

Millennia Institute
PU2 H1 Economics
PE2 Examiners'
Report

For internal circulation only

Section A

Answer **all** questions in this section.

Question 1

Issues in smartphone usage

Extract 1: Planet of the phones

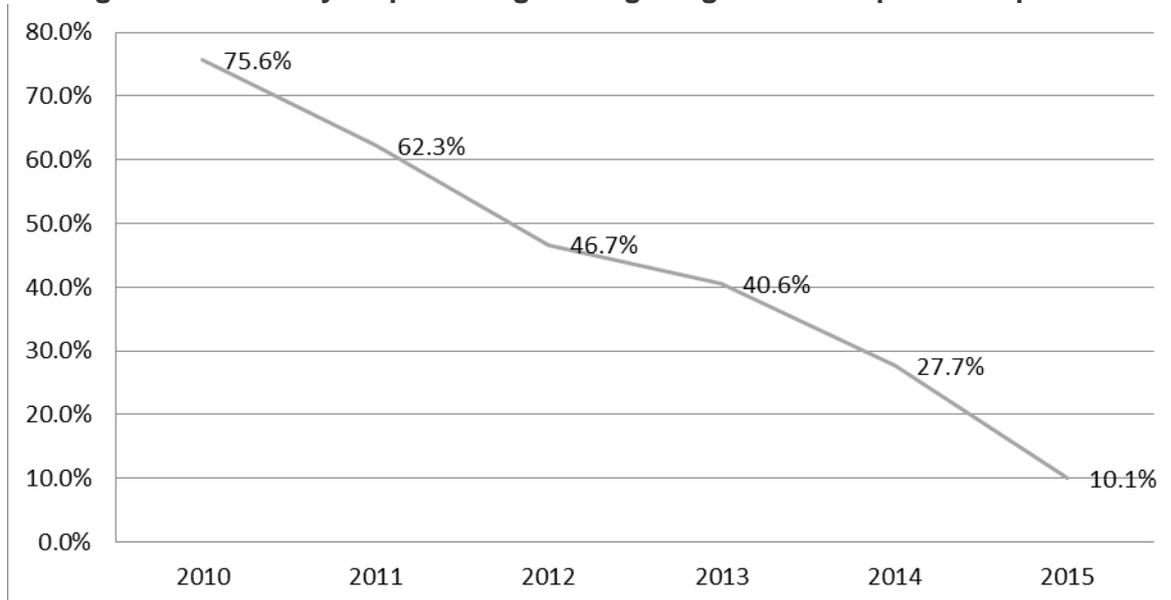
The dawn of the planet of the smartphones came in January 2007, when Steve Jobs, Apple's chief executive, in front of a rapt audience of Apple acolytes, brandished a slab of plastic, metal and silicon not much bigger than a Kit Kat. "This will change everything," he promised. For once there was no hyperbole.

Smartphones have become the fastest-selling gadgets in history, outstripping the growth of the simple mobile phones that preceded them. They outsell personal computers four to one. Today about half the adult population owns a smartphone; by 2020, 80% will.

The allure of smartphones comes from their size and connectivity. Size makes them the first truly personal computers. The phone takes the processing power of yesterday's supercomputers and applies it to ordinary human interactions. Because transmitting data is cheap this power is available on the move. Since 2005 the cost of delivering one megabyte wirelessly has dropped from \$8 to a few cents. It is still falling. Likewise, smartphone prices have also been falling. The cheapest of them now sell for less than \$40, and prices are likely to fall even further.

Source: Based on The Economist, 2015

Figure 1: Year-on-year percentage change in global smartphone shipments



Source: www.statista.com, 2015

Extract 2: The advent of smartphones: A study on the effect of handheld electronics on personal and professional productivity

Since the introduction of Smartphones to the average consumer, more and more people are experiencing mobile access to information systems. In the past, all Internet-based communications and services were only accessible from a computer connected to the Internet. Now, however, Internet-based services such as e-mail, web pages and social networking are now available to people at any time as long as they can receive a cell phone signal. Whereas previously, the best forms of mobile communications were manifested in simple phone calls and text messaging services, users now have constant access to blogs, message boards and even video conference calls on a device that fits in their pocket. Such unfettered and near-constant access to a multitude of communications resources is the focus of this study. Research shows that the vast majority of Smartphone owners find that their productivity has increased versus those that own standard cell phones. In addition, the average Smartphone user utilizes the device more often throughout the day compared to a standard cell phone user.

Source: Journal of Applied Global Research, 2011

Extract 3: Why smartphones are making you ill

According to the British Chiropractic Association, our obsession with smartphones has led to a rise in the number of young people with back problems, as the amount of time spent leaning over small phone screens can put spinal discs under pressure. Thanks to our technological lifestyle, 45 per cent of 16 to 24-year-olds suffer from back pain – a 60 per cent rise from last year.

Additionally, more than 60 per cent of 18- to 29-year-old smartphone users take their phones to bed and studies have found that just two hours exposure to brightly lit screens can suppress melatonin and lead to sleeping troubles. Professor Kevin Morgan, Director of the Clinical Sleep Research Unit at Loughborough University, says that late-night intellectual stimulation from our phones makes it more difficult to relax and negatively impacts sleep quality.

The use of smartphones could also increase the risk of accidents. Carnegie Mellon University researchers found that drivers who are listening to someone talk on their mobile have 37 per cent reduced brain activity. Meanwhile, a University of Washington study found that texting pedestrians were four times more likely to ignore the lights or forget to look for traffic before crossing.

Source: The Telegraph, 2015

Extract 4: Mobile devices and driving

SINGAPORE - As of Feb 1, it will be illegal for drivers to hold any type of mobile device while driving. Previously, only calling or texting someone on a mobile phone was barred.

The changes came amid a rise in recent years in the number of summonses for using a mobile phone while driving - from 2,938 in 2012 to 3,572 in 2013. There was a slight drop of 6.1 per cent to 3,354 cases in 2014.

Anyone caught holding any mobile device while driving can be found guilty of committing an offence. To be specific, mobile devices are any hand-held equipment which are designed or capable of being used for telecommunication. This means phones as well as tablets.

It is no longer just talking or texting that will get you in trouble. The new changes include surfing the web, visiting social media platforms like Facebook and Twitter, and downloading material. The law applies to holding a device while driving.

The amended law does not specifically mention wearable technology such as the Google Glass. Senior Minister of State for Home Affairs Masagos Zulkifli commented on this during the amendment of the law in parliament on Sept 8, 2014, saying: "We will continue to monitor the situation... and study the practices of other jurisdictions as they evolve to deal with (new) types of smart devices."

Source: The Straits Times, 2015

Questions

(a)	(i)	With reference to Figure 1, describe the trend in global smartphone shipments from 2010 to 2015.	[2]
		<p><i>Examiners' comments:</i></p> <p><i>A good number of candidates noticed that the data was on percentage change in shipment and could interpret it correctly to score both marks. Those that scored 1m tended to lose the mark for the general trend as they only described the trend in percentage change of shipments. Students who didn't score any marks generally didn't because they did not notice that Figure 1 was a graph of the percentage change and wrongly stated that shipments had been decreasing.</i></p>	
		<p>Sample answer and mark scheme:</p> <p>Global smartphone shipments generally increased at a decreasing rate.</p> <p>1m for general trend 1m for refinement</p>	
	(ii)	With the use of a demand and supply diagram, account for the above trend.	[5]
		<p><i>Examiners' comments:</i></p> <p><i>Very few of the candidates realised that shipments corresponded to equilibrium quantity and that the analysis was simply to try to explain how demand and supply changed to account for an increase in equilibrium quantity. This resulted in many explaining shifts of demand and supply that did not result in the correct change (increase) in quantity. Candidates must think about what variable (P, Q, TR/TE, GPL, NY etc) they are required to explain. For this question, since it was already stated that the economics framework to use is demand and supply, the only possible variables to analyse were P, Q, or TR/TE. Shipments clearly are not P or TR/TE so students should be able to tell that shipments had to be quantity.</i></p> <p><i>Many candidates also thought that price was a factor for changes in demand and supply (e.g. falling prices caused a rise in demand and/or fall in supply). Students must revise demand and supply properly. Only non-price factors can shift demand and supply. The fall in P is a result of shifts in demand and supply.</i></p> <p><i>Some tried to explain the decreasing rate of increase (the refinement) instead of the general trend and got very confused in the process. For questions on accounting/explaining trends, candidates should focus on describing the general trend unless the question states specifically to account for the both the general trend and refinement (i.e., "account for</i></p>	

		<i>the above trends</i> ”).	
		<p>Sample answer and mark scheme:</p> <ul style="list-style-type: none"> • The above trend is that of an increase in shipments, which can be interpreted as an increase in equilibrium quantity. • This increase could be due to an increase in demand due to <ul style="list-style-type: none"> – Decrease in the price of data, which is a complement – Increase in incomes – Change in taste and preference – Etc • Also, supply could have increased because of (insert and explain a supply factor) <ul style="list-style-type: none"> – Increase in number of producers (HTC, Xiaomi, etc) – Fall in cop over time due to falling commodity prices (lower price of factor inputs) • Increase S must have been more than increase in D since case material states that price of smartphones had fallen • (Insert diagram of increase in S and increase in D with increase in D > increase in S) and describe how the increases in D and S must have led to an increase in equilibrium quantity <p>➤ 2m for well-explained D factor</p> <p>➤ 2m for well-explained S factor</p> <p>(Note: the changes in D and S have to lead to change in qty that is consistent with the ans in (ai). I.e., decrease in D and decrease in S cannot earn full credit as that combination would explain a fall in qty instead)</p> <p>➤ 1m for an accurate and well-described diagram. Diagram alone does not carry marks</p>	
(b)	(i)	Explain what is meant by the standard of living.	[2]
		<p><i>Examiners' comments:</i></p> <p><i>Most candidates knew of the two aspects of SOL and could score at least 1m for recognising that. While most students also scored the first mark for explaining that SOL referred to well-being, many did not point out that the concept applied to economies (i.e., well-being of average individual/individuals in an economy as opposed to just the well-being of an individual).</i></p>	
		<p>Sample answer and mark scheme:</p> <p>It is the well-being/welfare of the average person <u>in an economy</u> (1m) and comprises material and non-material aspects (1m).</p>	
	(ii)	Explain two possible effects of rising smartphone usage on the standard of living.	[4]
		<p><i>Examiners' comments:</i></p> <p><i>This was a well-done question. Majority of candidates scored all 4m. Those that didn't mainly either didn't identify which aspect of SOL (material or non-material) was affected; or made the linkage to the wrong aspect of SOL (e.g. health issues affecting material SOL); or used</i></p>	

		<i>strange and trivial-sounding points (e.g. rising usage of smartphones increasing the number of internet scams as more people were using the internet); or explained effects on SOL that were not the result of higher smartphone usage (e.g., lower SOL due to being fined by the government, higher SOL due to the buying of new phones).</i>	
		<p>Sample answer and mark scheme:</p> <ul style="list-style-type: none"> • Rising usage could increase productivity of the labour force (Ext 2) → increase productive capacity of the economy (AS shifts right) → increase NY and hence material SOL from higher incomes and ability to consume G&S (2m) • Rising usage could reduce non-material SOL from health and sleep-related problems (Ext 3) as health outcomes are one aspect of non-material SOL (2m) 	
(c)	(i)	Define 'demerit good'.	[1]
		<p><i>Examiners' comments:</i></p> <p><i>Most students scored the 1m. Those that didn't, simply need to revise the definition properly. That apart, many wrongly stated that demerit goods are defined as goods that generate negative externalities. That is not necessarily true as the goods may be deemed undesirable by the government because consumers underestimate the MPC of consuming the good (imperfect info) even if there isn't any negative externality. In sum, a demerit good could be a demerit good because of imperfect info and/or negative externalities.</i></p>	
		<p>Sample answer and marking scheme:</p> <p>A demerit good is a good that is deemed socially undesirable by the government and overconsumed if left to the free market. (1m)</p>	
	(ii)	With reference to Extracts 2 and 3, discuss whether governments should discourage the use of smartphones.	[8]
		<p><i>Examiners' comments:</i></p> <p><i>Most candidates did not realise the question was about whether there was overconsumption of smartphones (market failure) despite the clue given in (ci) where they are asked to define a demerit good. Candidates should know that when questions are numbered (cii) and (ci), there must be a reason. Instead of discussing whether smartphones were a demerit good that was overconsumed, many simply repeated their answers to (bii) and based their arguments on whether the use of smartphones improved/worsened SOL.</i></p> <p><i>Some answers didn't make any reference to any economics. At the very least, students should use AD-AS to explain the effect of smartphone usage on NY or make reference to SOL. Finally, some candidates still gave one-sided answers. This is a "discuss" question. Candidates must provide two sides of the answer.</i></p>	
		<p>Answer outline and mark scheme:</p> <ul style="list-style-type: none"> • Introduction: Whether to discourage smartphone usage depends 	

	<p>on whether smartphones are overconsumed.</p> <ul style="list-style-type: none"> • Thesis: Should discourage (smartphone usage is a demerit good that causes market failure due to overconsumption) <ul style="list-style-type: none"> – Imperfect info in the form of underestimating the MPC such as back pains and slp problems – Negative ext from the higher risk of accidents (physical harm to third parties) – Must include diagram and full explanation • Anti-thesis: Should not discourage <ul style="list-style-type: none"> – Smartphones increase productivity (either use positive externality analysis or AD-AS analysis to show the benefits of smartphone usage and hence why the gov should not discourage it) • Conclusion: Should not discourage the use of smartphones per se as a targeted approach to discourage improper use of smartphones would sufficiently address the negative effects. <table border="1" data-bbox="339 831 1294 1245"> <thead> <tr> <th>Level</th> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>L3</td> <td>Both thesis and anti-thesis are well-developed and addresses the issue of whether there is <u>overconsumption of smartphones</u> (i.e. market failure).</td> <td>5-6</td> </tr> <tr> <td>L2</td> <td>Well-developed thesis OR anti-thesis. OR Under-developed thesis AND anti-thesis</td> <td>3-4</td> </tr> <tr> <td>L1</td> <td>No/very little use of economic analysis (i.e., GP-ish ans)</td> <td>1-2</td> </tr> <tr> <td>E</td> <td>Justified judgement of whether the government should discourage the use of smartphones</td> <td>+1-2</td> </tr> </tbody> </table>	Level	Description	Marks	L3	Both thesis and anti-thesis are well-developed and addresses the issue of whether there is <u>overconsumption of smartphones</u> (i.e. market failure).	5-6	L2	Well-developed thesis OR anti-thesis. OR Under-developed thesis AND anti-thesis	3-4	L1	No/very little use of economic analysis (i.e., GP-ish ans)	1-2	E	Justified judgement of whether the government should discourage the use of smartphones	+1-2	
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	<p>A possible answer (in full)</p> <p>The government should discourage the use of smartphones as it has the characteristics of a demerit good.</p> <p>Smartphone use has negative effects on health such causing as poorer sleep quality and back pain. However, consumers may underestimate these costs to themselves and only consider their data and phone bills when deciding their smartphone usage. With reference to Fig XX (draw diagram), the underestimation of marginal private cost (MPC) causes perceived MPC to be less than actual MPC. As such, the market equilibrium quantity consumed Q_e (where perceived MPC = MPB) is more than the social optimum (actual MPC = MPB). There is overconsumption and its associated deadweight loss. As such, the government should discourage the use of smartphones.</p> <p>However, smartphone usage also has benefits in the form of increased productivity. This could have a positive effect on the rest of society in terms of the knock-on effects of higher growth caused by higher productivity. This positive externality would then mean that the socially optimal quantity is higher than in the previous discussion and that the degree of overconsumption is therefore lesser or even non-existent. As such, it may not be advisable for governments to discourage smartphone</p>																

	usage. In conclusion, whether to discourage smartphone usage depends on the degree of overconsumption. However, one should note that since the costs of using smartphones is due to improper usage rather than due to the use of smartphones per se, government should take a targeted approach to discourage improper use of smartphones rather than broadly discouraging the use of smartphones.	
(d)	Using materials from the case and from your own knowledge, assess the possible measures governments can take to address the sources of market failure in the smartphone market.	[8]
	<i>Examiners' comments:</i> <i>Because many candidates did not realise that (cii) required them to explain the market failure, had to start (d) with an explanation of the possible sources of market failure first. This took time away from discussing the policies and explanations became sketchy and lacked development.</i> <i>In general, candidates can improve on linking back the policies to the specific sources of market failure and use the diagrams for market failure to also explain how the policies would work (e.g., in explanations of policies, to refer back to the graphs to point out which curves would shift and how quantities would shift). Similarly, for limitations; many wrote one-sentence limitations. This points need development.</i>	
	Answer outline and mark scheme: Intro: From (cii), sources of MF are –ive ext and imperfect info in the form of underestimating MPC of smartphone usage. Body I: Explain how legislation to prevent smartphone usage when driving corrects MF due to –ive ext (lower risk of accidents → less MEC from smartphone usage → less DWL) + limitations (e.g. monitoring costs) Body II: Explain how campaigns/education on the true costs of smartphone usage corrects MF due to imperfect info (perceived MPC rises to align with actual MPC → reduction in consumption) + limitations (e.g. limited effects in the ST as mindsets take time to change + smartphone addiction) Conclusion: Different sources of MF can be addressed by different measures but effectiveness of measures depends on the context (explain how so). E.g., effectiveness of legislation depends on how comprehensive the current monitoring system is. For e.g., Sg has a functioning network of speed cameras that can be modified to randomly take pictures of cars to check on whether drivers are using their phones. So, effectiveness of legislation would be higher than another country that doesn't.)	
	Possible answer (in full) On top of the imperfect information explained in (cii), the use of smartphones could also cause negative externalities in the form of harm done to passers-by due to the higher likelihood of accidents (Ext 3).	

	<p>To address the negative externality, legislation like that of Singapore's ban on smartphone usage can be used. Such bans reduce the negative externality from smartphone usage by reducing the risk of accidents from smartphone usage. With a lower likelihood of accidents, MEC decreases and the extent of deadweight loss would also decrease as MPC and MSC now diverge to a smaller extent.</p> <p>However, for such legislation to be effective, high monitoring cost would be incurred to ensure compliance as motorists would ignore the rules if the likelihood of being caught were low. Such spending would incur opportunity cost in the form of foregone public spending in other areas.</p> <p>For imperfect information, education/campaigns can be used. With education, consumers would know the true cost of smartphone usage (including the sleep problems and back pains). As such, perceived MPC would increase and align with actual MPC. This would then reduces the usage of smartphones from Q_e to Q_s on Fig XX in (cii).</p> <p>However, such campaigns would cause little change in behaviour in the short run as attitudes take time to change, especially when smartphone usage is addictive. As such, there may only be a limited decrease in smartphone usage in the short term.</p> <p>In conclusion, different sources of MF can be addressed by different measures and effectiveness of each measure depends on the context of the country. For e.g., the effectiveness of legislation would depend on how comprehensive the current monitoring system is. A country like Singapore that has a functioning network of speed cameras that can be modified to randomly take pictures of cars to check on whether drivers are using their phones would find legislation more effective than a country that hasn't as monitoring can be more easily carried out.</p>	
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Question 2**The Singapore Economy****Extract 5: Trans-Pacific Partnership. What's in it for Singapore?**

The Trans-Pacific Partnership is a far-reaching agreement involving 12 countries which make up 40 per cent of the world economy, and it is viewed as the most important trade deal negotiated in more than 20 years but has yet to be ratified by the Parliaments of the 12 nations.

The TPP countries represent a large market for Singapore, accounting for 30 per cent of its total trade in goods in 2013 and 30 per cent of foreign direct investment here. Although Singapore is already an open economy, the trade pact is still expected to boost trade and investment links between Singapore and key markets in the region and elsewhere in the world, including in fast-growing Latin America. Local firms are already eyeing a bigger slice of the pie with lower trade barriers. Food and beverage group Tee Yih Jia hopes to ramp up exports to South American markets such as Chile and Peru, which are part of the TPP, said Mr Gary Lee, its deputy general manager for export sales and marketing.

Source: The Straits Times, 14 Oct 2015

Extract 6: Excerpt adapted from the Singapore Budget 2016 by Finance Minister Heng Swee Keat

“To address cyclical weaknesses, we will adopt an expansionary fiscal stance to provide some counter. Public sector demand for construction projects is expected to increase significantly in 2016, helping to mitigate a decline in private sector construction demand. This includes more than \$2.5 billion of public sector contracts which will benefit smaller construction firms.

In Budget 2016, we will launch a new Industry Transformation Programme to integrate our different restructuring efforts. Our efforts to raise productivity, develop our people, and drive research and innovation are working, but we can maximise impact by pulling these together. This builds on our efforts under the Quality Growth Programme, which was introduced in Budget 2013 to achieve inclusive growth driven by innovation and higher productivity.”

Source: Singapore Budget 2016 Website, accessed in Aug 2016

Extract 7: Keep calm and carry on as Singapore economy slows

Companies here have been suffering weaker demand and thinner profit margins, even as they grapple with a tight labour market and rising business costs at a time when export-oriented Singapore has been hard hit by a cooling China, subdued domestic consumption, a downturn in commodities and global uncertainty due to Britain's vote to leave the European Union.

The Singapore economy grew at a modest pace of 2 per cent last year, but many expect things to take a turn for the worse this year. The manufacturing sector, which makes up a fifth of Singapore's economy, has been hit hardest by the slowdown. The slowdown in China, combined with Chinese and US companies turning away from imports, will result in further pain for Singapore manufacturers this year, and resulting in layoffs and falling wages.

However, there are ‘bright spots’ in the services sector such as education and healthcare, both of which are expected to remain resilient despite the slowdown. These sectors, which are domestic and linked to demographic needs, could even grow with more government

spending, he adds. A shortage of talent in sectors like IT and life sciences also means that wages in those industries grew faster than the economy, recruiters say.

Source: adapted from the Straits Times, 7 March 2016

Extract 8: MAS to slow appreciation of Singapore Dollar

The Monetary Authority of Singapore (MAS) said on Wednesday (Oct 14) it will ease its monetary policy for the second time this year by slowing the pace of the Singapore dollar's appreciation, in an effort to revive economic growth and ensure price stability over the medium term," it added.

According to some analysts, the need to guard against imported inflation could be one reason why the central bank decided against more aggressive easing, such as devaluing the Singapore dollar.

"They might be concerned about inflationary pressures next year, thus keeping the gradual and modest appreciation path still intact but at a slightly lower pace," explained Mr Saktiandi Supaat, the head of FX research at Maybank.

Singapore imports as much as S\$464 billion of goods a year and a large proportion are fruits and vegetables. Some traders told Channel NewsAsia that due to the weaker Singapore dollar compared to the US dollar, the prices of some fruits have become more expensive, especially those that come from countries like Egypt, China and Pakistan.

Source: Channelnewsasia, 14 Oct 2015

Figure 2: Singapore's GDP growth rate



Questions

(a)		With reference to Figure 2, describe the change in Singapore's GDP from July 2013 to July 2016.	[2]
		<i>Examiners' comments:</i> <i>Similar to CSQ1ai), students who did not score both marks tended to describe the change in GDP growth rather than change in GDP.</i>	
		Answer and mark scheme: Singapore's GDP increased (1m for general trend) at a decreasing rate (1m for refinement).	
(b)		With reference to Extract 7 and using demand and supply analysis, explain why wages for certain sectors may remain high despite a gloomy economic outlook.	[4]
		<i>Examiners' comments:</i> <i>Many candidates did not realise that wages are the price of labour and hence an analysis of wages would require an analysis of the demand and supply of labour. Instead, many candidates tried to explain changes in the demand and supply of goods and services instead. Also, most candidates only explained either a demand or supply factor instead of explaining both. The phrase "despite a gloomy economic outlook" was also seldom addressed. Candidates should at least acknowledge that a gloomy economic outlook would depress wages. Finally, many candidates wrongly explained why wages 'increased' instead of explaining why it has 'remained high'. The context of the case clearly pointed out that wages had fallen, but that in some sectors, the wages remained high (i.e., did not fall by a large extent).</i>	
		Answer and mark scheme Wages across the board should fall due to decrease in derived demand for labour as production has decreased (1m). However, for the IT industry which has a low supply of labour due to the high-skilled nature of the job (1m), and the sectors tied to demographic needs such as healthcare where the government being the main spender on such goods and services prevents the demand for workers in these industries from falling too much (1m), the low supply and limited fall in demand causes wages to remain high despite the general falling demand (1m). <ul style="list-style-type: none"> • 1m for acknowledging that wages should fall • 1m for accurate supply factor • 1m for accurate demand factor • 1m for the link to wages 	
(c)		Using AD-AS analysis, explain why the Singapore government would	
	(i)	"adopt an expansionary fiscal stance to provide some counter".	[3]
		<i>Examiners' comments:</i> <i>This was a decently done question. Most candidates knew to apply AD-AS analysis to show how an expansionary fiscal policy would increase</i>	

	<p><i>national income and hence scored at least 2m. Those that did not score the third mark mainly did not because they did not include the idea that the expansionary FP was meant to 'provide some <u>counter</u>'. Candidates had to explain that the policy was a response to the global economic weakness. Finally, there were still candidates that did not use AD-AS analysis or link the expansionary fiscal policy to an increase in national income. That is unfortunate.</i></p>	
	<p>Answer outline and mark scheme:</p> <p>In times of impending recession with weakening domestic and global demand (1m), the government may wish to increase government spending to boost AD to compensate for the fall in C, I, and (X-M) and increase or cushion against the fall in national income hence preventing a deeper recession. (2m)</p> <ul style="list-style-type: none"> • 1m for acknowledging that the expansionary FP is meant to counter the recession • 2m for explaining how expansionary FP would increase NY through increasing AD 	
(ii)	<p>"embark on an 'Industry Transformation Programme' to drive productivity and innovation".</p>	[3]
	<p><i>Examiners' comments:</i></p> <p><i>Most candidates scored at least 2m for this question too. Those that did not score the full 3 marks generally lacked detail in explaining how the ITP would affect AS. Such answers tended to simply include a statement such as "The ITP would increase AS and cause it to shift right." That is insufficient. An explanation would include how the ITP would increase productivity through improving the quality of FOP. A small number of scripts did not make any reference to AS at all and simply stated that the ITP would lead to sustained economic growth. Such answers lack economic analysis and candidates are reminded to always include references to economic models such as AD-AS to show economic analysis.</i></p>	
	<p>Answer and mark scheme:</p> <p>The ITP is an effort to increase productivity which involves improving the quality of factors of production such as land, labour, capital, and entrepreneurship, This shifts the AS outwards (rightwards and downwards) (2m) and ensures sustained economic growth in the long run. (1m)</p> <ul style="list-style-type: none"> • 2m for sufficiently explaining (not just stating) how ITP causes AS to shift outwards • 1m for linking increase in AS to sustained economic growth 	
(d)	<p>Assess whether MAS's decision to "slow the pace of the Singapore dollar's appreciation" can revive growth and ensure price stability.</p>	[8]
	<p><i>Examiners' comments:</i></p> <p><i>This was a poorly done question. Candidates were not consistent in whether they were analysing a slowing appreciation or a depreciation.</i></p>	

	<p><i>This caused errors in the analysis of whether P_x and P_m will increase or decrease. Furthermore, many answers lacked depth in the analysis. To have sufficient rigour in the analysis, candidates need to link changes in P_x and P_m to changes in Q_x and Q_m before making a link to export revenue (X) and import expenditure (M) or to net exports ($X-M$). In explaining the effects of a slowing appreciation on growth and price stability, some candidates solely analysed how AD would be affected. Candidates must remember that for the analysis of how exchange rates affect the Singapore economy, the analysis of how the changes in the prices of imported raw materials would affect the AS must be included. Finally, a sizeable minority of candidates only analysed how a slowing appreciation would affect growth or price stability. The question clearly requires an analysis of both.</i></p>	
	<p>Ans outline (approach 1: most correct but requires very nuanced thinking)</p> <ul style="list-style-type: none"> • Intro: Slow appreciation means that SGD is still appreciating but more slowly • Thesis: Can revive growth: <ul style="list-style-type: none"> – P_x increases more slowly and can become relatively cheaper than goods produced by other countries (if they are experiencing higher inflation than us) such that demand for exports can increase → increase in X – P_m falls more slowly such that domestically produced goods can become relatively cheaper (if foreign countries have higher inflation than us) → D for M falls → decrease in M – $(X-M)$ increases → AD increases → NY increases • Thesis: Can ensure price stability: <ul style="list-style-type: none"> – Fall in P_m (raw materials) → lower COP → AS shifts down → lower GPL • Anti-thesis: Cannot ensure growth or price stability <ul style="list-style-type: none"> – X demand still dependent on economic conditions in other countries → policy may not be able to increase $X-M$ because uncertain global economic outlook weighs down on it – Price stability also depends on other factors (e.g. tightening of foreign labour inflow would push wages and COP up) <p>Ans outline (approach 2: less correct but easier to write and is still acceptable provided the introduction points out clearly that a slowing appreciation has effects that are similar to a depreciation)</p> <ul style="list-style-type: none"> • Intro: In the Sg context, slower appreciation has similar effects to a depreciation and will be analysed as such. • Thesis: Can revive growth: <ul style="list-style-type: none"> – Depreciation → fall in P_x, rise in P_m → rise in Q_x, fall in Q_m → (assuming M-L condition ($PED_x + PED_m > 1$) holds, $X-M$ increases → increase AD → increase NY • Anti-thesis: Cannot ensure price stability: <ul style="list-style-type: none"> – Depreciation → Rise in P_m (raw materials) → higher COP 	

	<p style="text-align: center;">→ AS shifts up → higher GPL</p> <ul style="list-style-type: none"> • Anti-thesis: Cannot ensure growth <ul style="list-style-type: none"> – X demand still dependent on economic conditions in other countries → policy may not be able to increase X-M because uncertain global economic outlook weighs down on it <p>Conclusion (for either approach)</p> <ul style="list-style-type: none"> • Make a judgement about whether the decision can revive growth and ensure price stability and justify this judgement <table border="1" data-bbox="339 566 1294 1010"> <thead> <tr> <th>Level</th> <th>Description</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>L3</td> <td>Both thesis and anti-thesis are well-developed and includes analysis of how a slowing appreciation would affect both growth and price stability</td> <td>5-6</td> </tr> <tr> <td>L2</td> <td>Well-developed thesis OR anti-thesis. OR Under-developed thesis AND anti-thesis</td> <td>3-4</td> </tr> <tr> <td>L1</td> <td>No/very little use of economic analysis (i.e., GP-ish ans)</td> <td>1-2</td> </tr> <tr> <td>E</td> <td>Justified judgement of whether a slowing appreciation would be able to revive growth and ensure price stability</td> <td>+1-2</td> </tr> </tbody> </table>	Level	Description	Marks	L3	Both thesis and anti-thesis are well-developed and includes analysis of how a slowing appreciation would affect both growth and price stability	5-6	L2	Well-developed thesis OR anti-thesis. OR Under-developed thesis AND anti-thesis	3-4	L1	No/very little use of economic analysis (i.e., GP-ish ans)	1-2	E	Justified judgement of whether a slowing appreciation would be able to revive growth and ensure price stability	+1-2	
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	<p>Possible answer (in full; using approach 2)</p> <p>In the Singapore context, a slower appreciation's effect on growth and price stability is similar to that of a depreciation and will be analysed as such.</p> <p>A depreciation causes a fall in P_x to foreigners and a rise in P_m to locals. This causes a rise in Q_x and a fall in Q_m when foreigners switch to Singapore's exports and locals switch away from imports respectively. Assuming the Marshall-Lerner condition ($PED_x + PED_m > 1$) holds, X-M would increase. This increases AD and hence NY, reviving growth. A slowing appreciation would have a similar effect.</p> <p>However, revived growth is still not assured as there are other factors that may cause AD to decrease. For example, the case material shows an uncertain global economy. This may cause foreign consumers to delay consumption and depress Singapore's exports, reducing AD and hence growth.</p> <p>Furthermore, a depreciation would not ensure price stability. With a depreciation, prices of imported raw materials would increase, leading to a higher COP. This causes AS to shift upwards and increases the GPL. A slower appreciation would have a similar effect.</p> <p>In conclusion, we observe a trade-off between the aims as increasing the likelihood of reviving growth would require a larger degree of slowing down the appreciation, which would increase the likelihood of imported inflation. Hence, it is unlikely that slowing the pace of the SGD's appreciation would revive growth and maintain price stability simultaneously since there is a trade-off between the two.</p>																

(e)	(i)	Explain one possible benefit of the Trans-Pacific Partnership to Singapore firms.	[2]
		<p><i>Examiners' comments:</i></p> <p><i>Most candidates did not score both marks as the benefit explained was not specific to Singapore's firms. Benefits such as consuming beyond the PPC (theory of CA), achieving economic growth accrue to the economy as a whole whereas benefits such as having a wider variety of goods and services accrue to consumers. To explain benefits to firms, candidates needed to explain how firms could benefit. This could have been in the form of how firms' revenues would increase or how firms' costs would decrease.</i></p>	
		<p>Sample answer and mark scheme:</p> <p>The TPP lowers trade barriers such as tariffs which makes Singapore firms' products more price competitive in international markets. (2m)</p> <p>Note: Other benefits to firms are accepted too (e.g. reaping economies of scale (EOS) from producing a greater scale of output for a larger market, lower costs of production from cheaper imported raw materials)</p>	
	(ii)	Using materials from the case and from your own knowledge, discuss the view that Singapore should continue to embrace globalisation.	[8]
		<p><i>Examiners' comments:</i></p> <p><i>Few students attempted this question as they ran out of time. Most answers were exceedingly short. Of those that did, many did not include economic analysis in their rush to complete their answers. Candidates are reminded to balance depth and scope. A list of relevant but unexplained points yields fewer marks compared to one or two well elaborated points. Also, globalisation should have been defined in terms of the three flows (trade, K, L) to prevent answers from being trade centric. Trade, while very important, is still just one part of globalisation.</i></p>	
		<p>Sample answer outline and mark scheme:</p> <ul style="list-style-type: none"> • Intro: globalisation is the greater interconnectedness of economies through greater trade, capital, and labour flows • Thesis: Should continue to embrace <ul style="list-style-type: none"> – Explain benefits from any of the three flows (benefit from theory of CA from trade, growth from FDI inflow, potential growth from L inflow, etc) • Anti-thesis: Should not continue to embrace <ul style="list-style-type: none"> – Explain costs from any of the three flows (structural unemployment from trade, profit repatriation from FDI inflow, widening income gap from L inflow etc) <p>(Note that the benefits and costs should cover at least two of the three flows)</p> • Conclusion: Judge whether Singapore should continue to embrace globalisation and justify the judgement (e.g., through weighing whether the benefits of globalisation outweigh the costs 	

of globalisation to an SOE) (Note that it is unlikely for a candidate to be able to justify Singapore not continuing embrace globalisation)		
Level	Description	Marks
L3	Both thesis and anti-thesis are well-developed and include points stemming from at least two of the three flows (trade, K, L) under globalisation	5-6
L2	Well-developed thesis OR anti-thesis. OR Under-developed thesis AND anti-thesis	3-4
L1	No/very little use of economic analysis (i.e., GP-ish ans)	1-2
E	Justified judgement of whether Singapore should continue to embrace globalisation	+1-2

1. McDonald's 'Create Your Taste' initiative, which allows increasingly affluent customers to design their own custom burgers, offer a slightly more upscale offering alongside their standard products. This, along with the introduction of table service, will allow McDonald's to tap customers wanting, and prepared to pay for, a better product and experience. However, these may also increase the cost of production.

a) Explain how the above factors affect the market for McDonald's products. [10m]

Introduction

- Equilibrium price and quantity are determined by the intersection of demand and supply.
- Demand measures the quantity of good or service consumers are willing and able to buy at various price levels, over a specified period of time, ceteris paribus.
- Supply measures the quantity of good or service sellers are willing and able to sell at various price levels over a specified period of time, ceteris paribus.

Demand Factor

- An increase in affluent customers means that there is an increase in the number of customers with higher income. This means that customers have higher purchasing power.
- Since McDonald's products are normal goods, this leads to an increase in demand for McDonald's products.
- In addition, McDonalds are catering to the changing consumer taste and preferences. Customers are prepared to pay for better products and experience.
- This will lead to an increase in McDonald's 'Create Your Taste' products, which allows customers to design their own burgers.
- The increase in demand causes the demand curve to shift rightwards from D_0 to D_1 .

Supply Factor

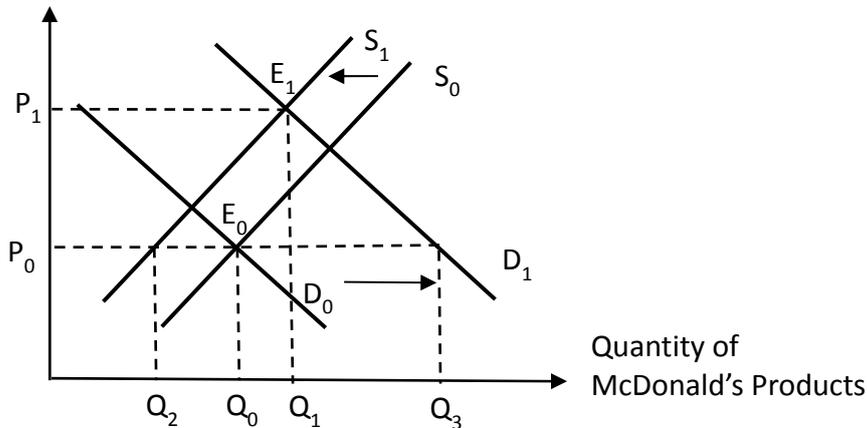
- The introduction of 'Create Your Taste' products would cause cost of producing a unit of McDonald's products to increase.
- This causes the profit of producing a unit of McDonald's products to fall.
- Since McDonalds are profit maximisers, the supply of McDonald's products will fall.
- This causes the supply curve to shift leftwards from S_0 to S_1 .

Justify the extent of shift

- Since McDonald's 'Create Your Taste' products not only allow customers to design their own burgers but also provides table service, these products are more luxurious as compared to normal McDonald's products.
- When income increases, demand for luxury goods increase more than proportionately.
- Hence, the increase in demand is likely to be greater than the fall in supply for McDonald's products.

Diagram

Price of
McDonald's Products

Price Adjustment Process

- Market is at initial equilibrium E_0 , with initial equilibrium price P_0 and initial equilibrium quantity Q_0 .
- At original price, there is a shortage of Q_2Q_3 . This results in an upward pressure on price.
- As price increases, quantity demanded decreases, resulting in a movement along the demand curve.
- In addition, as price increases, quantity supplied increases, resulting in a movement along the supply curve.
- Market reaches new equilibrium E_1 . Equilibrium price increases from P_0 to P_1 and equilibrium quantity increases from Q_0 to Q_1 .

However, if assumptions do not hold, equilibrium price will definitely increase and equilibrium quantity will be indeterminate.

Level	Analysis	Mark
L3	Well-developed explanation of both demand and supply factors. Price adjustment process is well-explained with the aid of a correctly drawn diagram. Extent of shift in demand and supply is justified. (Same as above but for only 1 demand and 1 supply – max 8 m)	8 – 10
L2	Under developed explanation of demand and supply factors. Price adjustment process is adequately explained. Relevant diagrams drawn but no reference to diagrams. (Explanation of only the 2 demand factors (with diagram) –max 7 m Explanation of only the 2 demand factors (without diagram) –max 6m)	5 – 7
L1	Answer is mostly irrelevant. Only a few valid points. Lacks economic reasoning.	1 – 4

b) Using relevant elasticity concept(s), assess if these factors will increase the revenue of McDonald's restaurants. [15m]

Introduction

- Revenue = Price x Quantity
- Elasticity concepts are useful to identify the extent of change in price and quantity of McDonald's products and hence, determine whether revenue of McDonald's restaurants increase.
- We can segment McDonald's products into two types - regular McDonald's products, and 'Create Your Taste' products.

Factors that increase demand will increase revenue of McDonald's restaurants

- From (a), the factors that increase the demand for McDonald's products will increase both the price and quantity of the products. This applies to both the regular McDonald's products and the 'Create Your Taste' products. As such, the revenue for McDonald's would definitely increase due to the demand factors mentioned in (a).

Price Elasticity of Demand

- Price elasticity of demand (PED) measures the degree of responsiveness of change in quantity demanded of a good due to a change in the price of the good itself, ceteris paribus
- The increase in COP in (a) will cause price to increase and quantity to decrease (as explained in (a)).
- We can use PED to evaluate the extent of increase in price, and extent of fall in quantity.

Regular McDonald's Products

- Demand for regular McDonald's products is price inelastic.
- This is because regular McDonald's products take up a smaller proportion of income.
- Due to the fall in supply, price of regular McDonald's products will increase to a larger extent, and quantity of regular McDonald's products will fall to a smaller extent.
- Hence, revenue earned from regular McDonald's products will increase.

'Create Your Taste' Products

- Demand for 'Create Your Taste' products is price elastic.
- This is because 'Create Your Taste' products take up a larger proportion of income.
- Due to a fall in supply, price of 'Create Your Taste' products will increase to a smaller extent, and quantity of 'Create Your Taste' products will fall to a larger extent.
- Hence, revenue earned from 'Create Your Taste' products will fall.

Conclusion – judgement on whether revenue of McDonald's restaurants will increase

- Combining the above effects, the revenue earned from regular McDonald's products will definitely increase.
- However, the revenue earned from 'Create Your Taste' products may or may not increase.
- Since the current Singapore economy is not doing well, the increasing affluent customers is likely to be a small number. Hence, fall in revenue for 'Create Your Taste' products due to the fall in supply is likely to outweigh the increase in revenue due to the increase in demand.
- Thus, revenue earned from 'Create Your Taste' products is likely to decrease.
- Whether overall revenue earned by McDonald's increases or decreases depends on whether the increase in revenue from regular McDonald's products outweighs the fall in revenue from 'Create Your Taste' products.
- Since majority of McDonald's products are regular McDonald's products and 'Create Your Taste' products is a new initiative, the increase in revenue from regular

McDonald's products is likely to outweigh the fall in revenue from 'Create Your Taste' products.

- Hence, the above factors are likely to cause McDonald's revenue to increase.

Level	Analysis	Mark
L3	Well-developed explanation of how the factors would affect the revenue of McDonald's. PED is correctly applied to analyse the effect of the increase in COP on revenue. Answer makes no mention of the factors in the question (max 8m)	8 – 10
L2	Under-developed explanation of how the factors would affect the revenue of McDonald's. PED is applied to analyse the effect of the increase in COP on revenue with minor errors. OR Well-developed explanation of the effects of <u>only</u> PED on the revenue	5 – 7
L1	Answer is mostly irrelevant. Only a few valid points. Lacks economic reasoning.	1 – 4

Level	Evaluation	Mark
E2	Well-reasoned judgement that assess if the above factors would cause the revenue of McDonald's restaurants to increase.	3 – 4
E1	Judgment with weak justification on whether the above factors would cause the revenue of McDonald's restaurants to increase. OR Judgement that states the limitations of using elasticity values.	1 – 2

3. The UK's trade deficit for the first quarter of 2015 is at its biggest since 2008. Analysts said this is more evidence of the weight of global economic weakness on the UK, as well as the British Pound's strength, particularly against the Euro. There is also growing uncertainty in the UK due to referendum worries.

Source: *BBC News, May 2016*

a) Explain the possible causes of a balance of payments deficit in the UK. [10]

Introduction

- Balance of payments (BOP) of any country records the receipts and payments from all economic transactions between a country and the rest of the world in a certain time period (usually a year).
- BOP position is a summation of the current account and capital and financial account.
- BOP deficit occurs when there is a deficit in the current account and/or capital and financial account.

Current account deficit

- Global economic weakness means that countries in the world are experiencing a fall in income. This leads to a fall in purchasing power and hence, a fall in the demand for UK exports.
- This causes a worsening of UK's current account.
- In addition, the strong British Pound would mean that the prices of UK exports in foreign currency is more expensive. Foreigners would buy less of UK exports, causing a fall in quantity demanded for UK exports.
- A strong British pound would also cause the prices of imports in British Pound to be cheaper. UK citizens would switch to the cheaper imported goods, causing an increase in quantity demanded for imports.
- Assuming Marshall-Lerner condition ($|PED_x + PED_m| > 1$) holds, $(X-M)$ falls, causing UK's current account to worsen.

Capital and financial account deficit

- Investment is made in order to produce output for sale in the future. Due to referendum worries and poor economic climate, firms are uncertain of the economic conditions in the UK.
- The fall in business confidence in UK means both local and foreign investors would not want to invest in UK.
- Hence investment falls, causing the capital and financial account to worsen.

Conclusion

- A worsening of the current account and capital and financial account resulted in a balance of payments deficit in the UK.

Level	Descriptor	Mark Range
L3	Well-developed explanation of factors that cause a deficit on <u>both</u> current and capital and financial account in the <u>context of UK</u> .	8 – 10
L2	Under-developed explanation of factors that cause a deficit on <u>both</u> current and capital and financial account. Answer is <u>not</u> in the context of UK. OR Well-developed explanation of factors that cause a deficit on <u>either</u> current <u>or</u> capital and financial account in the context of UK.	5 – 7

L1	Answer is descriptive and shows basic knowledge of factors that cause a balance of payment deficit.	1– 4
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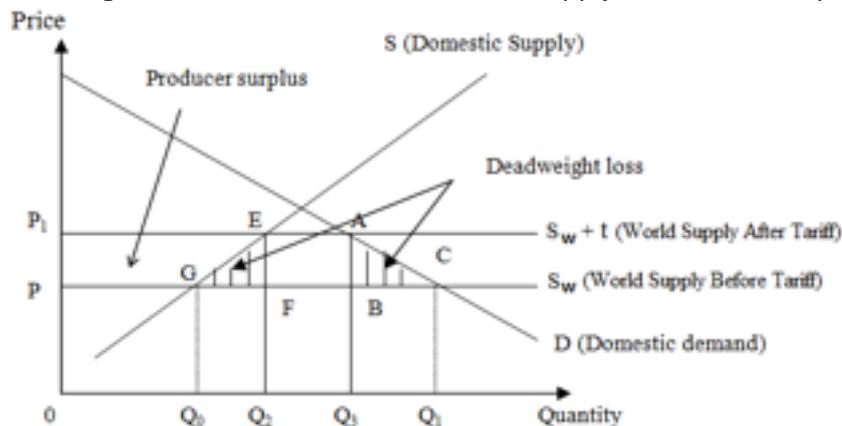
b) Discuss if protectionism is the most effective way for UK to achieve favourable balance of payments. [15]

Introduction

- UK is currently experiencing a BOP deficit.
- Favourable BOP for UK means UK should reduce its BOP deficit.

Thesis: Protectionism is the most effective way for UK to achieve reduce BOP deficit

- Protectionism is an expenditure-switching policy.
- Protectionism is a policy of sheltering domestic industries from foreign competition through the imposition of trade barriers on goods and services.
- An example of a protectionistic measure is tariffs. Tariffs are taxes levied by the government on imported goods.
- When the tariffs are imposed, the cost of producing an additional unit of imported good increases. This causes the supply curve to shift upwards from S_w to $S_w + t$.



- After the imposition of tariff,
 - World price increase from P_0 to P_1
 - Domestic quantity demanded decrease from Q_1 to Q_3
 - Domestic quantity supplied increase from Q_0 to Q_2
 - Imports fell from Q_0Q_1 to Q_2Q_3
- The fall in import expenditure leads to an improvement in the current account. Hence, this improves the BOP deficit.

Note: other forms of protectionistic measures are also accepted (e.g. quotas, embargoes)

Anti-thesis: Protectionist measures is not the most effective way for UK to achieve reduce BOP deficit

(1) Limitations to tariffs

- However, the imposition of tariffs results in an overall deadweight loss incurred by society (areas GEF and ABC).
- In addition, the imposition of tariffs limits competition in the domestic country. Domestic firms might have less incentive to innovate, causing the quality of goods to be comprised.
- Restriction of imports also leads to fewer choices of goods and services for consumers.
- Tariffs are not as effective if domestic demand and supply are price inelastic. When domestic demand is price inelastic, quantity demanded falls to a smaller extent. When domestic supply is price inelastic, quantity supplied increases to a smaller

extent. Hence, the quantity of imports falls to a smaller extent, causing a small improvement in the current account.

(2) Other policies are more effective to reduce BOP deficit

Contractionary fiscal policy

- UK can adopt expenditure reducing policy such as contractionary fiscal policy.
- For example, a fall in G would lead to a fall in AD since $AD = C + I + G + (X-M)$.
- This causes national income to fall by a multiplied amount.
- A fall in purchasing power would lead to a fall in consumption of goods and services including imports.
- The fall in import expenditure leads to an improvement in the current account. This improves the BOP deficit.

Limitations

- However, contractionary fiscal policy worsens actual growth. The fall in production would cause lesser factors of production including labour to be employed. This increases demand-deficient unemployment.
- The effectiveness of the policy depends on the income elasticity of demand for imports. If the imports are necessities (such as food), a fall in income would lead to a less than proportionate fall in demand for imports. Import expenditure would fall to a small extent.

Devaluation of currency

- UK can adopt another expenditure switching policy such as devaluation of their currency.
- A weaker British pound would mean that prices of UK exports in foreign currency falls. Foreigners will buy more of UK exports, causing an increase in quantity demanded for UK exports.
- A weaker British Pound also means that prices of imports in domestic currency increases. Households would switch to cheaper domestically produced goods and services, causing a fall in quantity demand for imports.
- Assume Marshall-Lerner condition ($|PED_x + PED_m| > 1$) holds, $(X-M)$ increases, resulting in an improvement in current account. This improves the BOP deficit.

Limitations

- Marshall-Lerner condition might not hold in the short run. This is because foreign and domestic consumers need time to respond to price changes. Some are also bounded by contracts. $(X-M)$ would fall, causing BOP to worsen in the short run.

Supply side policies

- Governments can adopt another expenditure switching policy such as supply side policies.
- For example, government can engage in R&D to improve production methods.
- An improvement in production methods would cause the cost of producing an additional unit of exports to fall. This improves the price competitiveness of UK's exports.
- Assuming $|PED_x| > 1$, quantity demanded for UK's exports increases, causing an improvement in the current account. This improves the BOP deficit.

Limitations

- R&D is a long-term financial investment. In addition, there is no guarantee that R&D outcome will be successful.

Note: policies in this suggested answer are not exhaustive. Other policies can be used such as policies to attract FDI and hot money inflows.

Conclusion – is protectionism the **most** effective way

- Whether protectionism is the most effective way depends on the root cause of the problem.
- If the root cause of the problem is due to the strong British pound, then, a depreciation of the British pound would be a more effective strategy as compared to protectionism.
- In addition, a weak global economic outlook would mean it is even more important for UK to have price competitive exports by adopting R&D.
- Protectionism could provide short term relief for the UK. However, it has to be complemented with supply side policies so that an improvement in UK's BOP can be sustained (i.e. BOP will not worsen in the future).

Level	Descriptor	Mark Range
L3	Well-developed explanation of how protectionist measures <u>and</u> other policies (at least 2) reduces UK's balance of payments deficit, and limitations of these policies. Explanation is supported with the use of examples and diagrams, where appropriate.	9 – 11
L2	Under-developed explanation of how protectionist measures <u>and</u> other policies reduces UK's balance of payments deficit, and limitations of these policies. Insufficient scope with regard to policies discussed. OR Well-developed but <u>one-sided</u> explanation of <u>either</u> how protectionist measures <u>or</u> other policies (at least 2) reduces UK's balance of payments deficit, and limitations of these policies. (Answer does not evaluate policies adopted – max 8)	6 – 8
L1	Answer is descriptive and shows some knowledge of protectionist policies.	1 – 5

Evaluation	Descriptor	Mark Range
E2	Well-reasoned judgement that discuss if protectionism is the most effective way for UK to achieve favourable balance of payments.	3 – 4
E1	Judgment with weak justification.	1 – 2