



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 ***

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]

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 \rightarrow 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) \rightarrow rising affluence leads to increased purchasing power \rightarrow consumption-led growth as evident in the fact that consumption expenditure accounted for 58.8% of China’s GDP growth in 2017 $\rightarrow \uparrow C$ 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) $\rightarrow \uparrow I$ 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% $\rightarrow \uparrow (X-M)$ 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 → 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.

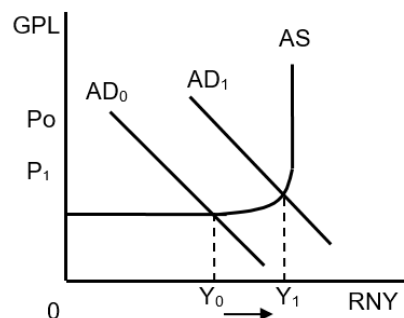


Figure 1:
Actual growth (↑AD)

- Explain the possible determinants of actual growth: ↑SRAS due to ↓COP
 - Reduction in business costs due to improved productivity, government subsidies etc. → ↓COP → ↑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 → actual growth.

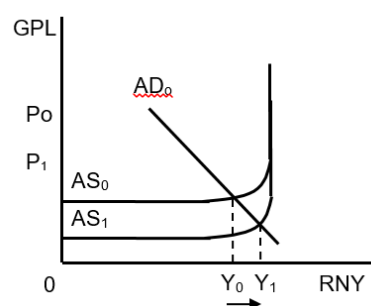


Figure 2: Actual growth (↑SRAS)

(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. ↑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} → 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.

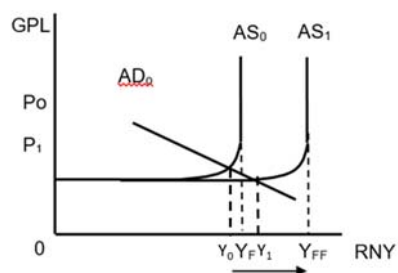


Figure 3:
Potential growth (↑LRAS)

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”)
<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>	

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 \rightarrow 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. 	18 – 20
	<ul style="list-style-type: none"> • For an accurate and well-developed answer that only considers trade-off with macroeconomic goals. 	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. 	12 – 14
	<ul style="list-style-type: none"> • Answer shows some attempt to link the strategies used to raise productivity to conflicts in economic goals but analysis is weak and poorly developed. 	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. 	5 – 8
	<ul style="list-style-type: none"> • Answer is mostly irrelevant or inaccurate with few valid points. 	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

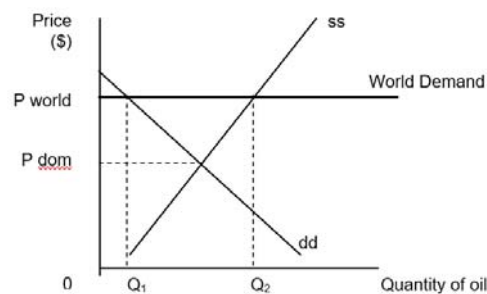
- **Change in quantity and/or quality of factor endowment**
 - A country with more factor endowments would be more efficient in terms of the ability to produce more output relative to another country. Consequently, a change in the quantity and/or quality of these factor endowments would lead to a change 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 imitations:
 - 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

2018 JC2 H2 Econs Prelim Paper 2

Section A

2018 JC2 H2 Econs Prelim Paper 2 Question 1

1	<p>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.</p> <p style="text-align: right;">Adapted from https://www.reuters.com/article/oil-prices, 23rd Oct</p>		
	(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
<p><i>Synopsis:</i> <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></p>	

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:

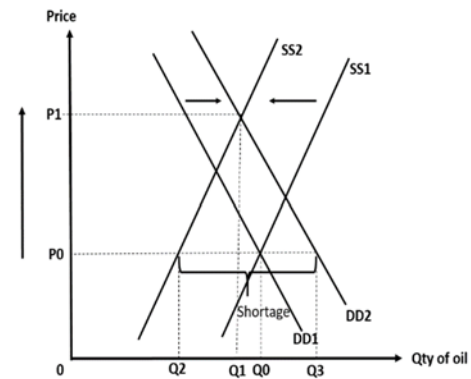
- Demand for oil rose due to rapid growth of emerging economies, China and India. Oil is required as a factor input for production processes. Thus, due to industrialisation in China and India, the demand for oil rose.
- Supply falling due to reduction in flows in Iraq due to fighting between government 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)
<p><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></p>	

Intro:

- State the importance of keeping petrol affordable :

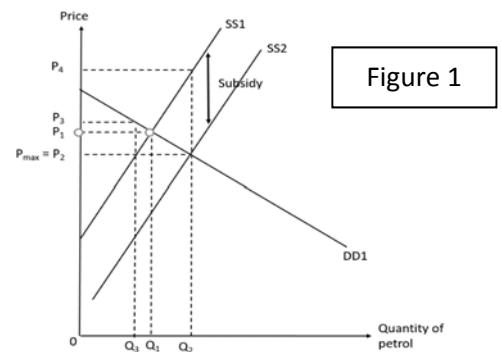
Petrol is used to power private transport and is important to maintain mobility of labour and commerce in the economy. Efficient low cost transport is important for the running of a market economy.

- 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



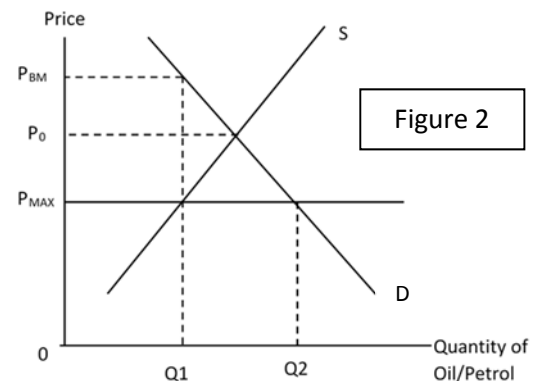
Body 2: Effectiveness of subsidy

- 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 CONCERNS:**
 - 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)
<p><i>Synopsis:</i> <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></p>	

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.

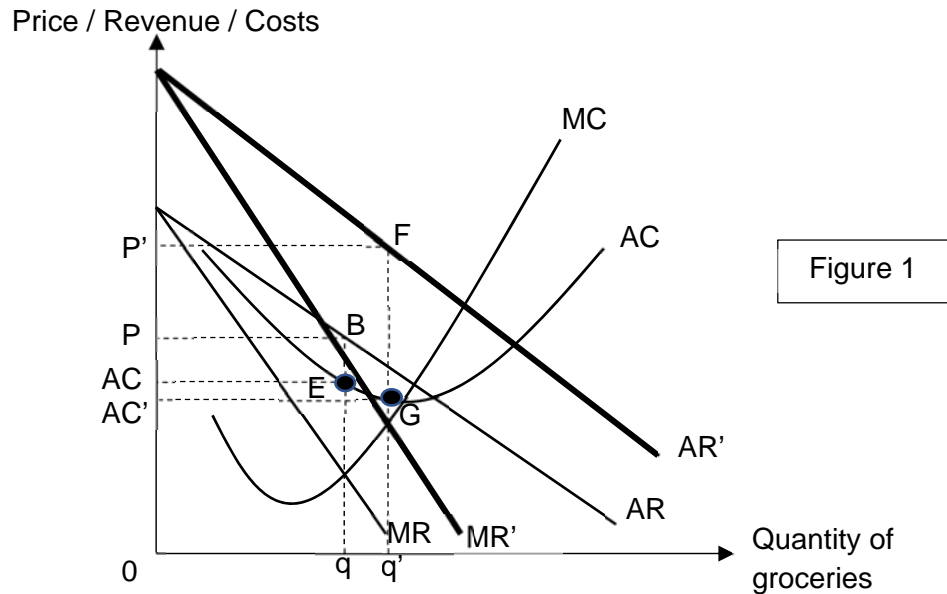
Body 1: Why would the firms merge?

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

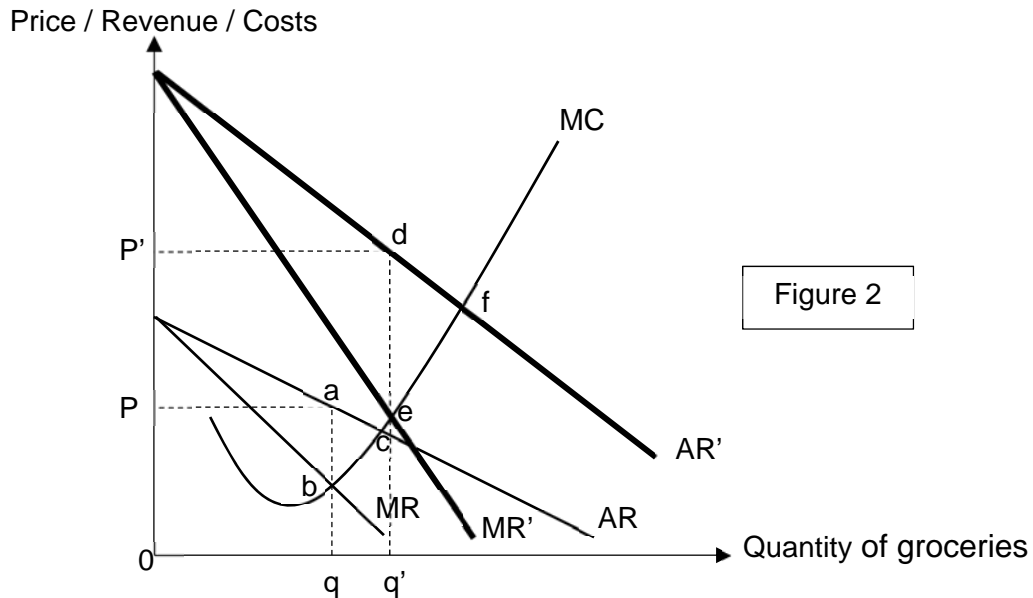
- By merging, Asda-Sainsbury is able to capture a larger share of the global market as the consumer base from both firms are now combined, which leads to higher demand for Asda-Sainsbury. Demand for the Asda-Sainsbury's products also becomes more price inelastic as consumers now have fewer substitutes 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.



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 .



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'.

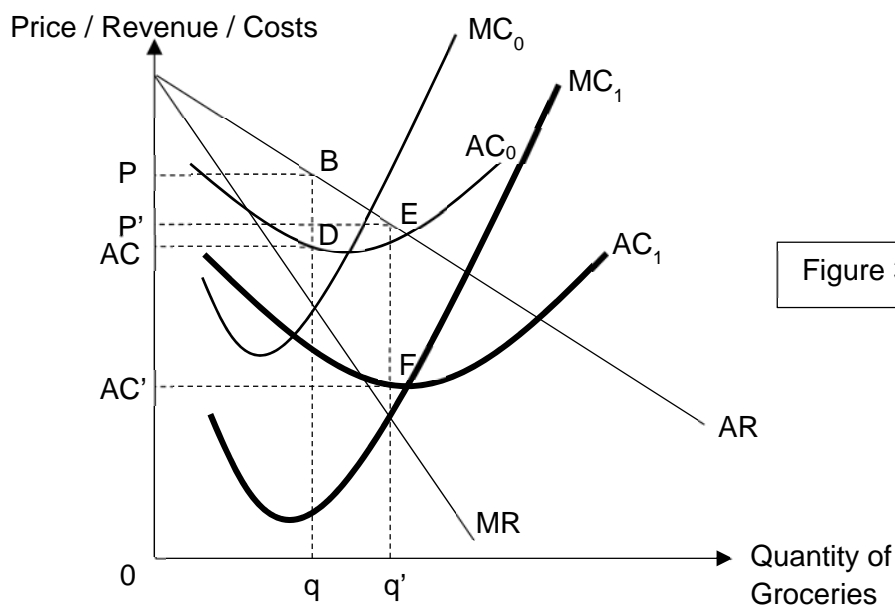


Figure 3

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. 	18 – 20
	<ul style="list-style-type: none"> • 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. 	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. 	12 – 14
	<ul style="list-style-type: none"> • 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. 	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. 	5 – 8
	<ul style="list-style-type: none"> • A few valid points. • Answer mostly irrelevant or inaccurate. 	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]

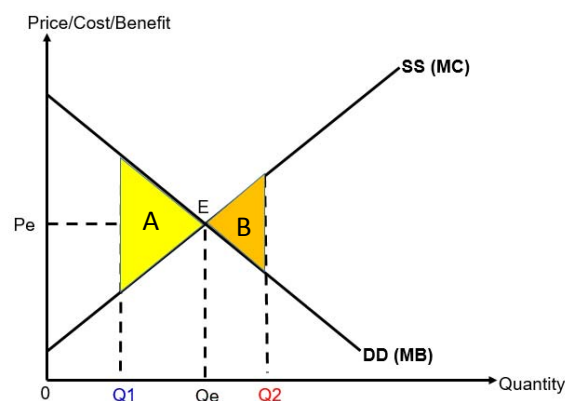
Question Analysis	
Command	Explain
Content	Marginalist Principle
Context	Consumers and Firms
Synopsis:	
<ul style="list-style-type: none"> Students need to show an understanding that consumers and firms makes rational decision where they aim to maximise their self-interest (Consumers: utility maximisation, 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

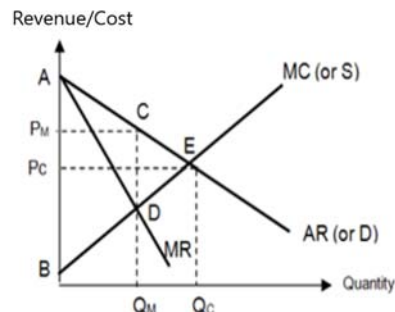
- A rational consumer seeks to maximise net total benefits from consuming a good. Rational decision-making by consumers involves considering the marginal benefits and the marginal costs of consuming the good.
- The marginal benefit is the satisfaction derived from consuming an additional unit of the 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 consume till the point at Q_e where $MB = MC (P)$ to maximise net total benefit.

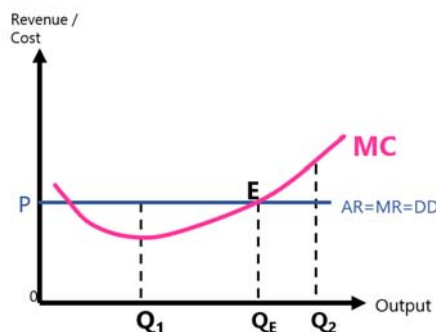
Body 2: Marginalist principle applied to firms

- 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 $MR > MC$ (Q_1). 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 (Q_2) where MC exceeds MR, producing that add 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]

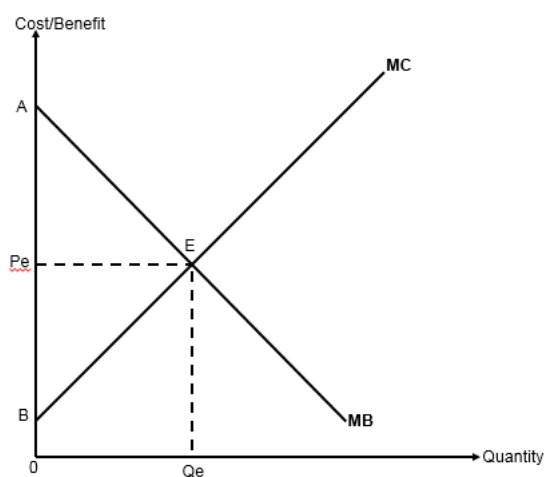
Question Analysis	
Command	Discuss
Content	Allocative efficiency and Sources of market failure
Context	Consumers, Firms, Government
<p><i>Synopsis:</i></p> <ul style="list-style-type: none"> • <i>Students need to explain how rational decision-making by consumers, firms and government will lead to allocative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

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).

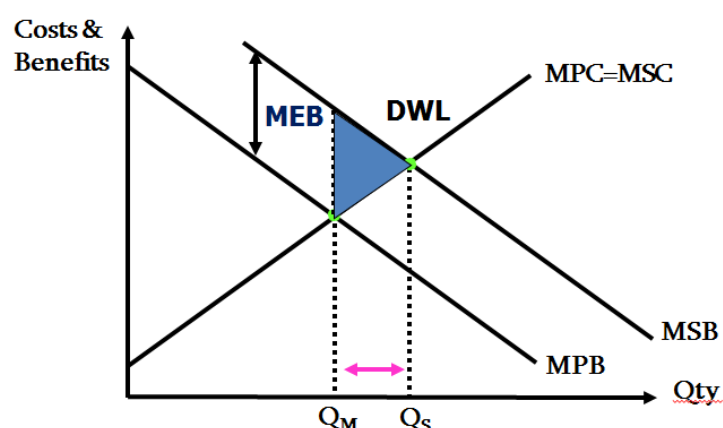


Body 2: Anti-Thesis: Rational decision-making by consumers, firms and government does not always lead to an efficient allocation of resources.

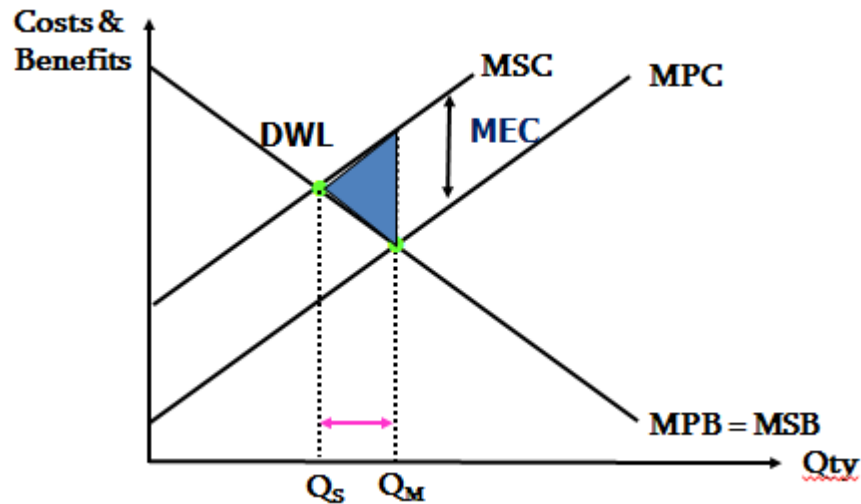
- Therefore, should there be distortions to the market such that the conditions mentioned previously do not hold, rational decision-making by consumers, firms and government will not always lead to an efficient allocation of resources. This means that there are too few or too many resources used in the 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 over-allocates 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 $Q_s Q_m$, 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