

INNOVA JUNIOR COLLEGE  
JC 2 PRELIMINARY EXAMINATION  
in preparation for General Certificate of Education Advanced Level  
**Higher 1**

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**ECONOMICS**

**8819/01**

Paper 1

**25 August 2017**

**3 hours**

Additional Materials: Writing Paper and Cover Page

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**READ THESE INSTRUCTIONS FIRST**

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

**Section A**

Answer **all** questions.

**Section B**

Answer **one** question.

Please begin each question on a **fresh sheet of paper**.

At the end of the examination, **submit each question separately**.

Attach a **cover page** to **each case study question in Section A and essay in Section B**. Write the **corresponding question number** on the cover pages.

At the end of the examination, fasten all your work securely together.  
The number of marks is given in brackets [ ] at the end of each question or part question.

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

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

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This document consists of **8** printed pages and **0** blank page.

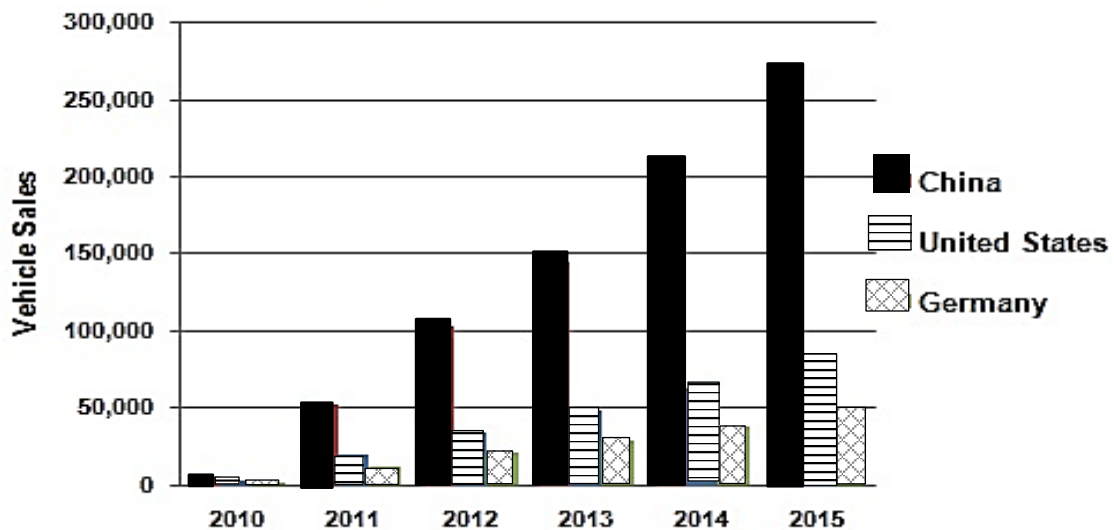
## Section A

Answer all questions

## Question 1

## Sustainable Road Transport and Clean Energy Economy

Figure 1: Battery Electric Vehicle Sales



(Source: Pike Research)

## Extract 1: Electric Car Sales Are Surging

The number of electric vehicles on the road rocketed in 2016 after being virtually non-existent just five years ago, according to the International Energy Agency (IEA).

Registered electric vehicles on roads worldwide rose 60 percent from the year before. “China was by far the largest electric car market, accounting for more than 40 percent of the electric cars sold in the world and more than double the amount sold in the United States,” an IEA report wrote. “It is undeniable that the current electric car market uptake is largely influenced by the policy environment.”

Countries and cities are looking to electric vehicles to help tackle their air pollution problems. In order to limit global warming to below 2 degrees Celsius, the world will need 600 million electric vehicles by 2040, according to the IEA.

Rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars with BP Chief Economist Spencer Dale forecasting that an electrical vehicle’s “cool factor” could spur sales to 450 million by 2035.

Source: <https://www.bloomberg.com>, 7 June 2017

## Extract 2: Move from fuel duties to road pricing

UK Transport Minister Norman Baker said a national system of road pricing was inevitable. He explained that the drift towards electric and cleaner cars would force the UK Treasury to look at replacing the billions of pounds it is likely to lose through traditional carbon tax revenues. Mr Baker wants a “revenue neutral” system of road pricing in which there would be no difference in overall costs for the average motorist. Hence, the vehicle excise duty would be

scrapped and fuel duties lowered to offset the costs of the new charges from road pricing. He said, “It wouldn’t be an extra tax, it would be just a different way of raising money. You could have a charge per mile for roads like motorways. You could then offset that by abolishing road tax and by reducing fuel duty so that they would even out. That seems to me to be entirely equitable and sensible environmentally.”

A deeper look into trends also shows traffic on the roads is set to increase again in the coming decades, exerting pressure on the UK’s road infrastructure and exacerbating the problems of congestion and pollution. Therefore, Mr Baker also expressed his wish for policy makers to examine increasing expenditure on improving UK’s road network, which is essential to promote economic growth.

Source: <http://www.express.co.uk>, accessed 28 Jul 2017

### **Extract 3: The need for sustainable road transport**

The transport sector contributes around one quarter of Europe’s greenhouse gas emissions, thereby contributing to climate change. With government funding like subsidies, the electric vehicles has the potential to contribute to a considerable decarbonisation of the future road transport sector and improved efficiency in resource allocation.

Increasing the numbers of electric vehicles can significantly reduce direct carbon emissions and air pollutants from road transport. However, these positive effects can be partially offset by additional emissions caused by the additional electricity required to power the vehicles and continued fossil fuel use in the power sector. Higher emissions would result from the associated fossil fuel combustion in the electricity-generating sector if reductions in electricity demand are not made in other sectors by energy efficiency improvements. Overall, the avoided carbon emissions in the road transport sector can outweigh the higher emissions from electricity generation in EU. In countries with high shares of fossil fuel power plants, this is not the case.

The difference in emissions of air pollutants from the road transport sector and electricity generation cannot be compared directly in terms of their respective impacts on health. Emissions from road transport occur at ground level and generally in areas where people live and work, such as in cities and towns, so much of the population is exposed to them. In contrast, power stations are generally outside cities, in less populated areas. As a result of this lower exposure, a shift of emissions from the road transport sector to the power generation sector can therefore be beneficial for health.

Source: <http://www.airqualitynews.com>, 26 June 2017

### **Extract 4: Creating the Clean Energy Economy**

There is good reason to expect the move towards developing the electric automobile industry to bring about benefits and improvements in living standards in the US. Though it might likely lead to some job losses in other sectors, like the oil industry, increasing adoption of electric vehicles can drive job creation in a host of industries. More efficient automobiles require more technology in the design and production process. Many jobs would be created in industrial sectors closely tied to auto manufacturing, advanced batteries, and research and development.

Moreover, electric vehicles are much cheaper to operate than conventional vehicles. Drivers who switch to electric vehicles will have more disposable income to spend in other sectors of the economy, such as housing and services. Spending in these sectors keeps more wealth

moving within local economies and will drive job creation in sectors not immediately connected to producing electric vehicles. Direct jobs are created through increased production by firms that make electric vehicle components and infrastructure. Indirect jobs are those tied to firms that supply to these direct producers. Further, higher employment in direct and indirect jobs leads to more spending in the broader economy. These create induced jobs in industries like food, clothing, and entertainment.

Additionally, electric vehicles can reduce an economy's reliance on foreign oil and lead to massive amounts of wealth staying local and creating jobs. Savings on petrol can add up to significant benefits to local economies. A study by the California Electric Transportation Coalition found that each dollar saved from petrol spending and spent on other household goods and services generates 16 jobs in the state.

Source: <http://www.iedconline.org>, accessed 28 July 2017

### Questions

- (a) Compare the battery electric vehicle sales of China, US and Germany from 2010 to 2015. [2]
- (b) With reference to Extract 1 and using demand and supply analysis, explain how “rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars”. [4]
- (c) With reference to Extract 2:
- (i) Analyse the likely impact of both lower fuel duties and the introduction of road pricing on UK's government revenue. [5]
- (ii) Explain how increasing expenditure on improving road network to address the problems of congestion and pollution can promote economic growth. [3]
- (d) With reference to Extract 3, comment on the extent to which government subsidy for electric vehicles can lead to “improved efficiency in resource allocation”. [6]
- (e) Extract 4 mentioned that the US is moving from the oil industry towards the electric automobile industry.
- (i) With the aid of a diagram, explain how the opportunity cost of producing electric automobile in the US might be affected by such a move. [2]
- (ii) Discuss the view that “there is good reason to expect the move towards developing the electric automobile industry to bring about benefits and improvements in living standards”. [8]

[Total: 30]

**Question 2****ASEAN: Growth and Unemployment****Table 1: Macroeconomic Statistics for Selected Asian Economies, 2015**

	Philippines	Singapore	Burma	Indonesia	Vietnam
GDP per Capita (US\$)	2878	53629	1194	3336	2107
Nominal GDP Growth (annual %)	6.1	1.9	7.3	4.9	6.7
Unemployment (% of total labour force)	6.3	1.7	0.8	6	2.1
Population Growth (%)	1.6	1.2	0.4	1.2	1.1
% change in CPI	1.4	-0.5	10.8	6.4	-0.2
Current Account of Balance of Payments (US\$ billion)	7.2	53.7	-2.4	-17.5	0.90
Net inflows of foreign direct investment (US\$ billion)	5.6	70.5	4.0	19.7	11.8

Source: <http://databank.worldbank.org>

**Extract 5: As Driver of World Economic Growth, Asia's Vulnerabilities Emerge**

Asia will continue to be the driving force in world economic growth in 2015, according to a recent outlook report from the Asian Development Bank. Southeast Asia's two most populous countries, Indonesia and the Philippines, are projected to be the fastest-growing economies within the ASEAN+6 group, according to OECD.

Underpinning economic growth in Asia is not only the rise in domestic demand, particularly for middle-income countries such as Thailand and Malaysia, but also an increase in foreign investment in less developed countries such as Vietnam where manufacturing output growth is particularly strong as foreign-invested factories boost the production of goods for export.

Despite this impressive growth, Asia faces several major challenges. One is the uncertainty of China and India's growth outlook in the long term and their capacity to implement policy reforms. Slowing economic growth in China may dampen trade prospects of other Asian countries such as Vietnam, where China is a major trading partner, while continued low global commodity prices will reduce export earnings for countries with key sectors in oil and agriculture.

Source: Adapted from The Asian Foundation, 27 October 2015

**Extract 6: Opportunities and fears as Asean prepares for a single market**

South-east Asian marketplace home to 620 million people with a \$2.4 trillion (£1.5tn) economy is poised to follow the European Union's lead and declare itself a single market this year.

The EU-styled economic market aims to ease tariffs, increase investment and labour flows and open borders by December across 10 countries: Burma, Brunei, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and Vietnam – a move that has already attracted significant investment to the region.

The variance among its economies, however, means certain countries already benefit more from the united marketplace than others, a report has found. Singapore remains the preferred regional base for 80% of multinational companies thanks to its international finance hub and open markets. Up-and-coming economies with strong manufacturing pulls such as Indonesia and Burma are expected to profit as well.

A growing middle class across the region also means healthy domestic markets, and as the cost of labour in China rises, the potential for Asean – and its pool of both skilled and unskilled workers – increases as well.

But Asean's focus on trade could ultimately prove problematic for the region's 620 million citizens, say activists. Companies are profiting from investment-friendly protection measures at the expense of citizens. "What's potentially at risk in such an arrangement are national regulations protecting rights of local communities, extending protection to workers, and stopping industrial pollution that make people near factories or mines sick," says Phil Robertson, of Human Rights Watch.

Source: <https://www.theguardian.com>, 3 February 2015

### **Extract 7: Southeast Asia, huge opportunity, significant challenges**

Southeast Asian nations must double their productivity to see continued economic growth, according to a new report by global management consulting firm McKinsey & Company. According to Dr. Thompson, many countries had previously relied on an expanding labour force to fuel growth.

Now that many workers have already shifted from agriculture into higher-value sectors, such as manufacturing, the way to tackle the potential slowdown, according to Thompson, is to find significant improvements in productivity. "Productivity remains at worryingly low levels in most Southeast Asian countries, which hampers their ability to continue to raise living standards for its people," the report says.

In the report, two paths identified to improving productivity and securing the region's ongoing prosperity are capturing a greater share of global flow of goods, services and finances across borders and deploying disruptive technologies across a range of industries and sectors.

With its proximity to India, China and Japan, ASEAN is well positioned geographically to benefit from global trade flows. Dr. Thompson points out that as labour costs in China increase, there is an opportunity for ASEAN countries to capture some of that manufacturing business.

Mobile internet, big data, the Internet of Things, the automation of knowledge work and cloud technology – according to the McKinsey report, are five technologies that have the potential to create between US\$220 billion and US\$625 billion in annual economic impact by 2030. Although there is a huge appetite for technology among consumers – the region ranks third in the world in terms of mobile phone usage – adoption in business has been slow.

Governments who seize the opportunity could “leapfrog” ahead, according to the report. But it also warns that while these technologies could help accelerate a country’s progress, they are likely to cause disruption in the labour market as certain jobs become obsolete due to automation. This means that governments must be ready to provide support and retraining to equip people with the skills required to participate in a newly digital economy.

Source: <https://www.futurereadysingapore.com>, 7 April 2015

## Questions

(a) Explain **two** macroeconomic indicators from Table 1 that you would use to justify that Philippines’ economic performance is better than Indonesia, both internally and externally. [4]

(b) Table 1 shows that Vietnam registered positive GDP growth with negative change in CPI.

Using AD-AS analysis, explain why despite a strong positive GDP growth, there was a negative change in the consumer price index in Vietnam. [4]

(c) With reference to Extract 5, analyse how both ‘slowing economic growth in China’ and ‘continued low global commodity prices, would affect Singapore’s balance of payment. [5]

(d) Explain why ASEAN’s move towards EU-styled economic market mentioned in Extract 6 has attracted investment into the region. [3]

(e) To what extent does economic theory explain why Singapore is the preferred regional base for multinational companies while countries such as Indonesia and Burma are preferred for manufacturing industries? [6]

(f) Extract 7 suggested two ways in which ASEAN countries can improve productivity and secure the region’s ongoing prosperity.

Discuss the challenges faced by a more developed ASEAN economy such as Singapore and a less developed ASEAN economy such as Vietnam in adopting the two ways. [8]

[30 Marks]

**Section B**

Answer **one** question in this section.

- 3** In a free market, prices of agricultural products is known to fluctuate widely compared to manufactured consumer goods. In the event of market failures, governments influence market price through indirect tax or subsidy to bring about more efficient allocation of resources.
- (a)** Explain why prices of agricultural products fluctuates widely compared to manufactured consumer goods. [10]
- (b)** Discuss the view that influencing market prices through indirect tax or subsidy is the most effective method to bring about more efficient allocation of resources when the market fails. [15]
- 4** Governments usually have a few macroeconomic objectives to meet, however, it is often challenging to achieve these objectives simultaneously due to conflicts between them.
- (a)** Explain why government tend to have a low rate of unemployment and a low rate of inflation as macroeconomic objectives. [10]
- (b)** Discuss whether conflicts in pursuing macroeconomic objectives is the main reason why Singapore government need to choose a mix of policies to achieve these objectives simultaneously. [15]

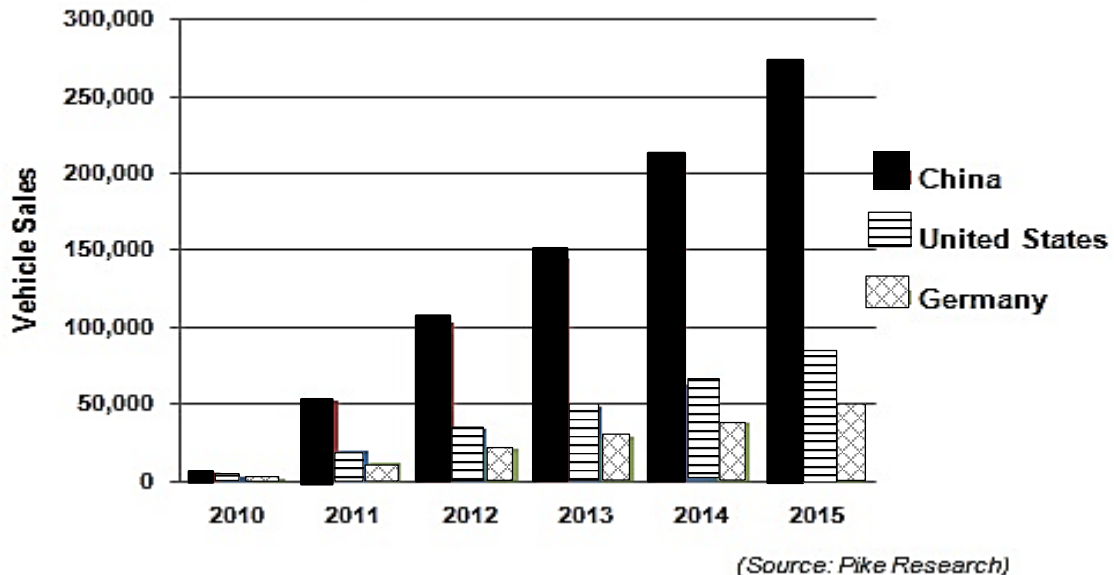
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## Question 1

### Sustainable Road Transport and Clean Energy Economy

Figure 1: Battery Electric Vehicle Sales



#### Extract 1: Electric Car Sales Are Surging

The number of electric vehicles on the road rocketed in 2016 after being virtually non-existent just five years ago, according to the International Energy Agency (IEA).

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Countries and cities are looking to electric vehicles to help tackle their air pollution problems. In order to limit global warming to below 2 degrees Celsius, the world will need 600 million electric vehicles by 2040, according to the IEA.

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Source: <https://www.bloomberg.com>, 7 June 2017

#### Extract 2: Move from fuel duties to road pricing

UK Transport Minister Norman Baker said a national system of road pricing was inevitable. He explained that the drift towards electric and cleaner cars would force the UK Treasury to look at replacing the billions of pounds it is likely to lose through traditional carbon tax revenues. Mr Baker wants a “revenue neutral” system of road pricing in which there would be no difference in overall costs for the average motorist. Hence, the vehicle excise duty would be scrapped and fuel duties lowered to offset the costs of the new charges from road pricing. He said, “It wouldn’t be an extra tax, it would be just a different way of raising money. You could have a charge per mile for roads like motorways. You could then offset that by abolishing road

tax and by reducing fuel duty so that they would even out. That seems to me to be entirely equitable and sensible environmentally.”

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Source: <http://www.express.co.uk>, accessed 28 Jul 2017

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Source: <http://www.airqualitynews.com>, 26 June 2017

### **Extract 4: Creating the Clean Energy Economy**

There is good reason to expect the move towards developing the electric automobile industry to bring about benefits and improvements in living standards in the US. Though it might likely lead to some job losses in other sectors, like the oil industry, increasing adoption of electric vehicles can drive job creation in a host of industries. More efficient automobiles require more technology in the design and production process. Many jobs would be created in industrial sectors closely tied to auto manufacturing, advanced batteries, and research and development.

Moreover, electric vehicles are much cheaper to operate than conventional vehicles. Drivers who switch to electric vehicles will have more disposable income to spend in other sectors of the economy, such as housing and services. Spending in these sectors keeps more wealth moving within local economies and will drive job creation in sectors not immediately connected to producing electric vehicles. Direct jobs are created through increased production by firms that make electric vehicle components and infrastructure. Indirect jobs are those tied to firms

that supply to these direct producers. Further, higher employment in direct and indirect jobs leads to more spending in the broader economy. These create induced jobs in industries like food, clothing, and entertainment.

Additionally, electric vehicles can reduce an economy's reliance on foreign oil and lead to massive amounts of wealth staying local and creating jobs. Savings on petrol can add up to significant benefits to local economies. A study by the California Electric Transportation Coalition found that each dollar saved from petrol spending and spent on other household goods and services generates 16 jobs in the state.

Source: <http://www.iedconline.org>, accessed 28 July 2017

### Questions

(a)	<p>Compare the battery electric vehicle sales of China, US and Germany from 2010 to 2015. [2]</p> <p>Answers: Any two from below</p> <ul style="list-style-type: none"> <li>- China consistently has the highest amount of battery electric vehicle sales, followed by the United States and Germany from 2010 to 2015. [1]</li> <li>- China experiences the greatest increase in battery electric vehicle sales each year from 2010 to 2015 as compared to the United States and Germany. [1]</li> <li>- The battery electric vehicle sales increase in all three countries. [1]</li> </ul>	[2]
(b)	<p>With reference to Extract 1 and using demand and supply analysis, explain how “rising consumer interest, availability of charging facilities and declining demand for diesel cars has spurred massive investments in electric cars”.</p> <p>Answer:</p> <p>Increase in DD for electric cars → shortage (<math>Q_d &gt; Q_s</math>) at prevailing price → upward pressure on price [2] → higher expected profitability of selling higher-priced electric cars → producers increase the <math>Q_s</math> of electric cars [2]</p>	[4]
(c)	With reference to Extract 2,	
(i)	<p>Analyse the likely impact of both lower fuel duties and the introduction of road pricing on UK's government revenue.</p> <p>Answer:</p> <ul style="list-style-type: none"> <li>- Lower fuel duties → increase SS of fuel → lower price of fuel leads to less than proportionate increase in <math>Q_d</math> (given fuel is a necessity for driving cars, <math>PED</math> of fuel <math>&lt; 1</math>) → the small gain in revenue from the increase in <math>Q_t</math> is insufficient to cover the fall in fuel duty → fall in govt tax revenue [2]</li> <li>- Introduction of road pricing → increase in govt tax revenue [1]</li> </ul>	[5]

	<ul style="list-style-type: none"> <li>- Increase in tax revenue from road pricing &gt; fall in tax revenue from lower fuel duties (since PED of road usage &lt;1, Qd fall less than proportionate to the increase in cost of road usage) → overall govt revenue increases [2] Revenue remains the same also accepted. (however is unlikely the case in reality to be the same although govt try to make it revenue neutral)</li> </ul>	
(ii)	<p>Explain how increasing expenditure on improving road network to address the problems of congestion and pollution can promote economic growth.</p> <p>Answer:</p> <ul style="list-style-type: none"> <li>- Increase G and I (due to greater inflow of FDIs) → increase AD → increase RNY (Up to 2m)</li> <li>- Improved road network → lesser productive time wasted on the road due to ease of congestion problem; healthier workforce due to less pollution created → higher efficiency and productivity → increase productive capacity → increase AS → increase RNY (Up to 2m)</li> </ul>	[3]
(d)	<p>With reference to Extract 3, comment on the extent to which government subsidy for electric vehicles can lead to “improved efficiency in resource allocation”.</p> <p>Answer:</p> <p><u>Govt subsidy for electric vehicles can improve efficiency in resource allocation</u></p> <ul style="list-style-type: none"> <li>- Use of diesel cars generate negative externalities in consumption due to high amount of air pollutants emitted → existence of MEC causes divergence between MPC and MSC → <math>Q_e &gt; Q_s</math> of diesel cars → allocative inefficiency</li> <li>- Govt subsidy for electric vehicles → lowers unit COP → increase supply of electric vehicles → lowers price → cause more consumers to switch from diesel cars to electric vehicles → higher consumption/ usage of electric vehicles → reduce extent of negative externalities and hence DWL due to lesser usage of diesel cars → reduce allocative inefficiency</li> </ul> <p><u>Govt subsidy for electric vehicles may not improve efficiency in resource allocation</u></p> <ul style="list-style-type: none"> <li>- Burning of fossil fuels to generate electricity to power electric vehicles generate carbon emissions and air pollutants (extract 3) → existence of MEC as negative externalities are generated from consumption of electric vehicles → allocative inefficiency since <math>MSC &gt; MSB</math> at <math>Q_e</math></li> <li>- Govt failure e.g. imperfect info → may not provide optimal amount of subsidy to increase production/consumption of electric vehicles to <math>Q_s</math></li> </ul> <p><u>Comment on the extent</u></p> <ul style="list-style-type: none"> <li>- The avoided emissions in road transport is likely to outweigh the carbon emissions from electricity generation (as power plants are usually located</li> </ul>	[6]

in less populated areas (extract 3) → lesser MEC) → overall efficiency in resource allocation should improve

- Depends on whether firms continue to burn fossil fuels or switch to use alternative cleaner fuels to generate electricity to power electric vehicles

**Level of Response Mark Scheme (LORMS)**

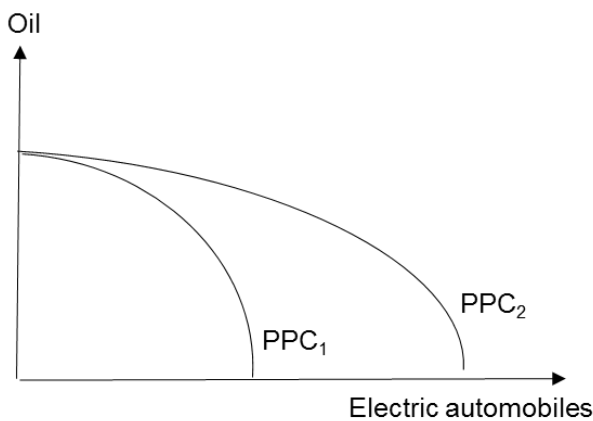
L2	<p>For a balanced and well-developed answer, explaining how govt subsidy for electric vehicles may AND may not improve efficiency in resource allocation.</p> <p>Answer is well-contextualised supported by evidence from the extracts.</p> <p>Insightful comment on the <u>extent</u> to which govt subsidy for electric vehicles improves efficiency in resource allocation.</p>	4 – 6
L1	<p>For an undeveloped answer that attempts to explain how govt subsidy for electric vehicles may AND may not improve efficiency in resource allocation.</p> <p>Answer may contain inaccuracies and conceptual errors.</p> <p>Max 3m – For a one-sided well-developed answer.</p>	1 - 3

(e) Extract 4 mentioned that the US is moving from the oil industry towards the electric automobile industry.

(i) With the aid of a diagram, explain how the opportunity cost of producing electric automobile in the US might be affected by such a move. [2]

Answer:

US seeks to lower the opportunity cost of producing electric automobile to gain a comparative advantage – less alternative goods e.g. oil forgone to produce an additional unit of electric automobile (as seen from the outward pivotal shift from PPC<sub>1</sub> to PPC<sub>2</sub>) [1]



PPC diagram [1]

	<p>(ii) Discuss the view that “there is good reason to expect the move towards developing the electric automobiles industry to bring about benefits and improvements in living standards”.</p> <p>Answer:</p> <p><u>Development of the electric automobile industry will improve SOL for most people</u></p> <ul style="list-style-type: none"> <li>- Lesser emissions of air pollutants → cleaner environment improves non-material SOL</li> <li>- Increase in employment in sectors related to auto manufacturing, advanced batteries and R&amp;D (extract 4) → more people earning income and able to afford more goods and services → increase material SOL</li> <li>- Electric vehicles are much cheaper to operate than conventional vehicles → drivers who switch to electric vehicles will have more disposable income to spend in other sectors of the economy, such as housing, food, clothing and entertainment (extract 4) → increase C</li> <li>- Greater investments by firms on the development of electric vehicles (increase I)</li> <li>- Adoption of higher technology in the design and production process → greater productivity and efficiency in production → increase productive capacity → increase AS</li> <li>- Increase in AD (due to increase in C and I) and increase in AS → higher actual and potential economic growth. Increase in RNY means an increase in household’s income and purchasing power to buy more goods and services → higher material SOL. The higher tax revenue collected by the government can be used to fund the provision of public and merit goods such as defence, healthcare → improve non-material SOL.</li> </ul> <p><u>Development of the electric automobile industry may not improve SOL for certain groups of economic agents such as workers and producers in the oil related industries</u></p> <ul style="list-style-type: none"> <li>- Loss of jobs for those working in oil related industries (extract 4) → structural unemployment as they may not have the relevant skills to work in electric automobile industry. These workers would suffer a loss of income and hence lower ability to afford goods and services → fall in material SOL. (Evaluation: However, if government provides them with training to equip them with the necessary skills to work in electric automobile industry, they may be able to regain employment and improve their material SOL.)</li> <li>- Producers in oil related industries also suffer a loss in revenue and profits and may shut down → fall in material SOL</li> <li>- Additional carbon emissions from electricity generation to power the electric vehicles → could worsen the non-material SOL. (Evaluation: However, as the power generation plants are generally located outside cities, in less populated areas, the citizens may not suffer</li> </ul>	[8]
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from the air pollution. And if firms switch to use alternative cleaner fuels to generate electricity to power electric vehicles instead of burning fossil fuels, the citizens' SOL may not fall.)

### Conclusion

- Generally agree with the view that the move towards developing the electric automobile industry is expected to bring about benefits and improvements in material and non-material SOL for most people in the economy due to: (1) creation of greater job opportunities in various industries and the increase in RNY; (2) a cleaner environment since the reduction in carbon emissions in the road transport sector can outweigh the higher emissions from electricity generation especially in countries with fewer fossil fuel power plants (e.g. in EU).
- Only those working in oil related sectors are adversely affected due to loss of jobs. But, if they are able to equip themselves with the relevant skills to transit to other growing industries i.e. electric automobile, their SOL could improve.
- As govt allocate more resources to the development of electric automobiles industry, there will be less resources available to develop other sectors such as education and healthcare which are also important to raise overall SOL in a country.

### **Level of Response Mark Scheme (LORMS)**

L2	For a balanced and well-developed answer which clearly explains how the move towards developing the electric automobiles industry may AND may not bring about benefits and improvements in living standards.  Answer is well-contextualised with the supporting evidence from the sources.	4 - 6
L1	For an undeveloped answer which attempts to explain how the move towards developing the electric automobiles industry may AND may not bring about benefits and improvements in living standards.  Answer has some relevance with regard to the context, but otherwise not contextualised based on the given extracts.  Max 3m – One-sided answer.	1 – 3
E1	For value judgements made that are supported by economic reasoning.  1m - For value judgements made incidentally or without any reasoning.	1 – 2

[Total: 30]





**Suggested Answers**

(a)	<p>Explain <b>two</b> macroeconomic indicators from Table 1 that you would use to justify that Philippines' economic performance is better than Indonesia, both internally and externally.</p>	[4]
	<p><b><u>Inflation Rate (1.4% vs. 6.4%)</u></b>  Philippines (1.4%) has a lower % change in consumer price index (CPI) as compared to Indonesia (6.4%). The lower % change in CPI in Philippines reflects greater price stability and smaller changes in general price level in the internal economy, as compared to Indonesia. – <b>2m</b></p> <p><b><u>Current Account Balance (Surplus vs. Deficit)</u></b>  Philippine has a current account surplus (+7.2Bn) as compared to Indonesia which has a current account deficit (-17.5Bn). The difference in current account position reflects a greater money inflow (income) than outflow (expenditure) which could stem from Philippine's more competitive exports as compared to Indonesia (since trade account takes up a large proportion of the current account). This reflects a stronger &amp; healthier external economy. – <b>2m</b></p> <p>Nominal GDP is not a good reflection of real national output (i.e. If inflation rates are higher than % change in nominal GDP, real output of an economy is actually falling).</p>	
(b)	<p>Table 1 shows that Vietnam registered positive GDP growth with negative change in CPI.</p> <p>Using AD-AS analysis, explain why despite a strong positive GDP growth, there was a negative change in the consumer price index in Vietnam.</p>	[4]
	<p>A strong positive GDP growth is likely a result of a rise in aggregate demand (AD) of the economy. As more resources are utilised, general price level increases with greater competition for the limited resources, ceteris paribus.</p> <p>However, there have been inflow of foreign direct investment (FDI) into Vietnam as well (Extract 5, para 2). Successful investments increase the productive capacity of the economy and increases the long run aggregate supply (LRAS) → GPL falls, ceteris paribus – <b>3m</b>  <b>(Also acceptable:</b> Low global commodity (e.g. oil, raw material) prices are falling → cost of production ↓, causing the short-run aggregate supply (SRAS) to increase → GPL falls, ceteris paribus.)</p> <p>It is likely that the rise in LRAS outweighs the rise in AD which resulted in an overall fall in GPL. Hence, there was a negative change. – <b>1m</b></p> <p>Max 2m – Without any reference to the case evidence.  Max 2m - if answer is one-sided, only contains mitigating AD factors such as, X falling even though C and I rises</p>	

(c)	<p>With reference to Extract 5, analyse how ‘slowing economic growth in China’ and ‘continued low global commodity prices, would affect Singapore’s balance of payment.</p>	[5]									
<p>Slowing growth in China → Less increase in household disposable income → poor economic outlook/expectation of future economic performance → fall in demand for goods and services including foreign imports. Demand of exports from Singapore to China fall → fall in export revenue. This worsens the current account (X-M) and hence the balance of payment (BOP) account. Ceteris Paribus.</p> <p>Continued fall in global commodity (raw materials, primary goods) prices → is cheaper for Singapore to import these commodity goods → quantity demanded of import rises. A small country like Singapore is heavily reliant on imports, demand for imports is likely to be price inelastic (<math>PED_m &lt; 1</math>). Given a fall in price → quantity demanded increases by less than proportion → import expenditure ↓.</p> <p>Relaxing the earlier assumption, the combine effect of export revenue ↓ and import expenditure ↓ implies that the final impact on current account and hence BOP is uncertain.</p> <p><b>Analysis 1:</b> The fall in X can outweigh the fall in M. This is due to the fact that China is a major trading partner of Singapore (Extract 5, para 3). Therefore, China is responsible for a large proportion of Singapore’s export. It is likely that a slow down in China will reduce our export revenue significantly, especially when other top importer of Singapore’s exports are also Asian countries (e.g. Malaysia, Indonesia, Hongkong), and they are affected by China’s slowing growth as well.</p> <p>As a result, X falls by a larger extent as compared to M → <u>Current account may worsen → deteriorate BOP position. Ceteris paribus.</u></p> <p><b>Analysis 2:</b> Impact on BOP can also change if the financial and capital account position changes. The rise in investment in other less developed countries such as Vietnam (Extract 5, para 2) may imply that foreign firms may relocate from Singapore to these countries. As FDI falls, capital and financial account may worsen.</p> <p><u>As a result, if the negative change in financial &amp; capital account outweighs the positive change in current account → BOP position may worsen</u></p> <p><b>(Note:</b> Students just require one well-explained analysis to access L2)</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3" style="background-color: #e0e0e0;">Level of Response Marking Scheme (LORMS)</th> </tr> </thead> <tbody> <tr> <td style="width: 10%; text-align: center;">L2</td> <td style="width: 60%;">For a well-developed answer which explains both the impacts of the two economic event on SG’s BOP position.</td> <td style="width: 30%; text-align: center;">4 - 5</td> </tr> <tr> <td></td> <td>For an answer that demonstrates analysis of the</td> <td></td> </tr> </tbody> </table>			Level of Response Marking Scheme (LORMS)			L2	For a well-developed answer which explains both the impacts of the two economic event on SG’s BOP position.	4 - 5		For an answer that demonstrates analysis of the	
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L2	For a well-developed answer which explains both the impacts of the two economic event on SG’s BOP position.	4 - 5									
	For an answer that demonstrates analysis of the										

		possible overall change in BOP position based on logical economic reasoning.		
	L1	For an undeveloped answer which attempts to explain the impacts of the economic event on SG's BOP.  Answer may be largely irrelevant or contains conceptual errors.	1 – 3	
(d)	Explain why ASEAN's move towards EU-styled economic market mentioned in Extract 6 has attracted investment into the region.			[3]
	<p>The move towards a single market following the European Union (EU) economic integration removes trade barriers which increases trade flows, as well as mobility of labour and capital. From (Extract 6),</p> <p><b><u>Increase Capital Investment Flows</u></b>  Greater ease of investment flows (para 2) (i.e. lowering administrative cost, relaxing legislation, removing complicated business law) which reduces cost of relocating and operating in ASEAN region. Hence attracting investments.</p> <p><b><u>Increase Trade Flows</u></b>  Removal of tariff (para 2) can help firms in member countries of ASEAN to gain access to more markets. This implies a potential increase in demand for goods and services and hence growth in the region (para 3). Increase in investments in the region therefore have a greater returns which incentivises investors.</p> <p><b><u>Increase Labour Flows</u></b>  Firms can leverage on a greater pool of skilled and unskilled labour (Para 4), both to lower cost of production as well as improve productivity of firms. Again, greater returns on investments, hence investments flows in.</p> <p>Any 2 points with explanation to gain max 3m.  Max 2m - If link to returns on investments as well as profit consideration of firms are missing.</p>			
(e)	To what extent does economic theory explain why Singapore is the preferred regional base for multinational companies while countries such as Indonesia and Burma are preferred for manufacturing industries?			[6]

**Question approach:** Students have to first recognise the different advantages Singapore and countries such as Indonesia can provide to MNCs and Manufacturing based firms. They then need to draw the necessary link that the advantage stems from differences in opportunity cost, which underpins the theory of Comparative Advantage (C.A.) This is also the economic theory referred to in the question. Students then have to consider other reasons for such a decision not related to the theory of C.A.

**Suggested Answer:**

**Thesis:** Economic theory such as the theory of comparative advantage can account for Singapore being a preferred regional base for MNCs and Indonesia and Burma remaining preferred for manufacturing industries.

The incentive to these firms stems from the lower opportunity cost of conducting business in these countries as compared to other countries. In the case of Singapore, her knowledge based economy, coupled with a skilful labour force, makes it a suitable country for MNCs to setup their regional base which involves more planning and services related operations that are less labour intensive but requires more skillful labour.

On the other hand, countries such as Indonesia and Burma are suitable to be manufacturing hubs because of the labour-intensive nature of manufacturing, as compared to operating regional headquarters of MNCs. Since these less developed countries have a relatively large pool of labour which results in lower labour cost as compared to other countries, manufacturing industries incur lower opportunity cost in manufacturing goods in these countries, as compared to other countries.

**Anti-thesis:** However, there are other advantages/reasons to account for the choice of these destination that are not based on economic theory.

**Business Environment & Governance**

To setup regional hubs or manufacturing bases in another country depends on the business environment and often the political stability of a country. Singapore for example is often a preferred destination for regional hubs precisely because of her positive business environment such as technology pervasiveness and efficiency in administrative processes as well as good governance which stems from strong legal systems. Singapore's competition law is well-enforced and prohibits anti-competitive behaviour which helps to build a strong and vibrant competitive market. Intellectual property law on the other hand, safe guards the interest of innovative firms, and plays a vital role in spurring innovation.

**Trade Policies & Diplomatic Ties**

Government's approach to trade as well as diplomatic ties established with other countries are also huge incentives to firms to relocate. Being an international finance hub (extract 6, para 3) implies that financial

	<p>transactions can be done with many other countries if firms setup regional office in Singapore. In addition, due to singapore’s openness to free trade (extract 6, para 3), firms have greater ease of gaining access to foreign markets opening up greater revenue and profits potential.</p> <p><b>Evaluation:</b> While economic theory such as comparative advantage accounts for firms’ decision of relocating and setting regional headquarters or manufacturing bases, business environment which is largely shaped by government policies is largely to play a bigger role in firms’ decision. This is because, changes in government policies can easily erode comparative advantages. Taxation laws for example can easily increase cost of operation in a country significantly.</p> <table border="1" data-bbox="268 680 1329 1603"> <thead> <tr> <th colspan="3" data-bbox="268 680 1329 719"><b>Level of Response Mark Scheme</b></th> </tr> </thead> <tbody> <tr> <td data-bbox="268 719 408 1084">L2</td> <td data-bbox="408 719 1169 1084"> <p>For a balanced and well-developed answer which clearly explains reasons (both economic theory and others) for MNCs preference to set up regional base in Singapore and manufacturing industries in Indonesia and Burma.</p> <p>Answer is well-applied to the context of both developed country like Singapore and less developed countries like Indonesia and burma.</p> </td> <td data-bbox="1169 719 1329 1084">3 – 4</td> </tr> <tr> <td data-bbox="268 1084 408 1417">L1</td> <td data-bbox="408 1084 1169 1417"> <p>For a undeveloped answer which attempts to explain reasons for MNCs preference to set up regional base in Singapore and manufacturing industries in Indonesia and Burma.</p> <p>Answer has little or no reference to the context of both developed country like Singapore and less developed countries like Indonesia and burma.</p> </td> <td data-bbox="1169 1084 1329 1417">1 – 2</td> </tr> <tr> <td data-bbox="268 1417 408 1603">E1</td> <td data-bbox="408 1417 1169 1603"> <p>Value-judgements made that are well-justified.</p> <p>Max 1m for value-judgements made incidentally or without economic justifications.</p> </td> <td data-bbox="1169 1417 1329 1603">1 - 2</td> </tr> </tbody> </table>	<b>Level of Response Mark Scheme</b>			L2	<p>For a balanced and well-developed answer which clearly explains reasons (both economic theory and others) for MNCs preference to set up regional base in Singapore and manufacturing industries in Indonesia and Burma.</p> <p>Answer is well-applied to the context of both developed country like Singapore and less developed countries like Indonesia and burma.</p>	3 – 4	L1	<p>For a undeveloped answer which attempts to explain reasons for MNCs preference to set up regional base in Singapore and manufacturing industries in Indonesia and Burma.</p> <p>Answer has little or no reference to the context of both developed country like Singapore and less developed countries like Indonesia and burma.</p>	1 – 2	E1	<p>Value-judgements made that are well-justified.</p> <p>Max 1m for value-judgements made incidentally or without economic justifications.</p>	1 - 2	
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(f)	<p>Extract 7 suggested two ways in which ASEAN countries can improve productivity and secure the region’s ongoing prosperity.</p> <p>Discuss the challenges faced by a more developed ASEAN economy such as Singapore and a less developed ASEAN economy such as Vietnam in adopting the two ways.</p>	[8]												
	<p><b>Question Approach:</b> Students have to first identify the two ways mentioned in the passages; capturing greater share of trade flows and deploying disruptive technologies. Students then have to explain the <b>different challenges</b> faced by these countries in adopting these measures, based on the <b>different characteristics of these countries.</b></p>													

**Introduction:** Identify the two ways

The two ways to improve productivity and secure prosperity as outlined in (Extract 7) are to capture a greater share of flows of goods and services and to leverage on technology. However, developed economy such as Singapore and less developed economy such Vietnam face different challenges in adopting the two ways.

**Body:** Explain the challenges Singapore and Vietnam may face in capturing a greater share of flow of goods and services.

In capturing a greater share of global trade flows, Singapore may find it more challenging as compared to Vietnam. This is because of the cost disadvantage that Singapore has as compared to Vietnam. With a smaller pool of labour and the lack of natural resources, it has always been a challenge for Singapore to enhance the price competitiveness of her exports. Vietnam on the other hand has cost advantages because of her relatively low cost of production (e.g. lower labour cost) which translates to more competitive prices. As she opens up her domestic markets, Vietnam will find it much easier to attract buyers and export her goods and services as compared to Singapore.

Thus, Singapore's challenge is to also move up the value chain and focus more on higher value-added goods and services in order to remain competitive. This can be brought about by continuous process and product innovation. Even being less price competitive, the higher quality goods could increase exports demand. Trade policies such as signing more Free Trade Agreements (FTAs) will also be important to expand Singapore's pool of export destinations and boost export revenue as more trade barriers are being removed. These can bring about economic growth and help Singapore remain prosperous

**Body:** Explain the challenges Singapore and Vietnam may face in leveraging on technology.

On the other hand, Vietnam may find it more challenging to leverage on disruptive technology to improve productivity and secure prosperity. Being a less developed economy, the lack of technological infrastructures coupled with a relatively low level of technological adoption may impede Vietnam's move towards leveraging on technology. Singapore on the other hand is well positioned to leverage on technology as a developed economy where technology is pervasive in many aspects of the economy. This can help firms lower unit cost of production and develop new areas of comparative advantage in order to remain prospers.

Vietnamese government may also lack the required funds to invest in cutting edge technology which adds to the lack of infrastructures. In addition, educational levels are relatively low and it takes time for the labour force to gain the ability to employ technology to improve productivity. In contrast, Singaporean government has the necessary

funding to push for greater information technology innovation as it sets the vision of developing the country to a Smart Nation. In addition, Singapore has a relatively skillful labour force which can more easily adopt technology to improve productivity.

**Evaluation:** Regardless, capturing greater share of trade flows often entails opening up domestic markets, while employing disruptive technology could break down barrier to entry to markets. These results in greater competition and possibly challenges such as a rise in unemployment. This is because domestic workers may get displace from their jobs with greater competition. Displaced workers who cannot find jobs in another industry due to a mismatch of skills may also find themselves structurally unemployed. These are added challenges that both countries may have to face as they adopt these ways to improve productivity and bring about economic prosperity.

Level of Response Mark Scheme		
L2	For a well-developed answer which clearly explains the different challenges of both economies by considering the nature of the economies.	4 – 6
L1	For an undeveloped answer which attempts to explain the different challenges faced by the two economies.  Max 3m for answers which only consider challenges in one economy or provide general challenges as a whole without differentiating them for different economies.	1 - 3
E1	Value-judgements made that are well-justified.  Max 1m for value-judgements made incidentally or without economic justifications.	1 - 2

[30 Marks]

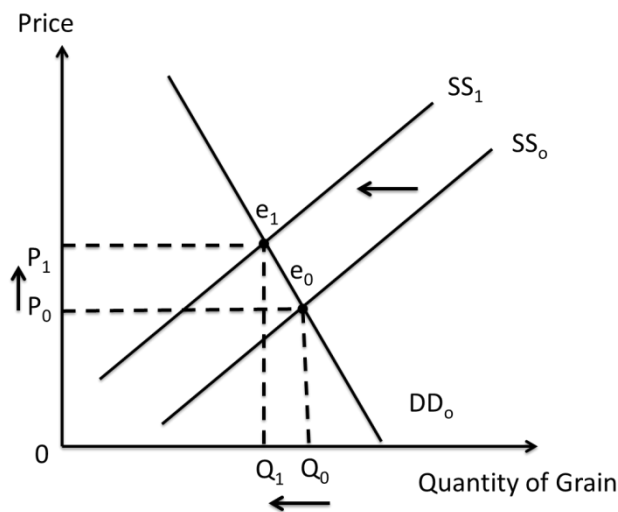
In a free market, prices of agricultural products is known to fluctuate widely compared to manufactured consumer goods. In the event of market failures, governments influence market price through indirect tax or subsidy to bring about more efficient allocation of resources.

Explain why prices of agricultural products fluctuates widely compared to manufactured consumer goods. [10]

Discuss the view that influencing market prices through indirect tax or subsidy is the most effective method to bring about more efficient allocation of resources when the market fails. [15]

a) Intro: The price of agricultural products tends to fluctuate widely because the demand and supply of agricultural products is price inelastic. In this essay, we will explain the factors that affect the PED and PES of both agricultural and manufactured goods.

Paragraph 1: The demand for agricultural goods such as grain is price inelastic because it is an important factor of production for the production of food products like biscuits. However, the demand for manufactured goods like electronic appliances is generally price elastic because these goods have low degree of necessity. Therefore, this causes the price of agricultural goods to fluctuate more widely than that of manufactured goods.



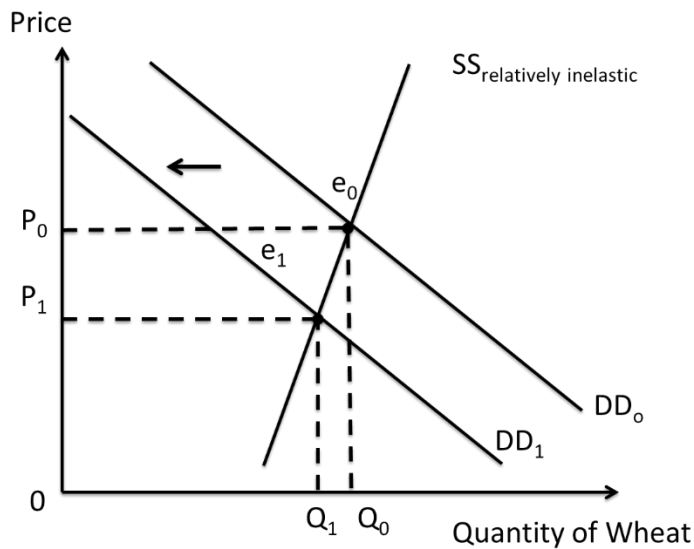
**Figure 1: A Decrease in Supply of Grain**

A fall in the supply of grain ( $SS_0$  to  $SS_1$ ) leads to a more than proportionate increase in the price of grain ( $P_0$  to  $P_1$ ) compared to quantity ( $Q_0$  to  $Q_1$ ). This explains the large fluctuations in the price of agricultural goods compared to manufactured goods.

Paragraph 2: The supply for agricultural goods is price inelastic because of



the long gestation period compared to the production period for manufactured goods. Therefore, this causes the price of agricultural goods to fluctuate more widely than that of manufactured goods.



A fall in the demand for grain ( $DD_0$  to  $DD_1$ ) leads to a more than proportionate fall in the price of grain ( $P_0$  to  $P_1$ ) compared to quantity ( $Q_0$  to  $Q_1$ ). This explains the large fluctuations in the price of agricultural goods compared to manufactured goods.

Level	Descriptor	Marks
L3	Well-developed explanation of the factors that affect PED and PES. Excellent analysis of how PED and PES affects the fluctuation of prices. Well-developed examples to illustrate the above analysis.	7-10
L2	Under-developed explanation of the factors that affect PED and PES. Some analysis of how PED and PES affects the fluctuation of prices. Examples illustrate the above analysis to a limited extent.  Max 5m for an essay that does not explain how PED and PES affects the fluctuation of prices.	5-6
L1	Vague description of PED and PES or some attempt to explain price changes with demand and supply shifts.	1-4

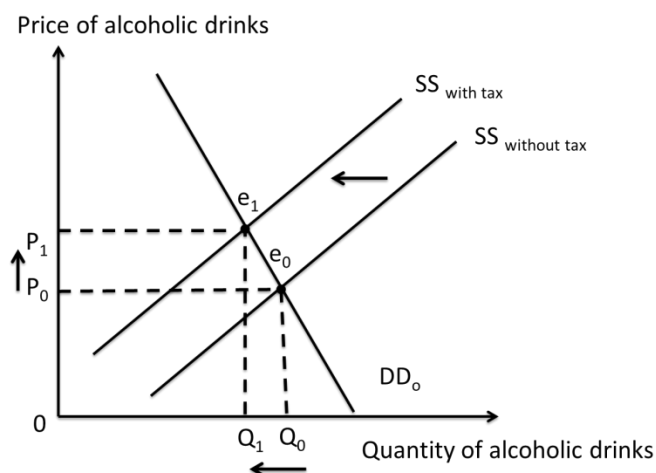
Question approach: The question requires candidates to explain how indirect tax or subsidy may influence market prices and correct market failure. Therefore, this should be the focus of the thesis paragraphs. Students should also consider different sources of market failure such as public goods, externalities and imperfect information.

b) Intro: The market may fail due to the presence of public goods, externalities or imperfect information. In event of this market failure, one policy the government can implement is an indirect tax or subsidy to ensure allocative efficiency. The government can also consider other policies such as public education or direct provision to help address the market failures.

Thesis: An indirect tax or subsidy is the best policy to ensure allocative efficiency in event of negative externalities and imperfect information.

In the case of a good with negative externalities, an indirect tax can be imposed on producers. This will increase the MPC for producers resulting in lower profitability. They are less willing and able to supply at each and every price level, hence supply falls. The market price of the good increases. As such, this will require producers to internalise the negative externality and reduce the level of over production in the market.

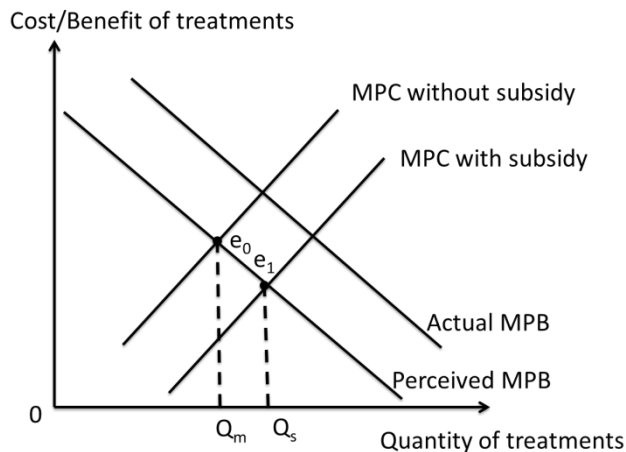
Evaluation: Whether taxes are effective depends on the PED of the good that results in negative externalities. For example, a tax on alcohol is ineffective because imposing a tax results in a less than proportionate fall in quantity demanded of alcoholic drinks ( $Q_0$  to  $Q_1$ ). However, a tax on air travel to reduce pollution is effective because imposing the same level of taxes results in a more than proportionate fall in quantity demanded of air travel.



**Figure 2: Indirect tax on alcohol**

In the case of a merit good, there exists imperfect information because consumers do not know the full extent of the benefits of healthcare to themselves. For example, they may not know that going for cancer screenings when they are younger will reduce the risk of complications if the cancer is found when they are older. This means that the perceived MPB of treatments

is lower than the actual MPB of treatments. As such, the quantity of healthcare consumed is at  $Q_m$ , which is less than the socially optimal level,  $Q_s$ . A subsidy will reduce the market price of healthcare treatments for consumers. For example in the case of healthcare, this will reduce the MPC for consumers because they pay less for treatments. (MPC without subsidy to MPC with subsidy)



**Figure 3: Merit good (healthcare)**

As shown in Figure 3, consumers will consume healthcare when perceived  $MPB > MPC$ , up to the point where perceived MPB meets the new level of MPC, at  $Q_s$ . This will mitigate the issue of under-consumption of healthcare due to imperfect information.

Evaluation: Whether subsidies are effective depends on whether the government is able to apply the correct amount of subsidy to raise the level of consumption. Furthermore, it may cause a strain on the government budget hence government should not rely on it to solve the market failure.

Anti-Thesis 1: An indirect tax or subsidy may not be the best policy to ensure allocative efficiency in event of negative externalities and imperfect information. Public education may instead be a better policy to correct the root cause of the problem and ensure a long term impact. In the case of a merit good like healthcare, public education will raise awareness of the importance of preventative measures like cancer screenings and inform the public that early diagnosis may reduce the risk of complications. Thus, the perceived MPB of healthcare treatments to consumers will increase and the quantity of treatments consumed will increase from  $Q_m$  to  $Q_s$ .

Evaluation: Public education may not have an immediate impact on raising the level of healthcare treatments as compared to subsidies because it takes time for consumers to change mindsets. However, it has benefits in the long run because a well-advertised campaign will pass down the practice of seeking early detection from one generation to another. Furthermore, an added benefit is that the government does not need to keep subsidizing healthcare treatments.

Anti-Thesis 2: An indirect tax or subsidy is not the best policy to ensure

allocative efficiency in event of market failure due to public goods. Direct provision is a better policy to correct this market failure.

In the case of public goods, the price mechanism fails completely because there is no demand and no supply of the public good. A public good is both non-excludable and non-rivalrous. It is impossible or costly to prevent non-payers from enjoying the good or service therefore there is no willingness for consumers to pay for the good. Furthermore, the additional cost of providing the good or service is zero for each unit supplied. In a free market, this means that it is difficult for producers to charge a price. Hence, no provision of the good if left to the free market. As such, influencing market prices through an indirect tax or subsidy is completely ineffective at correcting the market failure. Instead, direct provision by government will ensure that the public good is enjoyed by the citizens of the country.

Evaluation: Whether a public good should be provided by the government depends on the extent of the benefits of the public good compared to the opportunity cost of spending government funds on the public good. For example, some local governments in the UK do not provide street lighting, preferring to employ cheaper measures such as cat eyes on the road and instead spend the limited government funds on more urgent uses such as unemployment benefits.

Conclusion: Whether the policy of indirect taxes and subsidies is the most effective will depend on the cause of the market failure. Furthermore, these policies may be effective in the short term but have limited long term impact, where another policy such as public education might be more effective.

Level	Descriptor	Marks
L3	Well-developed explanation of how <u>influencing market prices</u> through taxes and subsidies may correct the market failures in the case of merit/ demerit goods and goods with positive and negative externalities. Well-chosen examples illustrate how policies can correct the relevant market failures.	7-10
L2	Undeveloped explanation of explanation of how <u>influencing market prices</u> through taxes and subsidies may correct the market failures in the case of merit/ demerit goods and goods with positive and negative externalities. Examples illustrate how policies can correct the relevant market failures to a limited extent.  Max 5m for an essay that does not consider the effects of how indirect taxes and subsidies on market prices.	5-6
L1	Vague description of taxes and subsidies with some attempt to explain how they can correct market failure. Explanation of market failures	1-4

	limited to only externalities.	
Level	Descriptor	Marks
E2	Balanced discussion of the effectiveness of policies and evaluative comments lead to a coherent judgement.	3-4
E1	Judgement without explanation. Scattered evaluative comments without any attempt to tie them into a meaningful conclusion.	1-2

- 4 Governments usually have a few macroeconomic objectives to meet, however, it is often challenging to achieve these objectives simultaneously due to conflicts between them.
- (a) Explain why government tend to have a low rate of unemployment and a low rate of inflation as macroeconomic objectives. [10]
- (b) Discuss whether conflicts in pursuing macroeconomic objectives is the main reason why Singapore government need to choose a mix of policies to achieve these objectives simultaneously. [15]

Draft1:

*Suggested outline for Q4(a)*

Low rate of unemployment and reasons

- definition and measurement
- efficient use of resources in an economy to produce a higher level of output - illustrate with a PPC – movement of a point closer to the PPC
- reduce poverty among those with zero income
- lower burden on public finance lower spending on financial assistance and additional revenue from direct and indirect taxes → funding to improve quality of SOL through provision of social amenities
- especially types of unemployment with longer term impact such as structural unemployment and youth unemployment

Low rate of inflation and reasons

- definition and measurement
- high inflation erodes the purchasing power of a given sum of money – c.p. – lower mSOL – greater impact on fixed income earners and retirees dependent on savings
- relatively higher general domestic prices as compared to trading partners - higher prices of goods produced domestically – reduces price competitiveness of domestically produced goods – lower demand for exports and higher demand for imports – lower AD and worsen BOT balance
- steady increase in prices → encourages firms to increase production as TR tend to increase faster than cost → promotes I → boost economic growth

Q4(a)

<b>Knowledge, Application/Understanding and Analysis</b>		
<b>L3</b>	<ul style="list-style-type: none"> <li>• For an answer that contains well-developed explanation of low rate of unemployment and low rate of inflation and reasons for their choice as key macroeconomic objectives.</li> <li>• Reasons are supported by relevant economic concepts and tools.</li> <li>• Good explanation for both macroeconomic objectives is required to enter level 3.</li> </ul>	<b>7-10</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>• For an answer that contains a descriptive explanation of both macroeconomic objectives and the reasons for their choice.</li> </ul>	<b>5-6</b>
<b>L1</b>	<ul style="list-style-type: none"> <li>• For an answer that contains limited knowledge of both macroeconomic objectives and / or reasons for their choice.</li> </ul>	<b>1-4</b>

### Markers comment

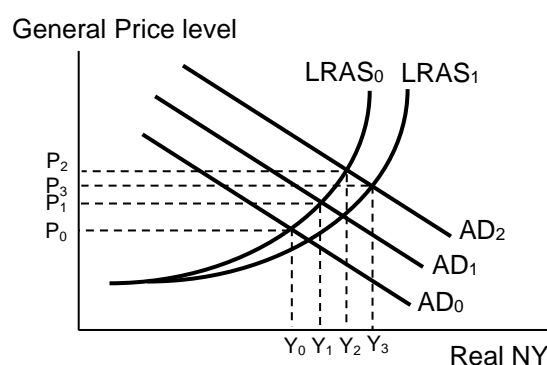
- 1) Most candidate were not prepared for consequence question on macroeconomic goals.
- 2) Several candidate mistaken higher employment for higher level of productivity or efficiency.
- 3) Most did not provide accurate definition for unemployment rate and inflation rate.
- 4) Generally weaker explanation on inflation
- 5) Concept errors – link low inflation to higher disposal income
- 6) Draw links between employment and economic growth through AD – should explain via multiplier effect
- 7) Several candidates define low inflation correctly as a steady increase in GPL but deduce that purchasing power of worker's income has increased. It is important to explain in terms of rise in nominal wages that is more than general price level.

- (b) Discuss whether conflicts in pursuing macroeconomic objectives is the main reason why Singapore government need to choose a mix of policies to achieve these objectives simultaneously. [15]

Suggested outline for Q4(b)

**Thesis:** Explain why conflicts in these objectives necessitate the use of mix of policies to achieve macroeconomic objectives simultaneously

- Government attempts to achieve a lower rate of unemployment rate through expansionary demand management policies such as higher G - AD rises along upward sloping portion of AS curve (actual growth) from AD<sub>0</sub> to AD<sub>2</sub>- when the Singapore economy close to full employment - competition for resources by producers bid up factor prices e.g. labour and land cost - translates into higher COP is then passed on to consumers through higher consumers prices – lower rate of unemployment – conflict with higher rate of inflation.



- The potential conflict require the use complementary supply side policy to achieve both lower employment rate and stable prices simultaneously. For instance, the government promotes lifelong learning and skills deepening through the SkillsFuture Credit (SFC) scheme which subsidises approved courses attended by workers. The scheme helps to improve productivity and relevance of skills among workers - increases the quality of our labour force - especially where Singapore being a small economy physically, has relatively small labour force and land area – continuously shift LRAS rightward from LRAS<sub>0</sub> to

LRAS1. Since demand-pull inflation could occur due to productive capacity (i.e. LRAS) of the economy not increasing fast enough to accommodate increase in AD, if appropriate supply-side policies are adopted together with expansionary demand management policies – achieve low rate of inflation and low rate of unemployment simultaneously.

- However, the improvement in labor productivity requires a mindset shift among workers who might be used to viewing learning as something which ended when they completed their education. The decision of workers also involves opportunity cost such as time foregone for personal and work commitments.
- Successful supply-side measures also requires improvement quantity and quality of capital. The quality of capital stock, i.e. machines, in an economy increases when firms acquire new capital stock which are more technologically advanced; or undertake R&D to make their capital more efficient. The government can incentivise firms to do so through the Productivity and Innovation Credit (PIC) Scheme introduced in Singapore. The improvement in quantity and improve quality of capital – higher productivity – increase LRAS – helps Singapore achieve low rate of inflation and low rate of unemployment simultaneously.
- However, improvement in productivity through automation and labour-saving capital might increase the rate of structural unemployment, despite contributing to low rate of inflation. Adoption of newer technology which gives rise to new production methods and industrial trends, making existing skills obsolete fast and intensifying the need for workers to acquire newer and more advance level of skills. Workers who are less able to catchup with the pace of change in needs of production would add to the rate of structural unemployment.
- Hence, the Singapore government must ensure a mix of supply side policies to promote both efficiency as well as relevant skills in order to adequately address the production issue. This is on top of demand management policies to boost higher national spending for lower unemployment and
- However, time lag could pose a severe limitation to the ability of these policies in achieving these objectives simultaneously as supply side policies takes a longer time to take effect than demand management policies. For example, firms might need to wait for fixed assets to be fully depreciated before replacing newer capital. Generally, a well-coordinated mix of policies require substantial amount of information which often might not be easily available or would require additional resources to collate.

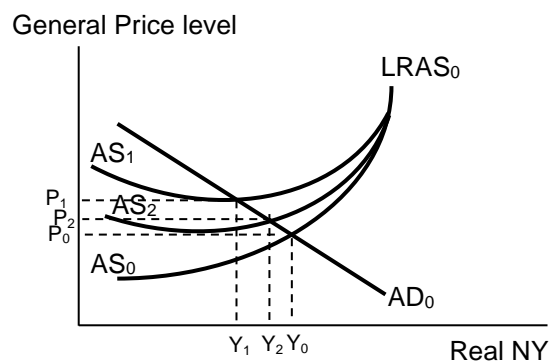
**Anti thesis:** Explain other reasons that require the use of mix of policies to achieve low rate unemployment and low rate of inflation simultaneously.

**AT1: Small size and lack of natural resources necessitate both exchange rate policies and supply side policies**

- Heavily import resources and final goods and services from overseas - increasing import prices is one main source of inflation in Singapore. (not due to full N)



- Use of exchange rate policy – stable and appreciating Singapore dollar against our major trading partners
  - helps to curb **imported inflation** in Singapore
    - reduces price of imported final goods and services – downward pressure on GPL directly
    - reduces price of intermediate goods and raw materials – reduces production cost – increase SRAS – downward pressure on GPL indirectly
  - helps improve economic growth and lower rate of unemployment
    - due to lack of domestic resources - exports have high import content → improved export price competitiveness – increase demand for exports - increase AD – higher economic growth and lower rate of unemployment
    - stable exchange rate – reduces currency exchange risk – promote inflow of long capital investments – increase AD and LRAS.
- However, exchange rate policy alone may not be sufficient achieving both low rate of inflation and low rate of unemployment simultaneously.
  - appreciation of Singapore dollar cannot be used substantially, hence cannot help to mitigate sharp increase in prices of imported factors of production – which translates into significantly higher COP - threatening export price competitiveness and unemployment rate.
  - inflationary pressures from domestic sources such as higher wages from a tight labour market and higher rental cost from limited supply of available land - cannot be addressed through appreciating the SGD.
  - stable, long-term appreciation alone is not sufficient to attract FDIs – importance of social, political and economic stability, good industrial relations and availability of infrastructure.
- Require additional policies:
  - SS side policies – producer subsidies to manage rising short run production cost from imported factors and domestic wages rental cost etc. Work together with appreciating Singapore to manage inflation and promoting export price competitiveness.



- Infrastructure spending that promotes both AD and LRAS

### Evaluation

Demand for SG's export and inflow of investment into SG depend on world income levels as well as the level of optimism in the world economy. These factors are external and cannot be influenced by domestic policies.

## **AT2: Low multiplier effect in Singapore require a mix of demand management policies to achieve higher economic growth and employment simultaneously**

- The multiplier process is an important concept in explaining the impact of demand-management policies on national income and employment. During recession, infrastructural spending of \$100m by the government, increases G thus raising AD. The increase in AD would then leads to a multiplied increase in national income via multiplier effect. The greater the size of the multiplier, the greater the impact on national income.
- However, demand management policies may not be adequate increasing national income in SG because of its small multiplier size. SG's multiplier is small because of our high marginal propensity to import (MPM) (due to lack of natural resources) and high marginal propensity to save (MPS) (due to compulsory CPF savings) → there is high marginal propensity to withdraw → any increase in AD will result in national income increasing by a smaller extent and reduce cyclical unemployment by a small extent for Singapore.
- As we have seen, what makes fiscal policy a potentially effective tool, especially if it takes the form of direct government expenditure might not generate enough spending to bring the Singapore economy out of recession and improve employment by a large extent.
- Hence, demand management policies that Singapore use includes exchange rate policy and fiscal policy. These policies, through a stronger impact on Aggregate Demand (AD) will have a larger influence the national income despite a small multiplier effect. The extent of the impact of increase in AD on national income and employment depends on the size of the multiplier.

### **Evaluation**

The effectiveness of a mix of policies in overcoming a small multiplier effect depends on the cause of recession and unemployment. If the cause is due to a fall in external demand from our major exporting country or region, the deployment of expansionary fiscal policy might not be enough to bring about a recovery in economic growth and employment. Rather than a mix of policy, a more targeted approach might be to diversify the exports through trade agreements.

(Other possible anti thesis include other consideration such as budget constraints)

### **Conclusion**

Overall, the conflicts in macroeconomic objectives are one of the reasons for the use of a mix of policies to achieve more than one macroeconomic objective simultaneously. For instance, the issue of full utilization of resources restricts the choice of government in having to manage inflation and possibly giving up a bit of economic growth and employment. However, the trade-off is often exacerbated by the characteristic of the economy. The limited resources in Singapore makes the economy more vulnerable to problem of inflation caused by caused by inadequate manpower and imported inflation. Hence, the main reason driving the use a mix of polices that complement each other to help Singapore achieve its macroeconomic objectives.

Q4(b)

<b>Knowledge, Application/Understanding and Analysis</b>
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<b>L3</b>	<ul style="list-style-type: none"> <li>For an answer that contains well-developed explanation on why a mix of policies is required to macroeconomic objectives simultaneously.</li> <li>Reasons must cover both conflicts in macroeconomic objectives and other reasons, and relevant to Singapore context to enter level 3.</li> </ul>	<b>9-11</b>
<b>L2</b>	<ul style="list-style-type: none"> <li>For an answer that contains a descriptive explanation on why a mix of policies is required to macroeconomic objectives simultaneously.</li> <li>Reasons are generally balanced with an attempt at application to Singapore context.</li> <li>Max. 6 marks for a well-developed but 1-sided reasons.</li> </ul>	<b>6-8</b>
<b>L1</b>	<ul style="list-style-type: none"> <li>For an answer that shows some knowledge of reasons why a mix of policies is required.</li> </ul>	<b>1-5</b>
<b>Evaluation</b>		
<b>E2</b>	<ul style="list-style-type: none"> <li>For a judgement on the most important reasons and is justified with analysis.</li> </ul>	<b>3-4</b>
<b>E1</b>	<ul style="list-style-type: none"> <li>For an attempt at a judgement on the most important reasons.</li> </ul>	<b>1-2</b>

#### Markers comment

Many candidates did not clearly link conflicts in objectives to the need for a mix of policies.

Some candidates did not provide appropriate mix of policies. For instance, to resolve conflict between economic growth and inflation – an appropriate mix of policies should address both demand and supply constraint. An inappropriate mix would be a contractionary and expansionary demand management policies.

Many lacked anti thesis – resulted in significant loss of marks

Analysis was lacking in most responses. For instance, how the use of various policies could help govt achieve multiple objectives simultaneously.

Application was more prevalent with attempts to link to nature of Singapore's economy such as export and import reliance, small multiplier value, etc.