

Answer **all** questions.

### Question 1: The Energy Market

#### Extract 1: US electricity industry's use of coal fell to historic low in 2015

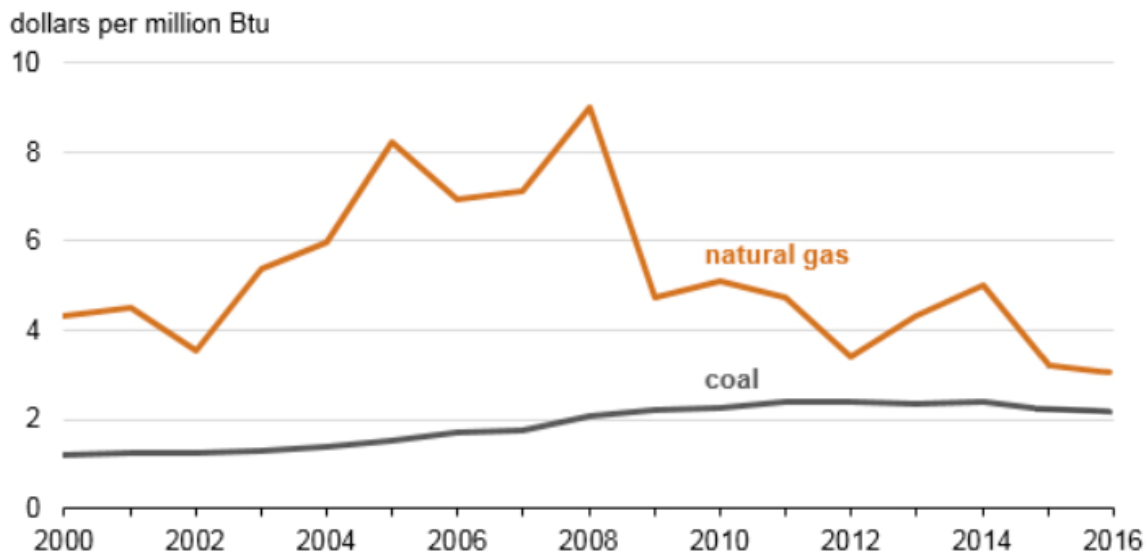
America's use of coal for electricity dropped to its lowest point (just 34% of US electricity generation) in the historical record in 2015. Prices crashed, thousands of miners were laid off and big coalmining companies went bankrupt.

The biggest threat to coal last year remained cheap natural gas. There was also a spike in new wind and solar power. By the end of last year, wind and solar accounted for 5.4% of the energy mix, up slightly from 2014.

Some power companies opted to shut down old, coal-fired power plants, in advance of the clean power plant rules. These shutdowns represented about 5% of the entire fleet.

Source: *The Guardian*, 4 February 2016

**Figure 1: Cost of coal and natural gas for electric generating plants in the US (2000 -2016)**



Source: EIA

#### Extract 2: Are energy regulations hurting economic growth?

Energy is essential for economic development. Increasing its production by any means will boost the economy, and limiting it in any way, as through emission controls will hurt it. This is however wrong. Thanks to decades of innovation, smart regulation, and technology investment, the nation can grow and decarbonise at once. The key is to accelerate the move to low-carbon technology by strengthening not eliminating the rules and technology investments that are driving it.

Far from being a prohibitive drag on economic growth, decarbonisation, or making the way that we get energy less dependent on burning fossil fuels that release carbon emissions, has gone hand-in-hand with output growth in most of the United States, according to research by the Brookings Institution. From 2000 to 2015, US Gross Domestic Product grew by 30% though emissions declined by 10%.

The reduction in emissions has more to do with innovation-driven technology change, market forces, and industry restructuring. A recent Energy Information Administration analysis concludes that more than two-thirds of the country's and individual states' emissions reductions between 2005 and 2015 were due to fuel-use changes in the power sector - changes that reflect decades of government research and commercialization focus on low-carbon technologies.

Most notably, the nation's recent 'decoupling' owes heavily to the advent of cheap natural gas, as well as to the plummeting prices of renewables. Innovation policies have expanded low-carbon energy options, pushed wholesale electricity prices to record lows, and accelerated the retirement of America's aging coal plants. The Brookings analysis shows that coal plants' share of state electricity generation declined in more than 43 states, thanks to technology change.

All of this makes obvious the best way forward. The government should increase low-carbon research and development and accelerate the development of new technologies that can allow further growth. For example, new grid scale energy storage technologies could enable intermittent renewable energy sources like wind and solar to take a greater share in the power generation mix by delivering their electricity to the grid even when the sun is not shining and the wind is not blowing. An era of abundant and inexpensive clean energy awaits.

Source: *The Washington Post*, 21 December 2016

### **Extract 3: British doctors and health professionals call for rapid coal phase-out**

Air pollution from coal plants causes many serious health conditions including stroke, coronary heart disease and lung cancer. It disproportionately affects children and kills more people than road accidents. In the UK, burning coal is linked to 1,600 premature deaths, 68,000 additional days of medication, 363,266 working days lost and more than 1 million incidents of lower respiratory symptoms. The monetary cost is as much as £3.1bn each year in human health impacts.

Groups representing Britain's 600,000 doctors and health professionals say it is 'imperative' to phase out coal rapidly to improve health and reduce National Health Service costs.

Source: *The Guardian*, 19 October 2016

### **Extract 4: UK-wide carbon tax would have 'little impact' on consumers**

A 'modest' uniform carbon tax of £20 a tonne would have a negligible impact on consumer prices (increase by up to just 0.9%) according to a new study that attempts to make the case for wider adoption of carbon pricing policies.

However, the true cost impact on consumers is likely to be even lower, given the manner in which the carbon tax would incentivise green behaviour change, drive business innovation, and provide the Treasury with revenues that it could recycle back into the economy.

Opponents of carbon taxes argue they would impose costs on consumers and undermine the competitiveness of carbon intensive industries such as the Big Six electricity generators (British Gas, EDF Energy, E.ON, Npower, Scottish Power, and SSE). Last year the government moved to ease these concerns, exempting a raft of energy intensive industries such as steel and concrete manufacturing from existing carbon taxes and 'green levies'.

Source: *The Guardian*, 11 January 2016

### Extract 5: Ways to reduce the usage of energy

Traditional vehicles and energy sources will continue to hold a competitive edge against greener alternatives due to the vast amounts of subsidies they receive. Though subsidies are also provided to electric vehicles, they aren't equal to the applied subsidies of gasoline vehicles. This weakens the economic forces in transition to sustainable transport and energy. Educating the public on climate issues will be essential.

Another way is by tradable permits used by some European countries. The Emissions Trading Scheme's 'cap and trade' scheme creates a limited emissions market, within which 11,000 power stations and industrial plants can buy or sell allowances. It is lauded by supporters for a market-based approach that rewards greener firms with tradable credits, while encouraging dirtier firms to clean up their act, or offset their emissions by paying for accredited emissions cuts elsewhere.

Critics have raised questions about the veracity of some of these schemes, the over-allocation of free allowances to heavy polluters, and the extent to which current prices can help fuel switching.

The system does have a mechanism to gradually reduce the number of carbon credits available - and so raise prices but the note says that this will not be enough to cut emissions to at least 80% of 1990 levels by 2050, as the European Union has promised.

Source: *The Guardian*, 5 May and 29 Feb 2016

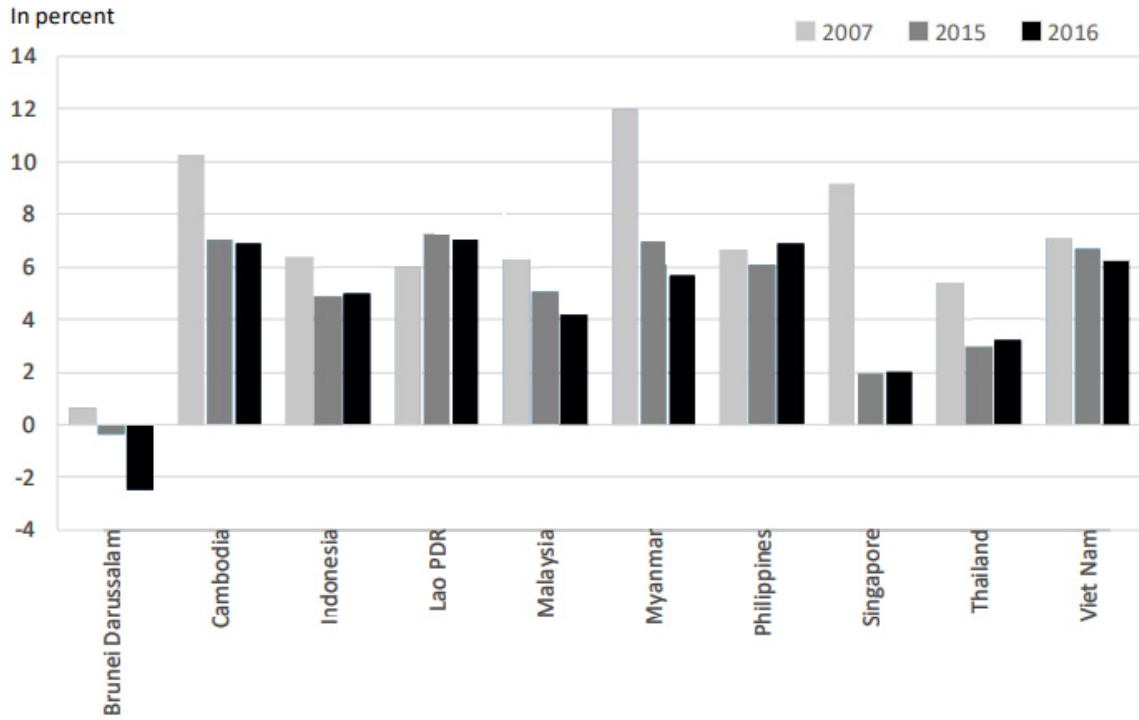
### Questions

- (a) Compare the cost of coal and natural gas for electric generating plants in the US between 2002 and 2016. [2]
- (b) With reference to Extract 1 and using supply and demand analysis, explain the impact of cheap natural gas and the shutdown of coal-fired power plants on the market for coal. [6]
- (c) With reference to Extract 2 and using a PPC diagram, explain and comment on the view that decarbonisation has gone hand-in-hand with economic growth. [8]
- (d) (i) Explain **two** factors that a government should consider in making a rational decision to subsidise electric vehicles. [4]
- (ii) Explain **one** possible unintended consequence of subsidising electric vehicles. [2]
- (e) Extract 4 suggests that a 'modest' uniform carbon tax of £20 a tonne would have a negligible impact on consumer prices. Explain this claim, and comment on whether it is valid. [7]
- (f) (i) Explain how 'the burning of coal' results in market failure. [4]
- (ii) Using Extract 5, discuss the view that the implementation of tradable permits is the best way to solve the market failure arising from 'the burning of coal'. [12]

[Total: 45]

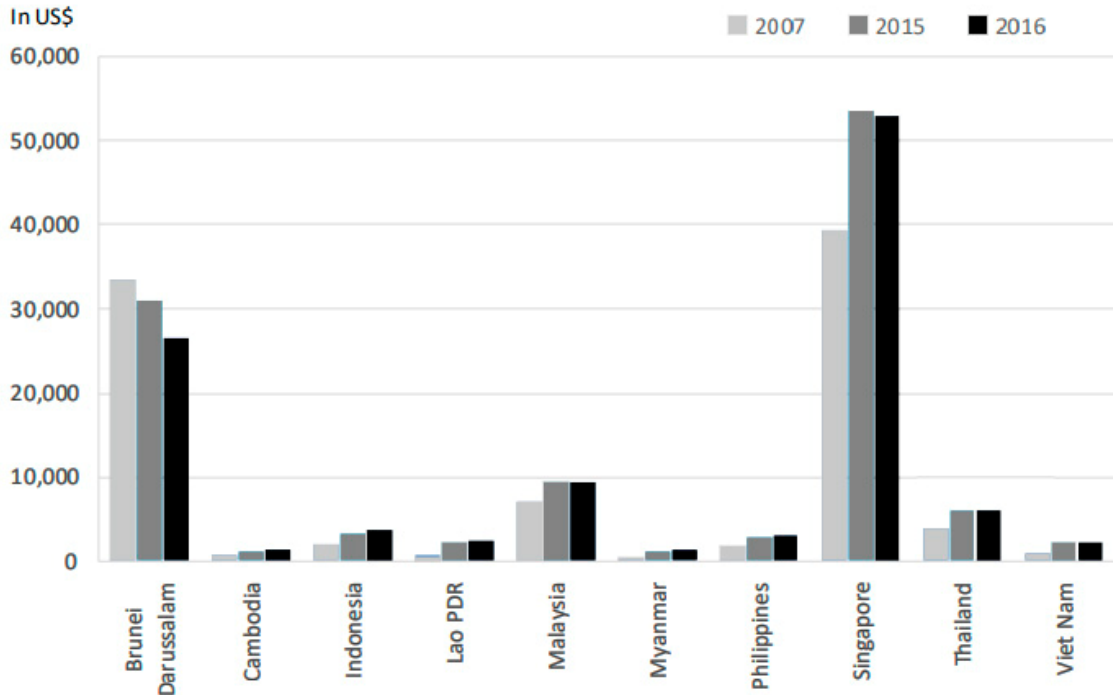
Question 2: Brexit and impact on ASEAN

Figure 2: Annual GDP Growth



Source: ASEAN Statistical Leaflet, 2017

Figure 3: GDP per capita (at current price)



Source: ASEAN Statistical Leaflet, 2017

**Table 1: Selected ASEAN Member States: Key Socio-Economic Indicators**

	Inflation Rate (%)	Unemployment Rate (%)	Adult Literacy rate (%)	Access to safe drinking water (%)	Infant mortality rate (per 1000 live births)	Life expectancy (years)
Myanmar	5.9	4.0	89.6	80.0	39.0	69.4
Singapore	-0.5	3.0	97.0	100.0	1.7	82.9
Thailand	0.2	1.0	96.1	97.0	6.2	74.3
Viet Nam	2.7	2.1	95.0	93.0	14.7	73.4

Note: All data refer to 2016

Source: ASEAN Statistical Leaflet, 2017

### Extract 6: What Brexit Means for ASEAN

The immediate impact of Brexit is a significant weakening of the pound and euro against ASEAN currencies as markets respond to anxiety within the Eurozone. The flight to US dollar-denominated assets has prompted an appreciation of the dollar against ASEAN currencies. With their weaker purchasing power, British and Eurozone consumers will reduce their demand for exports from their main trading partners in ASEAN, including Malaysia, Singapore, Thailand, and Vietnam, and to a lesser extent Indonesia and the Philippines. Conversely, ASEAN consumers will benefit from discounted Eurozone goods, including services in high-demand sectors such as education. ASEAN countries battling economic slowdowns as a result of political uncertainty such as Malaysia are well positioned to benefit as US demand for imports will strengthen on the back of a stronger dollar.

Source: *Centre for Strategic and International Studies (CSIS)*, June 28, 2016

### Extract 7: How are the ASEAN economies affected.

The United Kingdom became the first country in history to exit the European Union (EU), sending markets not only in Europe but around the globe into frenzy. The EU being ASEAN's second biggest trading partner, invariably, the Southeast Asian economies are set to be affected - both negatively and positively. Singapore and Vietnam are most affected.

In the case of Singapore, the EU is the city state's primary trading partner for services exports, with the UK being Singapore's top country market in the EU. More than 41% of Singapore's total services exports to the EU were destined to the UK in 2014. Main branches to suffer from a likely economic downturn in the UK include business process outsourcing, IT services and professional service exports. However, Singapore, known for its outstanding financial services industry, could also benefit as London's finance businesses and investors look for a steadier environment amidst the turmoil.

For Vietnam, the UK constitutes its second biggest export market in the EU after Germany, importing primarily Vietnamese agricultural and processed food as well as mining products. While Vietnam might initially suffer negative push-back from a slowing UK market, the long-term picture is a much different one. As of now Vietnam is the only ASEAN country, besides Singapore, to have signed a Free Trade Agreement with the EU, with the agreements' implementation having the potential to outweigh European investors' cost disadvantages caused by a weaker Euro. Vietnam will offer European

low-cost investment opportunities. As European and UK consumers are challenged by lower purchasing power, producers will increasingly look for both cheaper sourcing and production locations. With its abundant labour force, good investment climate and strategic location, Vietnam is the number one contender.

Source: *BDG Asia*, July 04, 2016

### **Extract 8: Labour Market and Inflation in Singapore**

Overall labour demand has weakened, and, in the near term, hiring will remain weighed down by subdued growth and ongoing restructuring in some industries. As job vacancies contracted and unemployment rose, a shortfall in job openings to job seekers arose for the first time since 2012, pointing to emerging slack in the labour market. At the same time, job mismatches appear to have risen especially among resident PMETs (Professionals, Managers, Executives and Technicians). In spite of the relatively strong growth in unit labour costs, broader business cost pressures are being dampened by excess capacity in other factor markets. The generally subdued growth environment will also continue to moderate the extent of consumer price increases.

In October 2016, Monetary Authority of Singapore (MAS) kept the slope of the Singapore dollar nominal effective exchange rate (S\$NEER) policy band at 0% in view of the subdued macroeconomic outlook. Growth had weakened and was not expected to pick up significantly, while MAS Core Inflation was likely to rise only gradually in 2017 and average slightly below 2% in the medium term. MAS assessed that it would be necessary to adopt a neutral policy stance for an extended period to facilitate the closing of the negative output gap which is the amount by which the actual output of an economy falls short of its potential output and ensure medium-term price stability.

On the fiscal front, Budget 2016 provided targeted relief measures for households and firms affected by the cyclical downturn and economic restructuring. The Budget built on the themes of previous Budgets, namely, facilitating economic restructuring and building a caring and inclusive society. In this vein, specific schemes were introduced to advance the process of economic restructuring, by helping firms and industries retool, as well as to minimise structural unemployment among workers. The Budget also provided support for the economically vulnerable as well as measures to ensure inter-generational social mobility.

Examples of these support include a

- one-off transfer to help households - up \$200 GST Voucher for eligible recipients costing government \$280 million
- 1 to 3 months of Service Conservancy charges rebate for eligible households costing government \$86 million
- corporate income tax rebate - 50% rebate capped at \$25,000
- special employment credit - employers hiring Singapore workers aged 55 and above and earning up to \$4000 will receive a wage-offset of between 3% to 8%, tiered by age.
- SME (Small Medium Enterprise) Working Capital Loan Assistance scheme - loans up to \$300,000 per company to help them grow their businesses. This could catalyse more than \$2 billion worth of loans over this period.

Overall, the more accommodative monetary policy (in the case of Singapore, the focus is on the exchange rate) setting together with the supportive fiscal policy stance, constitute an appropriate and complementary macroeconomic mix to ensure medium-term price stability and sustainable growth. This is assessed to be appropriate given the emergence of some slack in the economy and a relatively muted inflation outlook.

Source: *Macroeconomic Review*, October 2016

### Questions

- (a) Using information in Figure 2 and Table 1, compare the economic performance of Myanmar and Thailand in 2016. [3]
- (b) With reference to the Figure 3 and Table 1,
- (i) Explain the view that standard of living in Myanmar is lower than that of Thailand. [3]
- (ii) Comment on the validity of this statement. [4]
- (c) Explain the likely impact of 'the significant weakening of the pound and euro against ASEAN currencies' on the net exports of the ASEAN economies. [5]
- (d) With reference to Extract 7 and using AD/AS diagrams, explain the different impact on Singapore and Vietnam when 'the United Kingdom became the first country in history to exit the European Union (EU)'. [8]
- (e) With reference to Extract 8, assess the extent to which 'a neutral policy stance' adopted by Monetary Authority of Singapore is appropriate to boost economic growth for Singapore. [8]
- (f) (i) Identify **two** possible causes of unemployment in Singapore. [2]
- (ii) Discuss how 'a supportive fiscal policy' might tackle unemployment in Singapore. [12]

[Total: 45]

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## Examiners' Report for 2018 H1 Economics Prelims

### Case Study 1 Suggested Answers:

#### Suggested Answers

##### Questions

(a)	Compare the cost of coal and natural gas for electric generating plants in the US between 2002 and 2016.	[2]
	<ul style="list-style-type: none"> <li>▪ Cost of natural gas <u>rose</u> from 2002 to 2008, and <u>fell thereafter</u> from 2009 to 2016 while cost of coal <u>rose steadily</u> from 2002 to 2016, [1]</li> <li>▪ Cost of natural gas was <u>higher than</u> cost of coal throughout the entire period from 2002 to 2016. [1]</li> </ul>	
(b)	With reference to Extract 1, and using supply and demand analysis, explain the impact of cheap natural gas and the shutdown of coal-fired power plants on the market for coal.	[6]
	<p>➤ <i>Explain 2 factors causing demand to change [2]</i></p> <ul style="list-style-type: none"> <li>▪ Cheap natural gas may incentivise consumers to switch from coal to natural gas as they are <u>substitutes in consumption</u>. Demand for coal falls, ceteris paribus.</li> <li>▪ Shutdown of coal-fired plants result in a <u>fall in derived demand</u> for coal as coal is a key factor of production used to fire the power plants, ceteris paribus.</li> <li>▪ Overall, demand for coal falls</li> </ul> <p>➤ <i>Price adjustment [1]</i></p> <p>➤ <i>Explain impact on equilibrium price using PES concept [3] to explain that "prices crashed" (Extract 1)</i></p>	
(c)	With reference to Extract 2 and using a PPC diagram, explain and comment on the view that decarbonisation has gone hand-in-hand with economic growth.	[8]
	<p><i>Introduction</i></p> <ul style="list-style-type: none"> <li>▪ Define economic growth; SR growth (actual growth) vs LR growth (potential growth). Sustainable growth.</li> <li>▪ Define PPC: The Production Possibility Curve (PPC) shows the maximum attainable combinations of two goods and services that can be produced in an economy, when all the available resources are used fully and efficiently, at a given state of technology.</li> </ul> <p><i>Explanation [4] how "decarbonisation has gone hand-in-hand with economic growth using the PPC.</i></p> <ul style="list-style-type: none"> <li>▪ "the government's spending on low-carbon research and development (R&amp;D) of new technologies". - shift of PPC (potential growth)</li> <li>▪ more production of capital goods due to the increase expenditure on R&amp;D into new technologies will have impact on actual growth.</li> <li>▪ Sustainable growth is also achieved as traditional energy sources like coal is a finite resource whereas solar and wind energy is infinite.</li> <li>▪ Note: Good reference must be made to the diagram below and evidence should be provided from the case materials when explaining the above points.</li> </ul>	

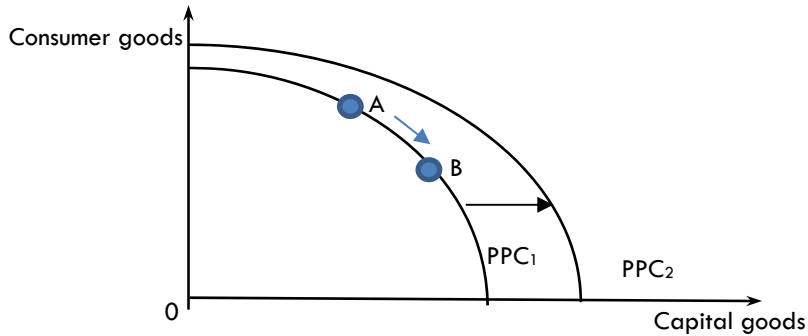


Fig 1: Effects of decarbonisation on economic growth

*Comment [4] – any 2 points well-explained*

- Dependent on government's willingness and ability (budget) to engage in R&D for renewable energy.
- Figure 1, the price of coal is still below that of natural gas (or if the price of coal falls due to fall in demand and becomes even cheaper), producers might be tempted to burn coal for energy.
- If prices of natural gas and renewables rise in the future due to increase in demand, cost of production for many goods and services in the economy will rise, resulting in higher GPL and reducing real GDP growth.

(d)	(i)	<p>Explain <b>two</b> factors that a government should consider in making a rational decision to subsidise electric vehicles.</p>	[4]
		<p>A government would have to weigh the costs and benefits while making its decision whether to subsidise electric vehicles. The <u>benefits have to outweigh the costs</u> for the government to decide to subsidise electric vehicles.</p> <ul style="list-style-type: none"> <li>▪ Benefits [2]: Reduction in MEC from the reduction in usage of traditional vehicles and energy, more sustainable growth</li> <li>▪ Costs [2]: Cost of financing the subsidy, opportunity cost</li> </ul>	
	(ii)	<p>Explain <b>one</b> possible unintended consequence of subsidising electric vehicles.</p>	[2]
		<p>Explain the following.</p> <ul style="list-style-type: none"> <li>▪ <u>Potential incurrence of marginal external cost</u> resulting from the usage of electric vehicles.</li> <li>▪ <u>Low take-up rate</u> due to lack of information.</li> </ul> <p>Marking tip: any other reasonable answer will be accepted. Increase in consumption is NOT accepted.</p>	
(e)		<p>Extract 4 suggests that a 'modest' uniform carbon tax of £20 a tonne would have a negligible impact on consumer prices. Explain this claim, and comment on whether it is valid.</p>	[7]
		<p><i>Explain this claim [4]</i></p> <p>Imposition of carbon tax (a tax on fossil fuels) will <u>increase cost of production</u> for firms who burn coal in their production (generation of electricity) such as the Big Six electricity generators. <u>Supply of goods and services will fall</u>, ceteris paribus. <u>Prices will increase</u>. But it will be negligible (0.9%) as suggested in Extract 4. [1]</p>	

		<p>This is because the carbon tax which increases cost of production and thus reduces profit margins would <u>incentivise the firms to switch to other relatively cheaper forms of energy</u> in their production. [1]</p> <p>To pay less carbon tax, firms would have to reduce their usage of fossil fuels and this may <u>drive business innovation</u>. <u>Cost of production may reduce</u> and thus price may not rise by much. [1]</p> <p>If the government uses the revenues that they collect from the carbon tax to <u>subsidise electricity or merit goods</u>, these goods would be more affordable to consumers. [1]</p> <p><i>Comment [3]</i></p> <ul style="list-style-type: none"> <li>▪ The extent of the increase in price <u>depends on the relative values of the price elasticity of demand and price elasticity of supply of different goods and services</u>. (explain with examples)</li> <li>▪ Thus, producers may pass on the carbon tax to consumers in some cases. Hence, the claim that carbon tax has a negligible impact on consumer prices may not be valid.</li> </ul> <p>(Note: 3 marks can be awarded for 1 point well-explained. Other reasonable points will be accepted. )</p>	
(f)	(i)	Explain how ‘the burning of coal’ results in market failure.	[4]
		<ul style="list-style-type: none"> <li>▪ The burning of coal generates negative externalities such as “serious health conditions, 1,600 premature deaths, 68,000 additional days of medication, 363,266 working days lost and more than 1 million incidents of lower respiratory symptoms” to 3rd parties. The marginal external cost is “as much as £3.1bn each year in human health impacts”. [1]</li> <li>▪ Due to the presence of MEC, there is a divergence between the marginal private cost (MPC) and the marginal social cost (MSC), where <math>MSC=MPC+MEC</math>. [1] Assuming that the external benefit in the private exchange of the burning of coal is negligible, then <math>MSB=MPB+MEB</math> and <math>MEB=0</math>; <math>MPB=MSB</math>.</li> <li>▪ Private producers will burn up to 0QP units of coal, where <math>MPB=MPC</math>. [1]</li> <li>▪ However, the socially optimal level of coal would be where <math>MSB=MSC</math> at the level of 0QS units.</li> <li>▪ The free market has resulted in an overproduction of coal by QSQP units.</li> <li>▪ The additional cost to society of overproducing coal is greater than the additional benefit to society resulting in a welfare loss to society. [1]</li> </ul>	
	(ii)	Using Extract 5, discuss the view that the implementation of tradable permits is the best way to solve the market failure arising from ‘the burning of coal’.	[12]
		<p><u>Explain how tradable permits works</u></p> <ul style="list-style-type: none"> <li>▪ The system of tradable permits is a combination of command-and-control and market-based system of resolving externalities. Each firm (Extract 5: “11,000 power stations and industrial plants) is given a permit to produce a given level of pollution. If the firm produces less pollution than what they are legally permitted to produce, the firm is given a credit. This credit can then be sold to another firm, allowing the other firm to exceed its original limit.</li> <li>▪ The main advantage of tradable permits is that the government can simply determine the total amount of permitted discharge according to the ability of the environment to absorb the pollutants; it can do this without any knowledge of the specific costs and benefits of individual firms.</li> </ul>	

Limitations of tradable permits

- For heavy polluters, if the costs of the permits is lower than their abatement costs (costs of eliminating pollution), they would buy more permits to pollute.
- Another issue of this system is deciding how to allocate the permits to firms. If there are many polluting firms, regulators would be concerned about the administrative costs.
- It is also possible that one or two dominant firms may buy up permits in the market and refuse to trade them. This would then act like a barrier to entry for new firms and the permits could therefore contribute to non-competitive behaviour.

Explain how ONE other policy works

Extract 5: Subsidies to green vehicles

- Direct subsidies given to buyers of green vehicles will make green vehicles more affordable (lowers the price that buyers have to pay) and increase the quantity demanded, *ceteris paribus*. OR
- Indirect subsidies given to producers of green vehicles will lower the cost of production and increase the supply of green vehicles, *ceteris paribus*. This will lower the price of green vehicles.
- Price of green vehicles is relatively lower, hence consumers switch from traditional vehicles (or gasoline vehicles) to green vehicles as they are substitutes in consumption. Hence, demand for traditional/gasoline vehicles falls, *ceteris paribus*. Derived demand for gasoline/traditional energy falls, reducing the over-consumption of gasoline/traditional energy and reducing the welfare loss to society.

Limitations of other policy

- Extract 5 suggests that the subsidies given to green vehicles aren't equal to that of gasoline vehicles which received vast amount of subsidies. This suggests that price of gasoline vehicles might still be relatively cheaper as compared to green vehicles.

Explain how ONE other policy works

Extract 5: Educating the public on climate issues will be essential

Limitations of other policy

- must consider the duration needed for the effects of such measures to be felt, especially if the problem of external cost is a serious one that must be dealt with in the short run.

Evaluative Conclusion

- Whether tradable permits is the best way to solve the market failure in (f)(i) depends on

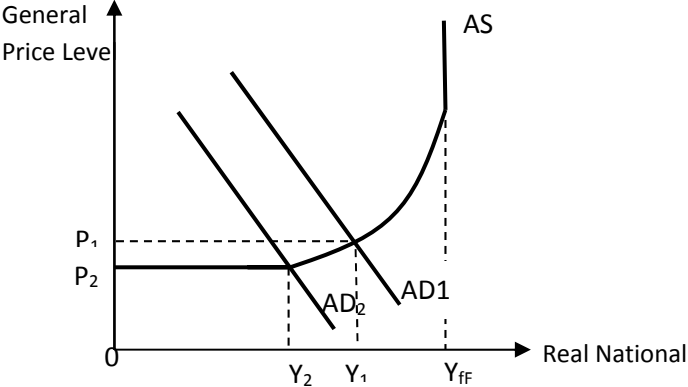
Mark Scheme

Level	Descriptors
Level 3 7-9	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ EXCELLENT <b>breadth</b> that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of <b>relevance</b> and <b>significance</b> in answering the question.</li> <li>➤ EXCELLENT <b>depth</b> in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> <li>✓ <b>Accurate</b> use of economic concepts, <b>clear</b> elaboration,</li> </ul> </li> </ul>

		<p><i>and <b>precise</b> use of economic terminologies, language and phrasing.</i></p> <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> <li>➤ Well-labelled and well-referred to diagram(s) drawn with <b>precision</b> (where appropriate).</li> <li>➤ <b>Relevant</b> examples and <b>accurate</b> use of facts.</li> <li>➤ <b>Logical</b> structure.</li> </ul>
	<b>Level 2</b> <b>4-6</b>	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ At least GOOD <b>breadth</b> that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of <b>relevance</b> and <b>significance</b> in answering the question.</li> <li>➤ At least GOOD <b>depth</b> in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> <li>✓ <b>Accurate</b> use of economic concepts, <b>clear</b> elaboration, and <b>precise</b> use of economic terminologies, language and phrasing.</li> </ul> </li> </ul> <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> <li>➤ Well-labelled and well-referred to diagram(s) drawn with <b>precision</b> (where appropriate).</li> <li>➤ <b>Relevant</b> examples and <b>accurate</b> use of facts.</li> <li>➤ <b>Logical</b> structure.</li> </ul>
	<b>Level 1</b> <b>1 – 3</b>	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ INSUFFICIENT breadth that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question. <ul style="list-style-type: none"> <li>• <i>Only consider ONE policy</i></li> </ul> </li> <li>➤ INSUFFICIENT <b>depth</b> in economic analysis that may reflect the following: <ul style="list-style-type: none"> <li>✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.</li> </ul> </li> </ul>
	<b>Level</b>	<b>Descriptors</b>
	<b>E2</b> <b>3</b>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> <li>➤ A synthesis of earlier economic arguments to arrive at <b>relevant</b> judgements/decisions (i.e. answer the question).</li> <li>➤ Evaluative comments supported by <b>accurate, logical</b> and <b>clear</b> analysis <ul style="list-style-type: none"> <li>• Whether a policy is the best way depends on the effectiveness (whether it tackles the root cause), appropriateness of the policy</li> <li>• Combination or Mix of policies</li> </ul> </li> </ul>
	<b>E1</b> <b>1-2</b>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> <li>• <b>Relevant</b> judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments.</li> <li>• Comment (s) may lack <b>depth, clarity, and logic.</b></li> </ul>

**Case Study 2 Suggested Answers:**

<b>(a)</b>	Using information in Figure 2 and Table 1, compare the economic performance of Myanmar and Thailand in 2016.	[3]
	<p>In 2016,</p> <ul style="list-style-type: none"> <li>• Myanmar enjoyed a higher rate of growth compared to Thailand. (1)</li> <li>• However, Myanmar suffered from higher rates of inflation (1) and unemployment (1) compared to Thailand.</li> </ul>	
<b>(b)</b>	With reference to the Figure 3 and Table 1,	
<b>(i)</b>	Explain the view that standard of living in Myanmar is lower than that of Thailand.	[3]
	<ul style="list-style-type: none"> <li>• Standard of living (SOL) refers to the level of economic welfare and social well-being of an individual or household. It includes the quantitative and qualitative aspects of living.</li> <li>• GDP per capita (given in Figure 2) provides an indication of the material SOL (1) while the statistics (given in Table 1) on adult literacy, access to safe drinking water, infant mortality rate and life expectancy provide some indication on non-material SOL. (1)</li> <li>• All the above indicators have consistently supported the view that SOL in Myanmar is lower than that in Thailand. (1)</li> </ul>	
<b>(ii)</b>	Comment on the validity of this statement.	[4]
	<ul style="list-style-type: none"> <li>• 2 marks for a comment on the measurement of GDP per capita measured in current prices and/or other limitations in the use of GDP per capita as a measure of material SOL.</li> <li>• Further 2 marks for another comment on the lack of exhaustive indicators on the material and/or non-material SOL. Any one of the following well explained could earn the full 2 marks.</li> </ul>	
<b>(c)</b>	Explain the likely impact of 'the significant weakening of the pound and euro against ASEAN currencies' on the net exports of the ASEAN economies.	[5]
	<ul style="list-style-type: none"> <li>• Export earnings for ASEAN economies is likely to fall. (1) <ul style="list-style-type: none"> <li>➢ With the pound and euro weakening, the purchasing power of the British and Eurozone consumers also decreases. This will reduce their demand for exports from their main trading partners in ASEAN, including Malaysia, Singapore, Thailand and Vietnam. Hence export revenue of ASEAN economies decreases. (1)</li> </ul> </li> <li>• Spending on imports by ASEAN economies is likely to increase. (1) <ul style="list-style-type: none"> <li>➢ ASEAN consumers will benefit from the cheaper British and Eurozone goods, including services in high-demand sectors such as education. (1)</li> </ul> </li> <li>• The net exports of ASEAN economies is like to fall overall as export revenue decreases and import expenditure increases. (1)</li> </ul>	

(d)	With reference to Extract 7, and using AD/AS diagrams, explain the different-impact on Singapore and Vietnam when 'the United Kingdom became the first country in history to exit the European Union (EU)'. [8]	
	<p>Introduction:</p> <ul style="list-style-type: none"> <li>When 'the United Kingdom became the first country in history to exit the European Union (EU)', Singapore and Vietnam are set to be affected since the EU is ASEAN's second biggest trading partner.</li> </ul> <p>Body:</p> <ul style="list-style-type: none"> <li>Impact on Singapore <ul style="list-style-type: none"> <li>UK is Singapore's top export market in the EU for services.</li> <li>More than 41% of Singapore's total services exports to the EU were destined for the UK in 2014.</li> <li>According to Extract 7, UK is likely to experience an economic downturn and the main branches to suffer from this will include business process outsourcing and IT services.</li> <li>This is likely to cause the export services from Singapore to the UK to fall as income falls in the UK.</li> <li>When export of services fall, Singapore net exports fall, followed by the fall in AD, ceteris paribus, as illustrated in Figure 1 below.</li> </ul> </li> </ul>  <p>Figure 1: Impact of UK's exit from EU on Singapore</p> <ul style="list-style-type: none"> <li>Explain carefully the impact on general price level, employment and growth in Singapore using the diagram above.</li> </ul> <ul style="list-style-type: none"> <li>Impact on Vietnam <ul style="list-style-type: none"> <li>UK is Vietnam's second biggest export market in the EU.</li> <li>UK imports primarily Vietnamese agricultural and processed food as well as mining products.</li> <li>Similar to the case in Singapore, this is likely to cause the export of Vietnam to the UK to fall as income falls in the UK.</li> <li>When exports of goods fall, Vietnam's net exports fall, followed by the fall in AD from AD<sub>1</sub> to AD<sub>2</sub>, as illustrated in Figure 2 below.</li> <li>In addition, according to Extract 7, Vietnam is the only ASEAN country beside Singapore to have signed a Free Trade Agreement (FTA) with the EU.</li> <li>But unlike Singapore, Vietnam can offer the European investors a low-cost investment opportunities with its abundant labour force, good investment climate and strategic location.</li> <li>With the FTA agreement in place, Vietnam's low-cost production outweighed any cost disadvantages caused by the weaker Euro to the European investors due to the exit of UK from the EU. Hence, it is likely that FDIs from the EU and US will</li> </ul> </li> </ul>	

- increase in Vietnam.
- The increase in FDIs, will cause an increase in both the AD as well as LRAS, as the FDIs will consequently cause an increase in the productive capacity of the economy.
  - Overall, AD in Vietnam is likely to increase since the fall in AD due to the fall in exports is likely to be less than proportionately to the increase in AD due to the increase in FDIs.
  - This is because Vietnam exports largely agriculture and processed food as well as mining products which are basic necessities. Hence, the fall in income is unlikely to cause a large fall in demand for these goods, especially agricultural and process food items.
  - On the other hand, the increase in FDIs may be substantial as the weakening of the Euros has sent the markets in Europe and around the world into a frenzy and Vietnam emerged the number one contender for a low-cost production location for these investors. (Extract 7)

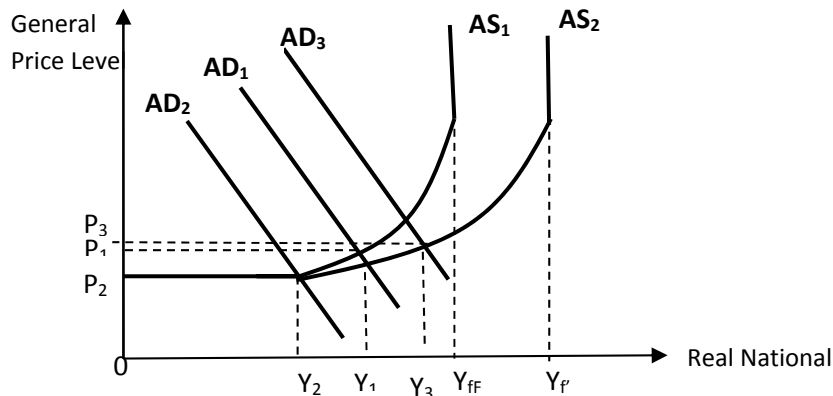


Figure 2: Impact of UK's exit from EU on Vietnam

- Explain carefully the impact on general price level, employment and growth in Vietnam using the diagram above.

Conclusion:

The above analysis using AD/AS diagrams helped to explain the different-impact on Singapore and Vietnam when UK exit the EU.

### Mark Scheme:

**Up to 2 marks** for quality use of an AD/AS diagrams – correct labelling of axes, curves, equilibrium points, etc., and correct identification of the scenario – shift of AD and AS curves for Singapore and Vietnam – in the context of the different impact of the exit of UK from the EU.

**Up to 3 further marks** for explanation of the different impact on Singapore and Vietnam, as follows:

- ✓ Impact on Growth
- ✓ Impact on Employment
- ✓ Impact on General Price Level

- (e) With reference to Extract 8, assess the extent to which “a neutral policy stance” adopted by Monetary Authority of Singapore is appropriate to boost economic growth for Singapore. [8]

Introduction:



- According to Extract 8, Singapore faced “subdued growth environment”, meaning that there is a slowdown in economic growth.
- MAS assessed that it would be necessary to adopt a neutral policy stance for an extended period to facilitate the closing of the negative output gap.
- The central bank has kept the appreciation rate of the Singapore dollar's policy band at zero per cent since April 2016, in what the central bank describes as a “neutral” policy stance.
- To a large extent, this policy is appropriate to boost economic growth for Singapore.

Body 1:

A “neutral policy stance” is appropriate to boost economic growth for Singapore.

- Singapore has an open economy and her national income is most heavily dependent on the rest of the world. Total trade stands at almost thrice of GDP.
- The ‘neutral policy stance’ policy would be appropriate as it keeps Singapore’s exports more price competitive in the global market, especially in this weak global environment.
- Economic slowdown in countries such as US, UK, the EU and ASEAN and political uncertainty in Malaysia (Extract 1) has dampened demand for Singapore’s exports.
- The better price competitiveness with the zero appreciation will allow external demand to remain stable to boost growth for Singapore.
- There is no concern that it might affect the cost of living with the more expensive import of goods and services as Extract 8 states that the ‘broader business cost pressures are being dampened by excess capacity in other factor market and the generally subdued growth environment will continue to moderate the extent of consumer price increases.

Body 2:

Limitations to the extent that ‘a “neutral policy stance” is appropriate to boost economic growth for Singapore.

- Since a zero appreciation removes the modest and gradual appreciation path of the S\$NEER policy band that was in place, it might not be enough to provide the price competitiveness to entice foreign consumers to continue with their demand for Singapore’s exports during a period of economic slowdown. Other factors might over-ride the impact of a zero-appreciation policy stance.
- Given the weakened global conditions, the income and purchasing power of consumers in these foreign markets would have fallen, resulting in a fall in their demand for imported goods, including those they buy from Singapore.

Conclusion:

- While the move by MAS to adjust the exchange rate policy to one with zero appreciation is appropriate to a large extent given the nature of Singapore’s economy, extract 3 also supported the idea that such a policy alone is not enough to boost growth for Singapore.

**Mark Scheme**

<b>Level</b>	<b>Descriptors</b>
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	<p><b>Level 2</b></p> <p><b>4-6</b></p>	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ <b>EXCELLENT breadth</b> that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of <b>relevance</b> and <b>significance</b> in answering the question.</li> <li>➤ <b>EXCELLENT depth</b> in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> <li>✓ <b>Accurate</b> use of economic concepts, <b>clear</b> elaboration, and <b>precise</b> use of economic terminologies, language and phrasing.</li> </ul> </li> </ul> <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> <li>➤ <b>Relevant</b> examples and <b>accurate</b> use of facts.</li> <li>➤ <b>Logical</b> structure.</li> </ul>	
	<p><b>Level 1</b></p> <p><b>1-3</b></p>	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ <b>GOOD breadth</b> that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of <b>relevance</b> and <b>significance</b> in answering the question. .</li> <li>➤ <b>GOOD depth</b> in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> <li>✓ <b>May lack accurate</b> use of economic concepts, <b>clear</b> elaboration, and <b>precise</b> use of economic terminologies, language and phrasing.</li> </ul> </li> </ul> <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> <li>➤ Example(s).</li> <li>➤ <b>Logical</b> structure.</li> </ul>	
	<p><b>Level</b></p>	<p><b>Descriptors</b></p>	
	<p><b>E2</b></p> <p><b>2</b></p>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> <li>• Evaluative comments supported by <b>accurate, logical and clear</b> analysis</li> <li>• The use of context to arrive at the conclusion is evident.</li> </ul>	
	<p><b>E1</b></p> <p><b>1</b></p>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> <li>• <b>Relevant</b> judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments.</li> <li>• Comment (s) may lack <b>depth, clarity, and logic</b>.</li> </ul>	
<p><b>(f)</b></p>	<p><b>(i)</b></p>	<p>Identify 2 possible causes of unemployment in Singapore.</p>	<p>[2]</p>
		<ul style="list-style-type: none"> <li>• Cyclical and structural unemployment (2)</li> </ul>	

(ii)	Discuss how “a supportive fiscal policy” might tackle unemployment in Singapore.	[12]
	<p>Introduction:</p> <ul style="list-style-type: none"> <li>• The “supportive fiscal policy” refers to the expansionary fiscal policy used to tackle cyclical and structural unemployment in Singapore, identified in part f(i) from Extract 8.</li> </ul> <p>Body 1:</p> <p><u>How the supportive fiscal policy tackles cyclical unemployment in Singapore</u></p> <ul style="list-style-type: none"> <li>• Cyclical unemployment is typically caused by a deficiency in effective demand. It arises when there is an economic recession.</li> <li>• This will result in a leftward shift of the AD curve which results in a fall in national income and output. Since fewer goods are being produced, fewer workers will be required to produce them. Employers lay off workers and cut back employment. There is thus an increase in cyclical unemployment.</li> <li>• Extract 8 states that Budget 2016 was targeted relief measures for households and firms affected by the cyclical downturn and examples were provided such as the one-off transfers of GST vouchers for eligible recipients, the 1 to 3 months of Service Conservancy charges rebate for eligible households, corporate income tax rebate of 50% capped at \$25,000, the special employment credit and SME Working Capital Loan Assistant scheme.</li> <li>• Based on the examples provided in Extract 8, these measures aimed to provide some relief to firms and households, hence, increasing households’ consumption (C) and firms’ expenditure on goods and services (I).</li> <li>• With the increase in C and I, aggregate demand (AD) will increase, resulting in firms hiring more labour services.</li> <li>• Hence, tackling the problem of cyclical unemployment caused by the deficiency in aggregate demand.</li> </ul> <p>Evaluation:</p> <ul style="list-style-type: none"> <li>• The impact of the support fiscal policy on tackling cyclical unemployment might be limited as it serves more as relief measures to dampen the fall in AD, rather than a conscientious effort to increase AD.</li> </ul> <p>Body 2:</p> <p><u>How the supportive fiscal policy tackles structural unemployment in Singapore</u></p> <ul style="list-style-type: none"> <li>• Structural unemployment refers to unemployment that results from a mismatch of skills and jobs due to a change in the structure of the economy.</li> <li>• Even though the number of vacancies may be equal to the number of those unemployed, the unemployed workers may lack the skills needed for the jobs. There is thus a mismatch of skills and opportunities due to the structure of the economy changing.</li> <li>• Extract 8 suggested that the labour demand has weakened with the ongoing restructuring in some industries and highlighted in particular that job mismatches appear to have risen especially among resident PMETs affected by the economic restructuring.</li> <li>• The supportive fiscal policy, as outlined by Budget 2016, suggested some focus paid tackling the rising unemployment issue, that is, it is a fiscal policy with a supply side focus.</li> <li>• This special employment credit will help the lower the cost of hiring of workers, and hence the cost of production of firms, in particular for those firms hiring these PMETs aged 55 and above.</li> <li>• This will reduce the pace at which firms might retrench these PMETS during economic restructuring, combined with other challenges faced during the economic slowdown and hence, reduce the rate of the rise in unemployment</li> </ul>	

	<p>seen among the resident PMETs, highlight in Extract 8.</p> <p>Evaluation:</p> <ul style="list-style-type: none"> <li>• The employment credit might help to lower the cost of hiring for firms.</li> <li>• However, this amount might not be sufficient to influence firm's decision to retrench worker.</li> <li>• Hence, there is limited impact in terms of tackling structural unemployment.</li> </ul> <p>Evaluative Conclusion:</p> <ul style="list-style-type: none"> <li>• While the "supportive fiscal policy" serves as a relief measure to firms and households during a period of economic slowdown, more might be required from the government to tackle both cyclical and structural unemployment in Singapore.</li> <li>• Government spending on goods and services must increase (increase G) more significantly to have a greater impact on AD. The increase in G and hence AD, will trigger the multiplier effect, on real national income and hence, tackle the problem of cyclical unemployment.</li> <li>• The employment credit is not sufficient to tackle structural unemployment effectively on a longer-term basis</li> </ul>	
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	<b>Mark Scheme:</b>	
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<b>Level</b>	<b>Descriptors</b>
<b>Level 3</b> <b>6-9</b>	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ <b>EXCELLENT breadth</b> that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of <b>relevance</b> and <b>significance</b> in answering the question.</li> <li>➤ <b>EXCELLENT depth</b> in economic analysis that reflects the following in ALL explanations. <ul style="list-style-type: none"> <li>✓ <b>Accurate</b> use of economic concepts, <b>clear</b> elaboration, and <b>precise</b> use of economic terminologies, language and phrasing.</li> </ul> </li> </ul> <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> <li>➤ Well-labelled and well-referred to diagram(s) drawn with <b>precision</b> (where appropriate).</li> <li>➤ <b>Relevant</b> examples and <b>accurate</b> use of facts.</li> <li>➤ <b>Logical</b> structure.</li> </ul>
<b>Level 2</b> <b>3-5</b>	<p>For an answer that demonstrates knowledge, understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ <b>GOOD breadth</b> that considers the following economic concepts in explaining multiple and balanced perspectives, viewpoints, relationships and factors. ALL points chosen should be of <b>relevance</b> and <b>significance</b> in answering the question.</li> <li>➤ <b>GOOD depth</b> in economic analysis that reflects the following in ALL explanations.</li> <li>➤ <b>May lack accurate</b> use of economic concepts, <b>clear</b> elaboration, and <b>precise</b> use of economic terminologies, language and phrasing.</li> </ul> <p>The answer should also be supported by:</p> <ul style="list-style-type: none"> <li>➤ Diagram(s) that may not be well-labelled, may not be well-referred to and may not be drawn with precision (where appropriate).</li> <li>➤ Example(s).</li> <li>➤ <b>Logical</b> structure.</li> </ul>
<b>Level 1</b> <b>1-2</b>	<p>For an answer that demonstrates knowledge but lacks understanding, application and analysis:</p> <ul style="list-style-type: none"> <li>➤ <b>INSUFFICIENT breadth</b> that considers the following economic concept(s). Point(s) chosen may be of relevance but may not be of significance in answering the question.</li> <li>➤ <b>INSUFFICIENT depth</b> in economic analysis that may reflect the following: <ul style="list-style-type: none"> <li>✓ Lack of accuracy in the use of economic concepts, lack of clarity in elaboration, and lack of precision in the use of economic terminologies, language and phrasing.</li> </ul> </li> </ul>
<b>Level</b>	<b>Descriptors</b>
<b>E2</b> <b>2-3</b>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> <li>• A synthesis of earlier economic arguments to arrive at <b>relevant</b> judgements/decisions (i.e. answer the question).</li> <li>• Evaluative comments supported by <b>accurate, logical</b> and <b>clear</b> analysis</li> <li>• The use of context to arrive at the conclusion is evident.</li> </ul>
<b>E1</b> <b>1</b>	<p>For an evaluation that contains</p> <ul style="list-style-type: none"> <li>• <b>Relevant</b> judgement(s)/decision(s) (i.e. answer the question) that may not follow from earlier economic arguments.</li> <li>• Comment (s) may lack <b>depth, clarity, and logic</b>.</li> </ul>