of P' as explained above. Given that groceries are necessities, the demand for groceries would likely to be price inelastic especially for the low income consumers. An increase in price of groceries would result in a less than proportionate decrease in quantity demanded of groceries and thus there would be an increase in consumer expenditure on groceries for the low income consumers. In addition, Asda-Sainsbury would enjoy an increase in supernormal profits from area PBEAC to area PFGAC as seen in Figure 1. This worsens inequity between consumers and firms as Asda-Sainsbury gains its profits excessively at the expense of low income consumers who require groceries for survival.
- It may also lead to worsening of inequity as structural unemployment may result. With merger, there would be streamlining of processes such that redundant workers are laid off. For example, instead of Asda and Sainsbury having 1 marketing manager each, Asda-Sainsbury now only needs only 1 marketing manager. Hence, the workers that lose their jobs may find themselves structurally unemployed since the skills the retrenched worker possess may not match with what the UK economy needs, thus worsening equity in income distribution between households.

Merger may lead to X-inefficiency

- The merger may lead to the pursuit of alternative objective such as revenue maximisation given that the shareholders of Asda-Sainsbury (who are primarily interested in maximising profits) could be more far removed from the operations of the firms to be fully aware of the optimal decisions that need to be made to maximise profits.
- This may lead to complacency of Asda-Sainsbury's managers where the income of these managers could be dependent on the total revenue of the firm. Thus, they may not do its best to produce at the least average cost given its supernormal profits earned from merger as seen in Figure 1. As a result, they might choose to maximise total revenue rather than profits which would result in X-inefficiency. **[Explain and Illustrate using a graph]**

Merger may lead to less process and/or product innovation

- If the market of supermarkets is less contestable, the possible market dominance due to merger could lead to less incentive for R&D and thus less process and/or product innovation **[Provide examples to illustrate]** → no improvement in quality over time, limited increase in variety over time, limited reduction in average cost over time.

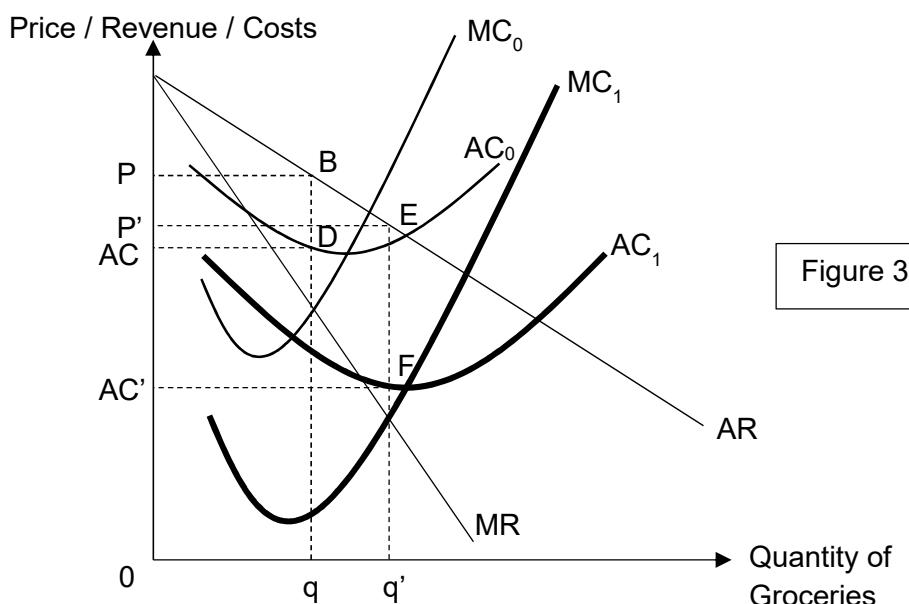
Body 3: Government should not be concerned with the merger of the supermarkets

With a merger, prices can be lowered which can improve equity.

- The merger of Asda-Sainsbury could result in the increased scale of production which enables it to use a bigger plant, resulting in internal EOS. For example, it can enjoy technical EOS from a bigger warehouse due to the principle of increased dimensions – storage space rises more than in proportion to construction costs.
- As a result, Asda-Sainsbury may lower its price **[Explain & Illustrate using a graph]** which makes groceries more affordable for low income consumers. Given that groceries are necessities, the demand for groceries would likely to be price inelastic for the low income consumers. A decrease in price of groceries would result in a less than proportionate increase in quantity demanded of groceries and thus there would be a decrease in consumer expenditure on groceries for the low income consumers. This would improve equity in distribution of goods as the low income consumers are better able to access groceries given that these are essential goods for survival.

The merged supermarket may be more dynamically efficient.

- R&D tends to be costly and inherently risky with uncertain results. With increased profits earned from the merger, Asda-Sainsbury would have greater ability to undertake investments in R&D. This results in process and/or product innovation, which enhances dynamic efficiency and improves society's welfare over time.
- Through process innovation, cost may be reduced and this will result in both AC and MC falling **[Explain and Illustrate using examples]**, leading to a lower price charged by the firm and larger output produced. As shown in Figure 3, this is beneficial for society's welfare as consumers benefit from lower prices (P to P') and higher consumer surplus, and firms also benefit from increased profits earned from area PBDAC to area P'EFAC'.



The merged supermarket is better able to compete with foreign supermarkets and also venture overseas.

- With internal EOS reaped and product, process innovation undertaken, Asda-Sainsbury would thus be able to lower its prices as highlighted above and/or offer higher quality products for consumers in future and better able to compete with foreign supermarkets such as Aldi and Lidl. They may also eventually be able to expand their supermarkets overseas and thus increase total revenue and thus profits, ceteris paribus. **[Explain & Illustrate using graph]**

Conclusion:

- Overall, the UK government should not be concerned in the short run given that the supermarket is largely contestable given that the potential entrants such as Amazon has access to technology to deliver the groceries items sold in the physical store in the supermarket chains. Moreover, supermarket sells necessities to consumers where the merger may result in lower prices for Asda-Sainsbury products given the constraint of prevailing price wars among discount supermarket chains such as Aldi in the recent year which would be significantly beneficial for the low-income households and thus achieving equity. These constraints would likely to result in merged Asda-Sainsbury to bring greater benefits arising from reduction in cost to the society than the costs of higher market share.
- However, the scope for internal EOS that can be reaped from the merger is likely to be lower for supermarkets given that the production process is still rather labour-intensive. Furthermore, Asda – Sainsbury would hold 30% of the market which is similar to Tesco, the merger could be intended to deter potential entry in the future through anti-competitive strategies which may result in higher prices in the future and thus worsens equity. Thus, the net benefits arising from merger could be smaller in the long run. Thus, the UK government would need to be concerned in the long run which explains why the competition authorities in UK would investigate mergers if the combined firm have at least a 25% market share¹.

¹ <https://www.gov.uk/mergers-when-they-will-be-investigated>

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • Thorough knowledge of merger and theory (cost/revenue concepts & firm's graph) coupled with an excellent ability to use firm's diagram to explain the various impacts (both positive and negative) of the merger on the consumers and producers as a whole which in turn affect both efficiency and equity in a precise, logical and reasoned manner • Excellent use of examples that are appropriate to the context presented in both preamble and the question set. • Good knowledge of merger and theory (cost/revenue concepts & firm's graph) coupled with an ability to use firm's diagram to explain the various impacts (positive and negative) of merger on the consumers and producers as a whole which in turn affect both efficiency and equity. • Good application to question set including the information presented in the preamble. • Good use of examples that are appropriate to the context presented in both preamble and the question set. • Reasoned (analytic) structure to the whole answer. 	18 – 20 15 – 17
L2	<ul style="list-style-type: none"> • Answer relevant to the question but theory (cost/revenue concepts & framework) and the various impacts of merger on the consumers and producers as a whole which in turn affect both efficiency and equity incompletely explained. • Some ability at diagrams with incomplete explanation. • Accurate but undeveloped explanation of the various impacts of merger on the consumers and producers as a whole which in turn affect both efficiency and equity together with undeveloped explanation of the theory (cost/revenue concepts & framework) • Limited ability at organisation of ideas. 	12 – 14 9 – 11
L1	<ul style="list-style-type: none"> • Shows some knowledge of what merger is and why firms merge. • Meaning of question not properly grasped. • Basic errors of theory. • Inadequately explained. • A few valid points. • Answer mostly irrelevant or inaccurate. 	5 – 8 1 – 4
Evaluation		
E3	Well-explained judgment on whether UK government should be concerned with the merger of these supermarket chains supported by economic analysis.	4 – 5
E2	Attempt to explain evaluative comments is incomplete or inaccurate at times.	2 – 3
E1	Evaluative comments are unexplained or not supported by economic analysis.	1

3	(a)	Explain how consumers and firms make rational decisions in the pursuit of self-interest.	[10]
	(b)	Discuss whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources.	[15]

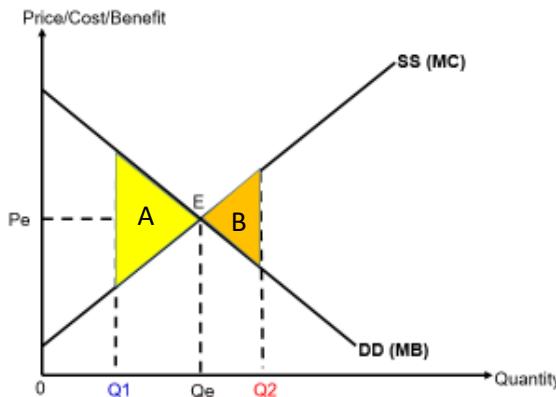
Question Analysis	
Command	Explain
Content	Marginalist Principle
Context	Consumers and Firms
Synopsis:	
<ul style="list-style-type: none"> Students need to show an understanding that consumers and firms makes rational decision where they aim to maximise their self-interest (Consumers: utility maximisation, Firms: profit maximisation). After which, they are required to use the Marginalist Principle to explain how consumers and firms make rational decisions. 	

Intro:

- All economies face the problem of scarcity, a situation where there are unlimited wants but limited resources. Thus, choices have to be made for the best allocation of resources in an economy.
- Similarly, consumers and firms also face constraints and thus must also make choices. As opportunity cost is incurred when making choices, societies will choose the particular assortment of goods and services with the objective of gaining the highest level of satisfaction with the least possible cost.
- Both consumers and firms makes rational decision where they aim to maximise their self-interest.
- In the case of consumers, utility maximisation while in the case of firms, it is profit maximisation.
- This can be achieved by weighing up the opportunity cost arising from an activity against the benefits, by considering the marginal effects of change.

Body 1: Marginalist principle applied to consumers

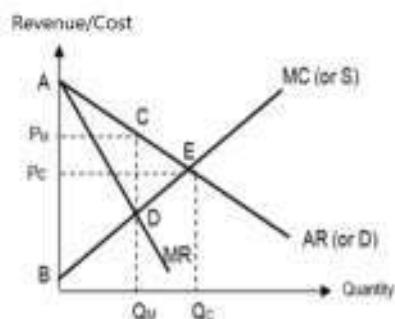
- A rational consumer seeks to maximise net total benefits from consuming a good. Rational decision-making by consumers involves considering the marginal benefits and the marginal costs of consuming the good.
- The marginal benefit is the satisfaction derived from consuming an additional unit of the good while the marginal cost is the price paid for the good.



- At Q_1 , there is under-allocation of resources to this product from society's viewpoint. There has also been a loss of welfare which is called deadweight loss (area A). Welfare can be increased by increasing consumption up till Q_e .
- At Q_2 , there is over-allocation of resources to this product from society's viewpoint. There has also been a loss of welfare which is called deadweight loss (area B). Welfare can thus be increased by reducing consumption up till Q_e .
- Therefore, consumers will consumer till the point at Q_e where $MB = MC (P)$ to maximise net total benefit.

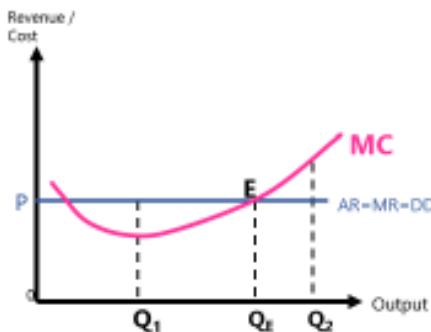
Body 2: Marginalist principle applied to firms

- A rational firm seeks to maximise total profits from the production and sale of a good. Rational decision making by firms means that firms will base their output decision on the marginal revenue and marginal cost.
- In deciding how many units of a good to produce, a profit maximising firm will produce up to the point where the additional cost from producing one additional unit of output equates the additional revenue from selling it.
- A firm with monopoly power can control either the price or output. Being rational in their decision making, monopoly firms will maximize their profits and set a price at P_M at quantity Q_M where $MC = MR$, referring to Figure 2 below. However, consumers value an additional unit of the good more than its marginal cost and hence welfare can be further increased by increasing the production of the good to where $P = MC$ at a lower price P_C and at a greater quantity Q_c . Thus, there is a deadweight loss of CDE due to the under-production of goods and services by large and dominant firms. Welfare is not maximized and hence market dominance causes an inefficient allocation of resources.



OR

- Assuming it's a perfectly competitive firm.



- A rational firm will produce and sell an extra unit of a good as long as $MR > MC$ (Q1). Because this means that by producing that unit, there will be bigger addition to revenue (MR) than to cost (MC) and total profits will increase given that marginal profit is positive.
- When production by the firm is at an output (Q2) where MC exceeds MR , producing that adds more to cost than to revenue and hence reduce profit. Firms' profits can be increased by cutting back on production since marginal profit is negative. Firms thus produce up to the point, Q_E where $MR=MC$ where the total profit is maximised.

Conclusion:

- The marginalist principle is adopted by both consumers and firms when they attempt to maximise their self-interest.
- When resource allocation is left to the price mechanism, goods are produced up to the point where demand matches supply. Since demand reflects MB and supply reflects MC, at the market equilibrium point, where demand matches supply, $MB=MC$ and society's welfare is maximised.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • For an answer that uses the marginalist principle to explain how both producers and consumers make their consumption and production decision. • Appropriate diagrams are used to support economic analysis. 	8 – 10
L2	<ul style="list-style-type: none"> • For a descriptive answer that recognises the marginalist principle is the basis of rational decision making but there are gaps in explanation. • Appropriate diagrams are used but might not be explained or used to support economic analysis. • For a one-sided answer that only clearly explains rational decision making by the firms OR consumers. (Max 6) 	5 – 7
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. • Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. • Inappropriate or wrong diagrams are used. 	1 – 4

b) Discuss whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources. [15]

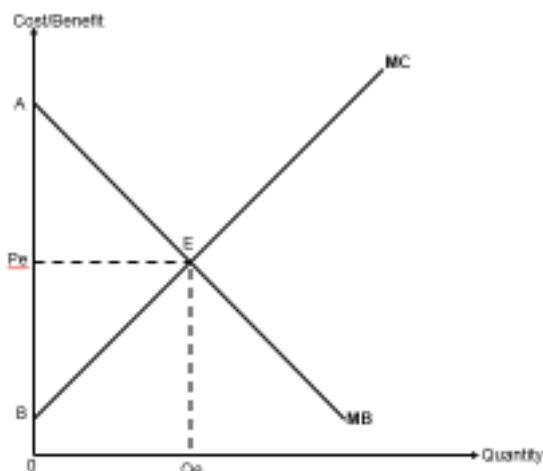
Question Analysis	
Command	Discuss
Content	Allocative efficiency and Sources of market failure
Context	Consumers, Firms, Government
Synopsis:	
<ul style="list-style-type: none"> • Students need to explain how rational decision-making by consumers, firms and government will lead to allocative efficiency in a perfect market and analyse 3 sources of market failure in which rational decision-making by consumers, firms and government will lead to allocative inefficiency. 	

Introduction

- An efficient allocation of resources occurs when there is an optimal distribution of goods and services. With consumers aiming to maximize their satisfaction, firms aiming to maximize their profits and government to ensure efficiency in allocation and equity in wealth and income distribution, rational decision-making by these economic agents could lead to efficient allocation of resources in certain circumstances.

Body 1: Thesis: Rational decision-making by consumers, firms and government always leads to an efficient allocation of resources.

- Rational decision-making by consumers, firms and government will lead to an efficient allocation of resources under the conditions that goods have no externalities, goods are in rivalry and are excludable, there is perfect competition and information, perfect mobility of factors of production and there are income and wealth equality.
- Allocative efficiency is a situation where the optimal mix of goods and services are being produced resulting in maximisation of welfare where both the consumer and producer surpluses are maximized, at areas AEPe and BPeE respectively. This occurs when firms produce at $P_e = MB = MC$ (Figure 3).

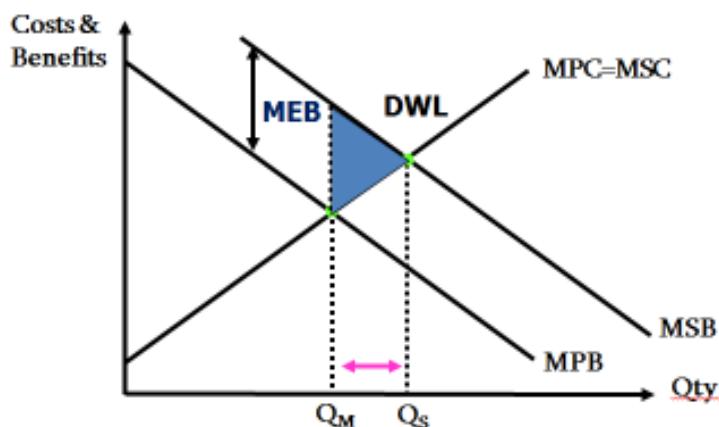


Body 2: Anti-Thesis: Rational decision-making by consumers, firms and government does not always lead to an efficient allocation of resources.

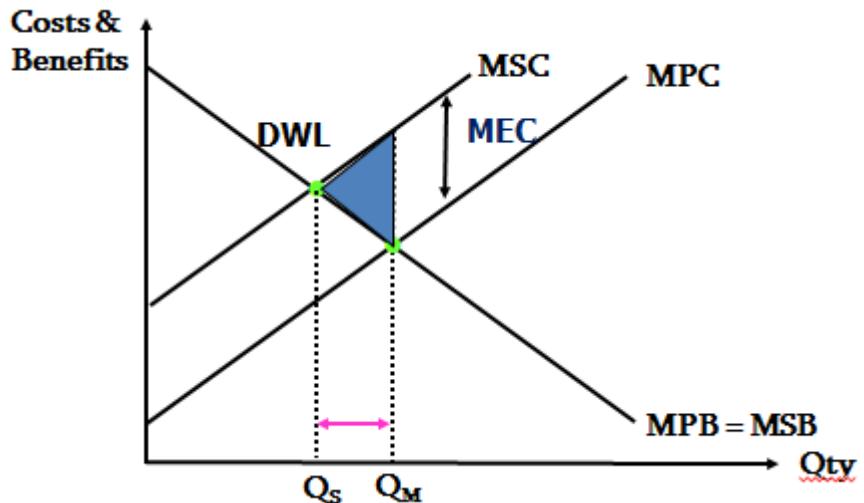
- Therefore, should there be distortions to the market such that the conditions mentioned previously do not hold, rational decision-making by consumers, firms and government will not always lead to an efficient allocation of resources. This means that there are too few or too many resources used in the production of a good or service and the total surplus (consumer surplus + producer surplus) is not maximized. Examples of such situations will be when there are imperfections in the market such as market dominance, goods have externalities and firms and consumers have imperfect information.
- Positive externality or external marginal benefits are benefits borne by individuals or society who are not directly involved in the production or consumption of a good. They are also known as third party benefit. Merit goods such as education, healthcare, sports facilities and museums tend to give rise to positive externalities. Vaccinations against contagious disease not only help the person vaccinated but also the people who he comes into contact with but are not vaccinated (third party) as they have a lesser

likelihood of contacting the contagious disease (external benefit).

- As there are external benefits to consumers, the MSB curve, lies above the MPB curve by an amount equal to MEB. Without any government intervention, the market equilibrium is where $MPC = MPB$. This will give the market equilibrium quantity Q_m . The social optimum level of output is attained when the cost of producing the last unit is equal to the benefit derived from the last unit consumed from society's point of view, that is, when $MSC = MSB$. This occurs at output level Q_s in Figure 6. At Q_m , MSB is greater than MSC. Society values an extra unit of the good more than what it would cost society to produce it. Therefore, the price mechanism under-allocates resources to the production of the good. The shaded area represents the welfare loss to society as a result of this under-allocation of resources. For additional $Q_m - Q_s$ units produced, consumers value the product more than what it costs society to produce it. Thus, society's welfare can be increased by increasing output. In general, on its own, the market which functions on self-interest, is incapable of capturing third party costs and benefits in production and consumption decisions, to arrive at a socially optimal level of output which implies that there is inefficient allocation of resources.
- To encourage the consumption of vaccinations, the government can provide subsidies so that the subsidy will internalize the external benefit and the equilibrium level of output will be at the socially optimum point, Q_s .



- External costs or negative externality refer to cost borne by individuals or society who are not directly involved in the production or consumption of a good. They are also known as third party costs. In the case where external costs exist, the resultant marginal social cost (MSC) will be greater than marginal private cost (MPC). These occur when individual decision makers fail to consider external costs of their economic activities that are imposed and harmful to third parties. Demerit goods such as cigarettes, alcohol and harmful drugs give rise to negative externalities. Pollution caused by the production of chemicals in the firm and thus dumping of chemical wastes in rivers incurs negative externalities. This affects the fishermen and villagers living near the river (third parties). The fisherman's revenue may be affected due to a smaller catch while the villagers may have to incur higher medical costs from drinking the polluted water (external effect). These external costs are not compensated by the firm which pollutes the river



- As there are negative externalities in production, the MSC curve, lies above the MPC curve by an amount equal to MEC. Without any government intervention, the industry achieves market equilibrium at output Q_m . At this level of output, $MPB = MPC$. The social optimum level of output is attained when the cost of producing the last unit is equal to the benefit derived from the last unit consumed from society's point of view, that is, when $MSC = MSB$. This occurs at output level Q_s in Figure 7. At Q_m , there is overproduction of the good compared with the socially optimal level of output, Q_s where MSB curve intersects with the MSC curve. Therefore, the price mechanism overallocates resources to the production of the good. By summing the excess of the marginal social cost over the marginal social benefit for the additional units Q_sQ_m , there will be a welfare loss to society as shown in the shaded area. Hence, goods which give rise to negative externalities are over-produced resulting in welfare loss. Thus, resource allocation is inefficient and hence negative externalities cause market failure.
- Since external costs result in the overproduction of goods, society can promote an efficient allocation of its resources by adopting policies that encourage the producers of such goods to reduce their output. To reduce the production of chemicals which results in more chemical wastes being disposed in the river, the government can tax the firms responsible for the pollution caused or to issue a tradable permit where a restricted amount of pollution is permitted.
- In a perfectly competitive market, consumers and producers have perfect knowledge of the market and the good or service. However, in the real world, this is not the case and decisions are made based on incomplete information. Often, consumers make decisions to purchase goods based on adequate knowledge of the costs of the product of the seller and the prices of products charged by other sellers. For example, consumers purchase many goods such as cars, fridge, oven and other consumer durables only a few times in a life time. Consumers may not be fully aware of the quality of the goods until they have purchased them. Advertising may contribute to consumers' ignorance and mislead them in terms of the benefits of the good. This imperfect information gives sellers a degree of market power to set a higher price and thus leads to allocative inefficiency. This problem of imperfect information is often seen in the health care markets where patients often do not know enough about medicine to fully comprehend their own health problems and treatment options. Hence, they often rely on the advice of doctors, who are expected to act in the best interests of their patients. Thus, without government intervention, a doctor may prescribe unnecessary tests or recommends more expensive treatments in order to increase his earnings. Thus,

consumer surplus and society's welfare are lower than they would have under a competitive market, leading to allocative inefficiency.

- Although government intervenes to correct the market failure, the government is subjected to government failure as well where on top of trying to solve for market failure, the government may instead create inefficiencies due to insufficient information, administrative costs and political objectives. For instance, as the government intends to subsidize vaccinations so that the external benefit is internalized, the government may not know the full costs and benefits of the subsidize plan. This prevents the government from knowing the optimal level of subsidy to impose to internalize the external benefit. This shows that although the government wishes to address the interests of consumers, they may not be aware of one's wishes and misinterpret behaviours.

Conclusion

- Rational decision-making by consumers, firms and government will lead to an efficient allocation of resources under certain assumptions which often do not hold in reality.
- To improve the situation, government may intervene to move closer to an efficient allocation of resources.
- However, even with good intentions of intervening, government has their limitations too and hence it can also make things worse.
- The government's ability to push forth its policies is also dependent on public acceptance.
- In addition, government intervention to ensure an efficient allocation of resources might introduce further inefficiencies due to high administrative cost, information gaps and time lags resulting from red tape and bureaucracies.
- Hence, the extent of government intervention should be limited to allow the price mechanism to play its role in resource allocation. Provision of goods by the government should be restricted to public goods while other market-based approaches such as taxes and subsidies should be used to tackle market failure arising from other sources.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> A well-developed and balanced answer on whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources. Answers shows adequate analysis of the rational decision-making made by the economic agents Well-developed explanation for 3 cases of how rational decision-making could lead to inefficient allocation of resources, with well-drawn diagrams. 	8 – 10
L2	<ul style="list-style-type: none"> An undeveloped answer on whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources Applied correct conceptual framework and explained at least 2 cases of how rational decision-making could to inefficient allocation of resources with appropriate examples and diagrams. 	5 – 7
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 – 4
Evaluation		

E3	Evaluative judgment on whether rational decision-making by consumers, firms and government will always lead to an efficient allocation of resources are well-explained and supported by economic analysis.	4 – 5
E2	Attempt to explain evaluative comments is incomplete or inaccurate at times.	2 – 3
E1	Evaluative comments are unexplained or not supported by economic analysis.	1

4 (a) Explain the key determinants of sustained economic growth. [10]

(b) Assess the extent to which the size and openness of an economy affects [15] the choice of macroeconomic policies a government adopts to achieve sustained growth.

Suggested answer for part (a):

Question Analysis	
Command	Explain
Content	Key determinants, sustained economic growth (actual & potential growth)
Context	No specific context
<i>Synopsis: Students are expected to explain the determinants of both actual and potential growth in order to achieve sustained economic growth. Answer should cover a broad scope and include both internal and external factors as well as recognise that what constitutes the “key” determinants would vary with different economies. Analysis should be supported by ADAS framework with use of real-world examples.</i>	

Introduction

- Economic growth is defined as the increase in real GDP or an expansion in the productive capacity of an economy. It is one of the macroeconomic goals of a government.
- For economic growth to be sustained in the long-run, actual growth should keep pace with potential growth, thereby leading to non-inflationary growth.
- The “key” determinants of sustained economic growth vary with different economies.

Body

(A) Key determinants of actual growth

- Actual growth is the percentage annual increase in national output. It results from the higher and better utilisation of resources which can be achieved through an increase in AD when the economy is operating below the full employment level and/or a rise in SRAS.
- Explain the determinants of actual growth: \uparrow AD due to \uparrow C, I, G, (X-M)
 - Increased consumption expenditure due to growing population and rising disposable income → middle class expansion especially in emerging economies like China (76% of China's urban population will be considered middle class by 2022 compared with 4% in 2000) → rising affluence leads to increased purchasing power → consumption-led growth as evident in the fact that consumption expenditure accounted for 58.8% of China's GDP growth in 2017 → \uparrow C leading to \uparrow AD.
 - Increased investment expenditure due to positive economic outlook or inflow of FDI attracted by sound economic fundamentals, good network and infrastructure, strong legal framework and attractive tax system (e.g. Singapore) → \uparrow I leading to \uparrow AD.
 - Increase in net exports due to growing global economy and rising pace of globalisation, especially in small and open economies like Singapore which has one of the highest trade to GDP ratio in the world in excess of 300% → \uparrow (X-M) leading to \uparrow AD

- An increase in C, I and (X-M) leads to an increase in AD from AD_0 to AD_1 as seen in Figure 1.
- Assuming that the economy is operating in the intermediate range, an increase in AD will lead to a multiplied increase in RNY from Y_0 to $Y_1 \rightarrow$ actual growth.
- Often, developing economies with significant spare capacity will experience the largest increase in RNY while an overheating economy operating at full employment will not see a rise in RNY and will face only inflationary pressures.

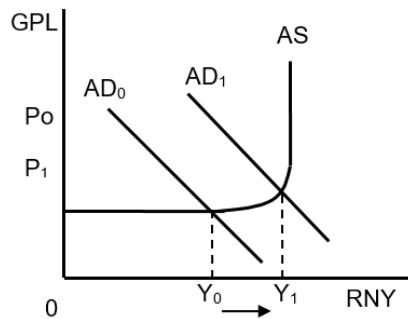


Figure 1:
Actual growth (\uparrow AD)

- Explain the possible determinants of actual growth: \uparrow SRAS due to \downarrow COP

 - Reduction in business costs due to improved productivity, government subsidies etc. $\rightarrow \downarrow$ COP $\rightarrow \uparrow$ SRAS.
 - A fall in cost of production will lead to a rise in SRAS, causing a downward shift of the SRAS curve from AS_0 to AS_1 as seen in Figure 2.
 - This causes an increase in RNY from Y_0 to $Y_1 \rightarrow$ actual growth.

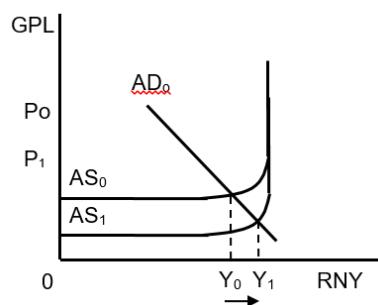


Figure 2: Actual growth (\uparrow SRAS)

(B) Key determinants of potential growth

- Potential growth is the rate at which the economy could grow if it were to use all its resources and can be achieved through the increase in productive capacity of the economy (i.e. \uparrow LRAS).
- Explain possible determinants of potential growth focusing on the increase in quantity and quality of factors of production and technological advancement:
 - Increase in quantity of labour: The size of the labour force affects the level of output of a country and is dependent on two factors – population size and labour force participation rate. To increase the quantity of labour, the government may embark on loose immigration policy or implement pro-family work policies (e.g. Singapore government encouraging employers to introduce more flexible working hours or work-from-home arrangements so more women are willing to enter the workforce) or promote population growth through schemes such as the Baby Bonus.
 - Increase in quality of labour: Policies to improve skills and productivity of the workforce (e.g. Skills Future, Adapt and Grow Initiative, TechSkills Accelerator etc.)
 - Increase in quantity and quality of capital: Attract FDI, encourage R&D and innovation through funding and tax incentives etc.

- An increase in the quantity and/or quality of factors of production will lead to an increase in productive capacity causing a rise in LRAS from AS_0 to AS_1 .
- This causes an increase in the full employment capacity of the economy from Y_F to $Y_{FF} \rightarrow$ potential growth.
- While an increase in LRAS leads to potential growth, it COULD also lead to actual growth from Y_0 to Y_1 if the economy is operating close to full employment.

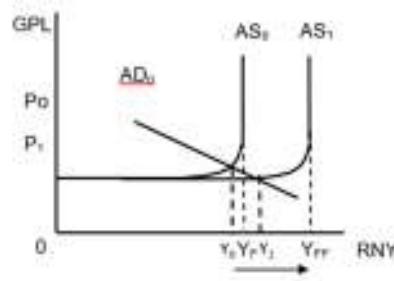


Figure 3:
Potential growth (\uparrow LRAS)

Conclusion

- For economic growth to be sustained in the long-run, the actual growth should be kept in pace with the potential growth of the economy.
- If the actual growth exceeds potential growth, there will be increased inflationary pressure causing prices to rise. If actual growth is slower than potential growth, there will be increased spare capacity, resulting in higher unemployment.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> ● Recognising that what constitutes the “key” determinants would vary with different economies. Scope of answer should consider internal and external factors to attain top marks within the band. Good application of real-world examples and appropriate use of economic framework to support the analysis with accurate and well-explained diagrams. ● Developed explanation of key determinants of actual and potential growth. 	9 - 10 8
L2	<ul style="list-style-type: none"> ● Undeveloped explanation of key determinants of actual and/or potential growth with appropriate but incomplete economic analysis. <p>[Developed answer that focuses only on the determinants of actual OR potential growth – max 5]</p>	5 – 7
L1	<ul style="list-style-type: none"> ● Answer that is mostly irrelevant in answering the question, with basic concept errors and inaccurate economic analysis. ● Mere listing of points with no or inappropriate diagrams to aid explanation. 	1 – 4

Suggested answer for part (b):

Question Analysis	
Command	Assess the extent
Content	Size and openness of economy, choice of macroeconomic policies, achieve sustained growth
Context	No specific context ("a government")
<p><i>Synopsis: Students are expected to explain how the size and openness of an economy would affect the choice of macroeconomic policies to achieve both actual and potential growth which would require the application of both demand-management and supply-side policies. The answer should also consider other factors that need to be considered in the choice of policy. Analysis should be supported by ADAS framework with use of examples.</i></p>	

Introduction

- Define size and openness of an economy:
 - Size of economy refers to the size of the domestic market and the availability of factor endowment.
 - Openness refers to the size of flows of goods and services, capital and labour in the economy.
- To achieve sustained growth, the macroeconomic policies adopted must promote actual growth (i.e. \uparrow AD and/or SRAS) and potential growth (i.e. \uparrow LRAS). These may include demand-management and supply-side policies.

Body

Thesis: Size and openness of economy can affect the choice of macroeconomic policies to achieve sustained economic growth

- Size and openness of economy influences the choice of demand-management policies: fiscal and monetary policies vs exchange rate policy
 - Small and open economies have relatively smaller C, I and G components relative to (X-M). Given the small size of their domestic markets, these economies tend to rely on exports to global markets to drive economic growth. They also have large imports due to relatively less abundant factor endowment. Consequently, they tend to have smaller multiplier values due to higher MPM since $k=1/(mpm+mpt+mps)$.
 - Hence, **expansionary fiscal and monetary policies** implemented to stimulate actual growth would be more effective when pursued by larger economies:
 - Explain how expansionary fiscal policy, through increasing government spending (\uparrow C,I,G) and reducing direct taxes (\uparrow C,I) would lead to an increase in AD and hence a large multiplied increase in RNY due to larger multiplier for large economies.
 - Explain how expansionary monetary policy leads to increase C and I through lowering of interest rates and cost of borrowing, resulting in an increase in AD and a similarly large multiplied increase in RNY for large economies → more effective in stimulating actual growth.
 - Additionally, in small and open economies such as Singapore, monetary policy is also not feasible due to the inability to control money supply and hence interest rates.

- On the other hand, ***exchange rate policy*** may be more effective in stimulating growth in small and open economies that are more reliant on the (X-M) component.
 - Explain how an exchange rate depreciation would lead to an increase in (X-M) leading to increased AD and hence RNY, stimulating actual growth.
- However, for most small and open economies, exchange rate policy is used more for its supply-side effects to maintain low and stable prices which is a requisite for sustained growth as it promotes X and attracts FDI.
 - This can be achieved by a gradual appreciation of the exchange rate which moderates demand-pull inflation while curbing cost-push inflation as the price of imported raw materials will be relatively cheaper in the domestic currency.

Anti-Thesis: Size and openness of economy may not affect the choice of macroeconomic policies to achieve sustained economic growth

- *Supply-side policies* are used by both small and open as well as large economies to bring about sustained growth (both actual and potential growth)
 - For example, the policy to promote R&D and innovation will lead to increased productivity which will lower COP and increase the productive capacity of the economy leading to sustained growth.
- Other factors also affect the choice of macroeconomic policies (consider any two)
 - Government budget position → affects the extent to which the government can fund tax cuts and government spending in adopting an expansionary fiscal policy leading to possible crowding out effects in the financial and resource markets.
 - Consumer and business sentiments affecting the interest elasticity of investments.
 - Possible conflicts with other macroeconomic objectives (e.g. conflict between economic growth and inflation).
 - Time period and sustainability of policy measure

Conclusion / Evaluation

- The size and openness of an economy affects the choice of macroeconomic policies a government adopts to achieve sustained growth to a small extent.
- The size and openness of an economy does affect its choice of macroeconomic policies adopted to achieve sustained economic growth in terms of effectiveness and feasibility.
- This is more so for demand-management policies as compared with supply-side policies.
- However, size and openness of an economy is only one factor that influences policy choice. There are other factors for the government to consider including resource constraints and the unintended consequences of each policy chosen.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • A well-developed and balanced answer on how the size and openness of an economy would affect policy choices to achieve both actual and potential growth, as well as other factors that should be considered. • Use of appropriate economic concepts and framework to support the analysis. Context of small and open vs large economies is addressed. 	8 – 10
L2	<ul style="list-style-type: none"> • An undeveloped answer on how the size and openness of an economy would affect policy choices to achieve actual and/or potential growth, with some consideration of other factors. • Some use of economic concepts with appropriate diagrams which may be inadequately explained or applied to support the analysis. 	5 – 7
L1	<ul style="list-style-type: none"> • Answer that minimally considers the size and openness of an economy in influencing policy choices to achieve growth with major conceptual errors. Inappropriate or wrong use of diagrams. 	1 – 4
Evaluation		
E3	Evaluative judgement on the extent to which the size and openness of an economy would affect policy choices which is well-explained and supported by economic analysis.	4 – 5
E2	Attempt to explain evaluative judgement but is incomplete or inaccurate.	2 – 3
E1	Unexplained judgement	1

5 To help Singapore achieve her productivity target of 2 to 3% each year until 2020, the Singapore government has focused on strengthening human capital, boosting innovation through tax incentives and building state-of-the-art digital infrastructure. There has also been a tightening of foreign worker policies in a bid to support innovation and automation especially among small and medium enterprises.

Discuss whether possible trade-offs in economic aims may arise as the [25] government implements these strategies to raise productivity in Singapore.

Suggested answer:

Question Analysis	
Command	Discuss whether
Content	Trade-offs in economic aims; measures to raise productivity
Context	Singapore
<i>Synopsis: Students are expected to explain how the strategies outlined in the pre-amble work to raise productivity in Singapore and analyse how the implementation of these strategies may or may not lead to trade-offs with other micro and macroeconomic aims. Analysis should be well-supported by the use of relevant economic framework (e.g. ADAS framework) and the application to the Singapore context by using specific examples to illustrate the answer.</i>	

Introduction

- Following an announcement in 2010 by the Economic Strategies Committee to reach a productivity growth target of 2-3% per year over the next decade, the Singapore government has introduced a slew of initiatives to raise productivity.
- Labour productivity refers to the output per worker per actual hour worked.
- Growth in labour productivity can be achieved through structural reforms to enhance the quality of our labour force. However, this could also lead to possible trade-offs with other economic aims which include:
 - microeconomic aims: efficiency (allocative & productive efficiency) and equality in income distribution.
 - macroeconomic aims: sustainable economic growth, low unemployment, price stability and favourable balance of payments.

Body

Thesis: Strategies to raise productivity in Singapore may lead to trade-offs in economic aims

Strategy #1: Measures to “strengthen human capital”

- Explain how strengthening human capital through skills training and upgrading (E.g. Skills Future) can lead to improved labour productivity, as Singapore transits into a knowledge-based economy.
- Possible conflict with economic aims:
 - Greater income inequality (micro) – Lower-skilled workers may not benefit as much from skills training and upgrading schemes due to lower funding support and limited

course options. Participation rates among this group of workers would also tend to be lower as they are focused on making ends meet. Hence, income inequality may actually worsen as low skilled workers lag behind in a knowledge-based economy.

Strategy #2: Tax incentives and state-of-the-art digital infrastructure to boost innovation

- Explain how tax incentives and building state-of-the-art infrastructure can boost productivity especially in the manufacturing sector, allowing workers to adopt new processes and become more efficient.
- Possible conflict with economic aims:
 - Demand-pull inflation (macro) – Increased infrastructural spending could lead to a rise in the G component of AD → increase in AD → increase in GPL leading to demand-pull inflation especially as Singapore is operating close to full employment.

Policy #3: Tightening of foreign worker policies to support innovation and automation

- Explain how tightening of foreign worker policies raises productivity as it forces firms, especially SMEs, to innovate and automate their processes in order to cope with the manpower shortage.
- Possible conflict with economic aims:
 - Cost-push inflation (macro) – Illustrate and explain how the tightening of foreign worker policies reduces the supply of labour in Singapore, driving up wages due to the labour shortage and causing cost-push inflation in the short-run.
 - Structural unemployment (macro) – Higher cost pressures may cause firms in labour-intensive industries (e.g. construction or hospitality industries) to close down while increased automation would lead to jobs being replaced by machines → could result in structural unemployment if those who are made redundant do not possess or are not able to acquire the skills required in the economy.

Anti-thesis: Strategies to raise productivity in Singapore may lead to the attainment of macroeconomic goals

- **Increased economic growth (actual and inclusive), fall in unemployment, fall in inflation**
 - Tax incentives (to promote innovation), building of infrastructure and developing skilled labour → attracts FDI into Singapore → increase in AD
 - Skills training and upgrading raises labour productivity which in turn enhances efficiency → lowers cost of production → increase in SRAS
 - Increase in AD and SRAS → increase in RNY (actual growth), fall in unemployment and fall in GPL (reduce inflation).
 - With higher labour productivity, workers can also receive higher wages without leading to wage-push inflation → inclusive growth.
- **Sustained growth (actual + potential growth)**
 - Apart from increasing actual growth achieved through ↑SRAS, a rise in productivity through skills training and upgrading, R&D and innovation also leads to enhanced quality of labour and capital → increase in productive capacity → increase in LRAS → potential growth. A rise in actual and potential growth → sustained growth.

- **Improved balance of payments**

- Fall in cost of production arising from increased productivity improves price competitiveness of Singapore exports while innovation enhances the quality of exports → increase in exports → improves current account
- Increase in FDI → improves capital account.

- **Equality in income distribution**

- Skills training and upgrading provides an avenue for lower-skilled workers to raise their productivity, making them more employable and leading to increased wages → lowers the income gap.

Conclusion / Evaluation

- The strategies implemented to raise productivity in Singapore may lead to short-term trade-offs with micro and macroeconomic objectives. In the long-run, however, these measures should be compatible with Singapore's economic objectives.
- Propose measures to mitigate the short-term trade-offs in economic goals arising from the strategies.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> • A well-developed and balanced explanation on how the strategies in the pre-able work to raise productivity in Singapore and whether the implementation of these strategies may or may not lead to trade-offs with micro and macroeconomic goals. • Analysis is well-supported by the use of ADAS framework and applied to the Singapore context with the use of relevant examples. • For an accurate and well-developed answer that only considers trade-off with macroeconomic goals. 	18 – 20 15 – 17
L2	<ul style="list-style-type: none"> • Undeveloped answer that explains how the strategies may or may not lead to trade-offs in economic goals with some application to the Singapore context. Use of diagrams but with incomplete explanation. • Answer shows some attempt to link the strategies used to raise productivity to conflicts in economic goals but analysis is weak and poorly developed. 	12 – 14 9 – 11
L1	<ul style="list-style-type: none"> • Answer shows some knowledge of how the strategies work to raise productivity but is inadequately explained with major concept errors. • Answer is mostly irrelevant or inaccurate with few valid points. 	5 – 8 1 – 4
Evaluation		
E3	Well-explained judgement on whether the strategies adopted to raise productivity in Singapore would lead to trade-offs in economic goals and supported by economic analysis.	4 – 5
E2	Attempt to make evaluative judgement is incomplete or inaccurate.	2 – 3
E1	Unexplained judgement	1

6 Singapore has dropped a spot to become the world's third most competitive economy, according to a report by the World Economic Forum. But while Singapore posted an "excellent performance" across the board, it still lags behind the world's most prolific innovation powerhouses and cost pressures remain a concern.

- (a) Explain why the comparative advantage of a country may change over time. [10]
 - (b) Discuss the effectiveness of the various economic policies the Singapore government could adopt to maintain her competitiveness in the global economy. [15]
-

Suggested answer for part (a):

Question Analysis	
Command	Explain why
Content	Change in comparative advantage
Context	No specific context ("a country")
<i>Synopsis: Students are expected to briefly explain the concept of comparative advantage (CA) and provide at least 3 reasons why CA may change over time. The answer should focus on the idea of opportunity cost, using economic framework (e.g. PPC or DDSS diagram) and real-world examples to support the analysis.</i>	

Introduction

- Define comparative advantage (CA)
 - The Theory of Comparative Advantage explains that trade can benefit all countries, as long as each country specialises in the goods in which they have a comparative advantage.
 - A country enjoys comparative advantage over another when it can produce a good with a lower opportunity cost in terms of other goods forgone.
- The CA of a country may change due to a change in the quantity and/or quality of its factor endowment, technological advancement or change in government policies.

Body

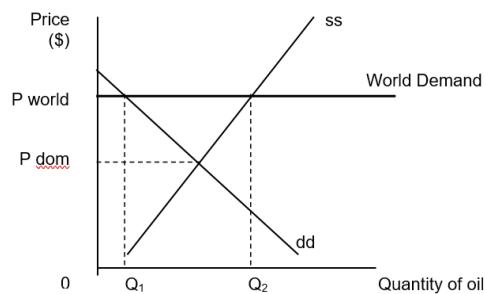
- Change in quantity and/or quality of factor endowment
 - A country with more factor endowments would be more efficient in terms of the ability to produce more output relative to another country. Consequently, a change in the quantity and/or quality of these factor endowments would lead to a change in a country's CA.
 - For example, China, being the most populous country in the world, is endowed with abundant low-cost labour which allows her to specialise in the production of labour-intensive manufacturing products such as garments and shoes at a lower opportunity cost compared with other countries. But in recent years, labour costs in China have been driven up by strong export demand due to increased globalisation and an aging population leading to a tightening of the labour force. This has eroded China's CA in labour-intensive industries and they face increased competition from low-wage countries like Bangladesh (whose wages are a third of that in China), Myanmar and

Cambodia as firms start to move their operations there to take advantage of their lower labour costs.

- The CA of a country can also be eroded with the depletion of natural resources such as coal and oil. For example, countries like Brunei Darussalam whose economies are highly dependent on oil exports, is facing the prospect of losing its CA in the hydrocarbons industry as its level of oil reserves is slowly depleting. These countries therefore have to develop new areas of CA such as in eco-tourism to achieve its economic objectives.

- **Technological Advancement**

- A change in technological capabilities could lead to a change in the relative opportunity costs of production and hence the CA a country would have over another.
- For example, the US has gained CA in the production of oil in recent years as technological advancement has made fracking more economical, enabling shale oil to be extracted profitably from underground shale formations. The relatively low extraction cost of shale oil, made possible with technological advancement, translates to a lower opportunity cost of producing oil, leading to the US developing a comparative advantage in oil production. [Explain using PPC or DDSS diagram].



- **Change in government policies**

- Governments may also play a role in determining the type of CA a country has and may encourage the development of new CA, especially in moving up the production chain, as part of their development strategy.
- For example, the Singapore government has maintained flexibility in continually shifting towards new areas of CA to avoid direct competition with other low-cost manufacturers such as China. In the 1960s, Singapore used to have CA in the production of low-end manufacturing products but as she started to lose its cost advantage to other lower cost economies in the region, the Singapore shifted its focus to higher-end manufacturing capital intensive and knowledge-based industries. To create CA in these areas, the Singapore government implemented policies such as the Skills Future Scheme to enhance labour productivity through skills training and upgrading. To encourage R&D, infrastructure and facilities such as the Biopolis and R&D funding were made available to attract foreign direct investments and produce biomedical research services at a lower opportunity cost.

Conclusion

- Comparative advantage can either be given due to the economy's factor endowments or created due to active government policies. In the long-run, proactive economies such as Singapore may dedicate resources towards developing new areas of comparative advantage, while less proactive economies may face an erosion of comparative advantage due to depletion of existing resources.

Mark Scheme:

Knowledge, Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> An accurate and well-developed explanation on what is meant by comparative advantage and why it may change over time. Economic analysis is well-supported by the appropriate use of diagrams and real-world examples. 	8 – 10
L2	<ul style="list-style-type: none"> An undeveloped answer on what is meant by comparative advantage and why it may change over time but lacking in scope and depth. Appropriate use of diagrams and examples but may not be explained or used to support economic analysis. 	5 – 7
L1	<ul style="list-style-type: none"> Descriptive answer that merely explains the theory of comparative advantage or identifies the sources of comparative advantage without elaborating on why it may change over time. Limited application of economic analysis. 	1 – 4

Suggested answer for part (b):

Question Analysis	
Command	Discuss
Content	Effectiveness of economic policies; maintain competitiveness in global economy
Context	Singapore government
<p><i>Synopsis: Students are expected to provide a detailed explanation of the different economic policies that the Singapore government can adopt to maintain BOTH price and non-price export competitiveness in the global market. Analysis should also focus on the effectiveness of these policies in achieving its objectives as well as to highlight the policy limitations.</i></p>	

Introduction

- Global competitiveness is a broad term which can be assessed by various economic indicators. The essay will focus on export price and non-price competitiveness.
- Identify the key characteristics of the Singapore economy, highlighting her reliance on trade and the importance of maintaining global competitiveness for growth:
 - Small economy in terms of domestic market size and lack of resources
 - Open in terms of size of flows of goods and services, labour and capital → access to global market and foreign imports to overcome resource constraints
- Singapore government can leverage on both demand and supply-side policies, as well as trade policies to improve her export competitiveness in the global market.

Body

Policy #1: Exchange rate policy (ERP)

- Explain how Singapore adopts a gradual appreciation of the exchange rate to improve on export price competitiveness through reducing imported inflation which in turn improves her competitiveness in the global market.
- Effectiveness of policy: Policy is effective in keeping prices of Singapore exports competitive as our exports have a high import content.
- Policy limitations:
 - Gradual appreciation of SGD means that our exports would become relatively more expensive in terms of foreign currency → this could potentially hurt our export price competitiveness.
 - Effectiveness also depends on exchange rate movements of our trading partners.

Policy #2: Trade policies (e.g. signing of FTAs)

- Explain how Singapore's pro-trade policies such as the signing of Free Trade Agreements can help to improve her export price competitiveness through the lowering of trade barriers and the increased flow of capital and labour to ease her resource constraints.
- Effectiveness of policy: Policy is effective in helping Singapore to diversify her export markets and ease the cost pressures arising from her resource constraints.
- Policy imitations:
 - FTAs are not exclusive to Singapore and the terms of the agreement depends on our bargaining power. Competitors can also negotiate with our trading partners and clinch a better deal such as greater tariff cuts and preferential customs treatment that can decrease costs, thereby eroding our competitive advantage.
 - Multilateral trade pacts which extend the same terms and conditions to all signatory countries may not enhance Singapore's export price competitiveness if our competitors are also a signatory to the same agreement.
 - The FTAs may shift production of raw materials away from lower-cost non-member producers to a higher-cost member economy which Singapore's export sector is dependent on. This will reduce Singapore's export price competitiveness as it shifts production away from economies with comparative advantage.

Policy #3: Supply-side policies

- Supply-side policies to enhance export price competitiveness:
 - Explain how Singapore adopts supply-side policies to enhance export price competitiveness through improved labour productivity to sustain the high wage cost (e.g. Productivity Innovation Credit Scheme, Skills Future Credit etc.)
 - Effectiveness of policy: A more sustainable solution to manage high wage costs.
 - Policy limitations:
 - Employers may not be willing to undergo training.
 - Policy tackles the **symptoms** instead of the root cause of the export price competitiveness (i.e. high wage) → may not be an appropriate policy.
- Supply-side policies to enhance quality of exports:
 - Explain how Singapore adopts supply-side policies to improve the quality of exports through innovation and R&D (e.g. Productivity Solutions Grant etc.)

- Effectiveness of policy: Policy is effective in helping Singapore to develop new areas of CA rather than competing directly with lower cost competitors such as Vietnam.
- Policy limitations:
 - Supply-side policies are long-run policies that are unlikely to enhance Singapore's competitiveness in the global economy in the short-run
 - Drain on government budget → limits ability to improve future competitiveness.

Conclusion / Evaluation

- Given the small and open nature of the Singapore economy, the main threats to Singapore's competitiveness tend to come from the external economy.
- Singapore's exports are losing competitiveness mainly due to competition from other lower cost economies such as China and India in the production of more capital-intensive goods which includes high-end electronics, pharmaceutical, services.
- Measures to increase price competitiveness may be insufficient to counter completely the lower costs in these economies. Thus, Singapore should focus more on boosting non-price competitiveness such as supply-side policies that promote export quality.
- Hence, supporting export quality to increase non-price competitiveness is the most important policy in improving global competitiveness.

Mark Scheme:

Knowledge, Understanding, Application and Analysis		
L3	<ul style="list-style-type: none"> ● Developed explanation of policies used to maintain Singapore's price AND non-price export competitiveness with analysis of the effectiveness and limitations of each policy. ● Appropriate use of economic concepts and well-explained diagrams to support the analysis with real-world examples applied in the context of the Singapore economy. 	8 – 10
L2	<ul style="list-style-type: none"> ● Undeveloped explanation of policies used to maintain Singapore's price and/or non-price export competitiveness with analysis of the effectiveness and limitations of each policy. ● Appropriate use of economic concepts and diagrams to support the analysis with some application to the Singapore context. <p>[Answer that focus on explaining the policies without analysis on its effectiveness in maintaining Singapore's competitiveness – max 6]</p>	5 – 7
L1	<ul style="list-style-type: none"> ● Weak explanation of policies with limited reference to the context of Singapore's competitiveness in the global economy. ● Answer contains inaccurate economic concepts and/or largely irrelevant economic analysis. 	1 – 4
Evaluation		
E3	Ability to weigh the effectiveness of the different policy measures in improving export price competitiveness and enhancing the quality of exports in context of the external threats faced by Singapore.	4 – 5
E2	Attempt to consider the effectiveness of the different policy measures but analysis is incomplete or inaccurate at times.	2 – 3
E1	Unexplained judgement	1