

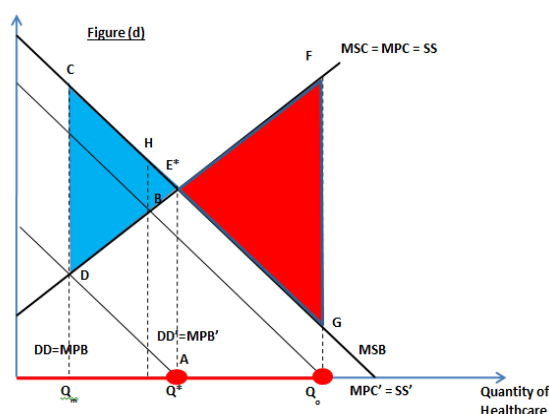
## H1 Case Study Question 1: Healthcare Woes

a)	<b>Using Figure 1, describe the main features of the total health expenditure for Singapore and Japan relative to the world from 2008 to 2013.</b>	<b>[2]</b>									
	Total health expenditure (% GDP) for Singapore is always lower than the world's throughout 2008 to 2013 [1], while total health expenditure for Japan (% GDP) is below the world's between 2008 and 2010, but rose above the total health expenditure for the world's after 2011. [1]										
b)	<b>To what extent is price elasticity of demand for healthcare useful in accounting for the rising healthcare expenditure?</b>	<b>[6]</b>									
	<p>Healthcare expenditure refers to the product of price and quantity of healthcare.</p> <p>[Explain how PED is useful]  As mentioned in Ext 1, healthcare costs have been rising due to "rising cost of manpower, supplies" → increase in unit COP → fall in profits per unit → fall in ss → increase in price and fall in qty  PED is likely to be <math>&lt; 1</math>, as healthcare is seen as a necessity → an increase in price will lead to a less than prop fall in qty dd for healthcare → thus, increase in healthcare expenditure.  Therefore, PED is useful in accounting for the rising healthcare expenditure given that there is a shift in ss.</p> <p>[Other reasons for the rising healthcare expenditure]  However, the rising healthcare expenditure can also be attributed to the rise in demand and fall in ss. As mentioned in Ext 1, DD for healthcare has been rising due to the ageing population. Thus, there is a greater number of people who would require healthcare services as they are more prone to falling sick → leads to increase in both price and quantity → increase in expenditure</p> <p>[Alternative]: Increase in dd <math>&gt;</math> fall in ss as extent of fall in ss is curbed by the 'building of new hospitals (Ext 1)' → overall increase in price and quantity → overall increase in expenditure</p> <table border="1"> <thead> <tr> <th>Level</th><th>Knowledge, skills and application</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>L2</td><td>Balanced answer that also considered other possible factors that could have attributed to the rising healthcare expenditure</td><td>4-6</td></tr> <tr> <td>L1</td><td>One-sided answer explaining how PED is useful</td><td>1-3</td></tr> </tbody> </table>	Level	Knowledge, skills and application	Marks	L2	Balanced answer that also considered other possible factors that could have attributed to the rising healthcare expenditure	4-6	L1	One-sided answer explaining how PED is useful	1-3	
Level	Knowledge, skills and application	Marks									
L2	Balanced answer that also considered other possible factors that could have attributed to the rising healthcare expenditure	4-6									
L1	One-sided answer explaining how PED is useful	1-3									
c)	<b>With reference to Extract 1, what can you conclude about the price elasticity of supply of healthcare?</b>	<b>[2]</b>									
	<p>Supply of healthcare is relatively price inelastic.[1]  This is because any attempt to increase output of healthcare service is constrained by the time taken to build hospitals and train healthcare professionals. As mentioned in Extract 1, building of hospitals is a "complex undertaking" and its completion cannot be hastened.[1] Thus, a given increase in price of healthcare will lead to a less than proportionate increase in quantity supplied, c.p.</p>										
d)	<b>Use the concept of opportunity cost to explain one effect on each of consumers and the government arising from the increase in healthcare</b>										

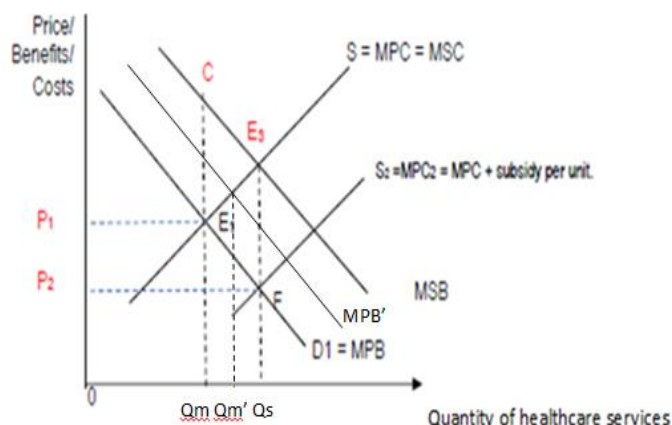
		<b>expenditure.</b>	<b>[4]</b>
		<p>Opportunity cost is the next best alternative forgone.</p> <p>[Consumers]: Increase in healthcare costs implies with the same amount of income, consumers is now less able to spend as much on other goods and services → implies cutting back on the consumption of other goods and services. [2]</p> <p>[Govt]: Increase in healthcare costs will result in increase in government healthcare expenditure. More resources will be channeled into spending on healthcare and less resources will be available to spend on the next best alternative developmental areas such as education. The opportunity cost of spending on policies that seek to ensure healthcare is affordable to the people would be the benefit to the society that could have been generated if the government had spent on other areas such as education. [2]</p>	
<b>e)</b>	<b>i.</b>	<b>Explain why governments intervene in the market for healthcare.</b>	<b>[6]</b>
		<p>Healthcare is an example of a merit good, a good which the government believes that the people will under-consume due to information failure and positive externalities.</p> <p>Individuals underestimate the private benefits of good healthcare such as the reduction in medical expenditure due to prevention of chronic illness as it often comes about only in the distance future. Thus individuals tend to under-demand healthcare services, MPB lies below the true dd curve.</p> <p>In addition, healthcare services such as flu vaccinations also benefit friends/ family members in terms of lower expected medical costs in future as they are less likely to fall ill due to the reduced chances of catching the flu from the vaccinated person. This happens w/o compensation. As such <math>MSB &gt; MPB</math>.</p> <p>The market equilibrium output is at <math>OQ_1</math> (<math>MPB=MPC</math>). Meanwhile, the socially optimal level of output is at <math>OQ_3</math> where <math>MSB=MSC</math>. At the market output <math>OQ_1</math>, <math>MSB</math> is more than <math>MSC</math> and there can be an improvement in society's welfare by increasing production and consumption of healthcare services. There is, thus an underproduction and underconsumption of <math>Q_1Q_3</math> units of healthcare services leading a welfare loss of area <math>E_1E_3C</math>. Hence there is allocative inefficiency in the market where the right amount of the right type good is not produced.</p>	

		level	Knowledge, skills and application	marks	
		L2	Well-explained market failure analysis; explanation of both ext and infor failure	4-6	
		L1	Only explained one source of market failure: ext/ infor failure	1-3	
	ii.	<b>Explain how the introduction of Medisave would impact the market for healthcare.</b>			[2]
		Medisave is a “compulsory individual medical savings” → increases the demand for healthcare services in future as consumers now are more able to afford healthcare services [1] → increase in both price and quantity of healthcare services [1]			
	iii.	<b>In light of an ageing population, would you recommend that the Singapore government follow UK’s approach in the market for healthcare? Justify your answer.</b>			[8]
		<p>In light of a rising ageing population, demand for healthcare is likely to increase over time</p> <p><b>Thesis: UK’s approach in healthcare market is appropriate</b></p> <p>By providing healthcare “free of charge”, the intent of the government is to achieve greater efficiency and equity by fully subsidizing the private cost of consuming health care to each individual → MPC shifts to SS’. The new market equilibrium output coincides with the socially optimum level of output at Q*. Deadweight loss is eliminated and market failure is corrected.</p> <p><b>Reduce inequity</b></p> <p>The U.K government adopts state provision of basic health care and this would reduce the inequity problem as the low income would have greater access to it. This address the concern of ‘larger out-of-pocket payments’ in light of ageing population.</p> <p><b>Limitations of direct provision</b></p> <p>However, if the extent of info failure &amp; externality generated is smaller at HB instead, the new market equilibrium as a result of direct provision will be at Q0. There is now an over-consumption of healthcare by Q*Q0 units and an even greater deadweight loss compared to before at E*FG. This is implied in Ext 4 whereby the ‘waiting lists are always a problem’ as a result. This resultant effect could be due to imperfect information on the government’s end. Society is worst off now. Resources could have been utilized elsewhere in generating greater societal welfare.</p> <p><b>Anti-thesis: Why current measures in Singapore are sufficient</b></p> <p><b>1) Medisave</b></p>			

Price, Cost, Benefit



As mentioned in eii, the implementation of Medisave would increase the dd for healthcare to MPB'. Market output,  $Q_m'$  is now closer to the socially optimal level of output  $Q_s$ . This reduces the problem of overconsumption and thus the DWL incurred.



#### **Why Medisave would be more effective than direct provision:**

Since Medisave is actually an individual's own personal savings there is an incentive for individuals to economise on healthcare. It also ensures that the aged are able to afford healthcare services and will not under-consume healthcare. Consumption of healthcare services will not fall drastically from the socially optimal level with the increased ability to afford these services when they are old.

As compared to direct provision, Medisave would be more cost effective as it reduces the burden on government expenditure yet ensuring optimal consumption of healthcare services

#### **Medisave is appropriate, however there are limitations to current policies and there is need for changes to improve the current system**

- An ageing population, greater longevity and higher medical cost means that there will be need to extend the use of Medisave to cover more outpatient treatments and further enhancement of Medishield to improve payout for larger hospital bills.

#### **2) Subsidies: Medifund**

In addition, in SG, the government also provides Medifund, a form of subsidy to help needy Singaporeans pay their medical bills. A subsidy per unit of  $E_3F$  is implemented resulting in an increase in MPC to  $MPC_2$  due to the fall in unit cost of production. Market output now coincides with the socially optimal output,  $Q_s$ , and deadweight loss is eliminated. Thus, allocative efficiency is achieved.

#### **Why Medifund is more appropriate than direct provision:**

Means testing are used to determine the amount of subsidy for each patient, where lower income groups are subsidized more heavily → it is a more targeted form of subsidy especially for the lower income group → making healthcare more affordable for the poor

#### **Subsidies are appropriate, however there are limitations to current policies and there is need for changes to improve the current system**

Although subsidies easy to implement but accuracy of the measurement of the level of positive externalities is difficult to achieve → Due to government failure, the government may overestimate the amount of subsidy per unit thus MPC

	<p>increases to MPC3. A new market failure arises as there is now overconsumption of healthcare services. In addition, the new deadweight loss is greater than the original DWL, implying that the society is worse off than without government intervention. <i>(illustrate on a diagram how over-subsidy results in over-consumption and thus a great DWL)</i></p> <p>If the extent of DWL is lesser than the DWL created due to information failure as a result of direct provision, Medifund would thus be a more effective policy as compared to direct provision.</p> <p><b>Conclusion:</b> The SG government should not follow UK's approach and rely solely on direct provision as it would cause a strain on the government's budget especially in light of an aging population. Alternatively, the current policies in Singapore are sufficient to address both the problem of information failure and externality in the healthcare market. However, in light of an ageing population, the government would want to ensure that the benefits of current policies do extend to all its citizens and not leave anyone out.</p>	
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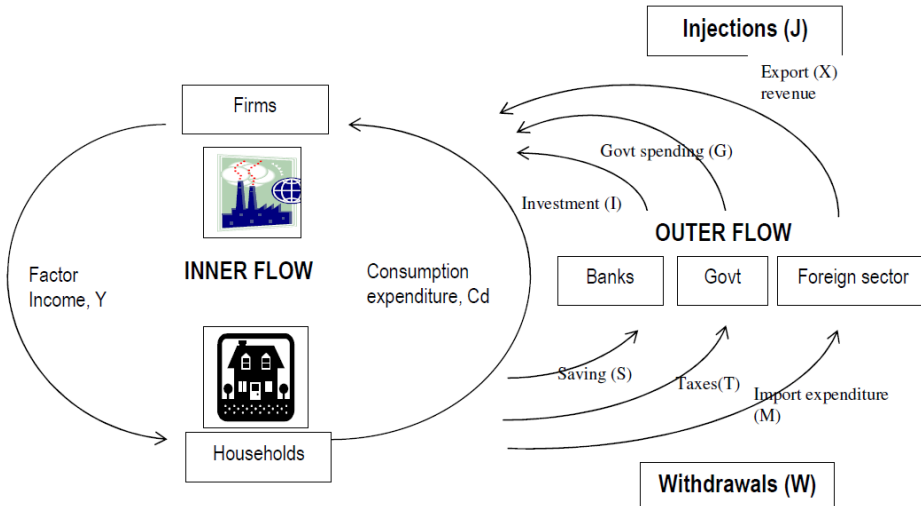
Level	Knowledge, skills and application	Marks
L3	A well-developed discussion on the effectiveness of using direct provision and an alternative policy in SG's healthcare market with sufficient usage of analytical tools and well-supported by evidences	6-8
L2	One-sided answer analyzing the effectiveness of one relevant policy OR an underdeveloped answer of analysis of two policies, but without sufficient reference to the case study evidences	4-5
L1	A descriptive answer that only explains direct provision	1-3

**Question 2: China's alternative growth strategies**

		Using the data in Table 1,	
(a)	(i)	Define what is meant by GDP per capita. It is the value of final goods and services produced within the country within a period usually a year, divided by the population size.	(2)
	(ii)	Consider whether the information provided suggests that there is a stable relationship between GDP growth and inflation rate from 2007 to 2014.	(3)
		<p>Answer:</p> <p>Theoretically, GDP growth rate and Inflation rates should have a direct relationship. As more goods and services are being produced, there will be upward pressure on prices due to higher factor prices. [1]</p> <p><u>Explain the general trend</u></p> <p>The information provided generally supports the relationship as it shows that as GDP growth slowed from 14 % to 7 % the inflation rate decrease from 5% to 2%.</p> <p>Or</p> <p>When GDP growth is positive which means that GDP is growing, inflation rate also tends to be positive which means the consumer prices are increasing.</p> <p><u>Explain the exception</u></p> <p>However, there was an increase in inflation rate from 2010 to 2011 even though the GDP growth decreased (Student may also pick the other exception from 2008 to 2009). For most years the direct relationship holds true, and the exception might have been due to factors such as productive capacity expansion. [1]</p> <p>Or</p> <p>However, in 2009, when GDP growth is positive, inflation rate is negative which means the general price level decreases.</p>	
(b)		What conclusion would you draw from table 1 about the economic performance of China between 2007 and 2013?	(4)
		<p>Answer:</p> <p>Economic performance can be measure in terms of stability and growth.</p> <p>China's GDP growth remained positive in both 2007 and 2013, however the increase in GDP is decreasing. The quantity of goods and services produced in the economy still increases and material standard of living per person improves and this is supported by the increase in GDP per capita.</p> <p>Inflation rate have decreased to a generally acceptable range of 2-3% which was evident in 2013. This low and stable inflation promotes economic certainty which allow firms to plan for the long term and encourages investment.</p> <p>China's current account surplus decrease by 48% and this might be due to a fall in demand for China's exports which leads to a fall in export revenue. The import expenditure might also be increasing as the Chinese experience increase in purchasing power and demand for imports increase. This falling surplus might mean that China's exports are becoming less competitive possibly due to the gradual appreciation of the RMB.</p> <p>China's unemployment rate increased slightly from 4% to 5%. This would signify that more workers are unemployed and have less purchasing power leading to a lower material standard of living with less quantity of goods and services</p>	

## 2015 H1 Economics Prelim Suggested Answers

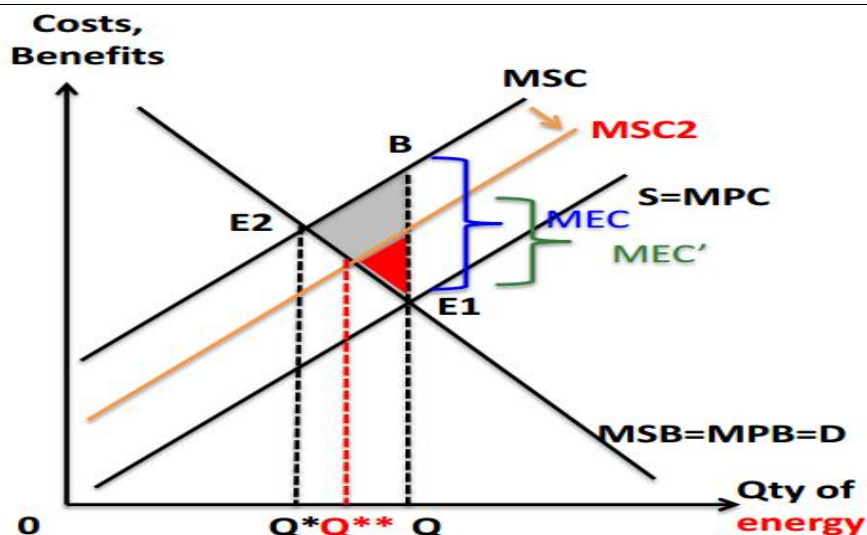
		<p>purchased. However, being such a huge country, there might be substantial search unemployment and an unemployment rate of 4-5% might not indicate that the economy is performing worse.</p> <p>Overall, China's economic performance worsened from 2007 to 2013 but it still can be considered healthy as supported by most macro-economic indicators above.</p> <p>Limitation: lack of BOP data as Balance of payments also includes capital and financial account and such information is not available in table 1 &amp; potential information failure about accuracy of given data.</p>	
(c)		Using AD/AS analysis, explain how "if prices fall far enough and long enough, the economy could spiral into a worldwide recession." (Extract 4)	(4)
		<p>Answer:</p> <p>Evid: "when people expect prices will fall in the future, they will spend less in the present" &amp; with deflation, prices of goods fall and total revenue of firms will fall, and knowing this, firms are discouraged from making investments (Ext 2) → I and Cd decreases → AD decreases (Explain adjustment) → NI Fall.</p> <p>PP power of one country citizens fall, they demand less of imports from other countries → other countries export demand fall and export revenue decrease and their national income fall → worldwide recession.</p>	
(d)		Comment on the view that "growth has been an extraordinary achievement; but has come at great cost to China". (Extract 6)	(6)
		<p><u>Development 1</u></p> <p>Explain the extraordinary achievement of growth: AD increases → real output increase → greater quantity of goods and services → increase purchasing power → improve material SOL</p> <p>Evidence: <i>China's gross domestic product (GDP) grew at around 10% per year on average, 2 hundreds of millions of people were lifted out of poverty.</i></p> <p><b>EV:</b> "extraordinary" achievement → extent of increase in AD is likely to be large since economic growth is likely to be large → real output increase to a large extent which lifted millions out of poverty because they experience large increase in income and purchasing power.</p> <p><u>Development 2</u></p> <p>Cost of economic growth (pollution [quality of life]) → substantial pollution from the production of goods and services which takes a "severe toll on the health and well-being of its people" as stated in Ext 6. As a result of production of goods, factories release waste into the rivers → third parties such as villagers nearby may fall ill and incur medical cost without any compensation from the factories' owners → marginal social cost exceeds marginal private cost → overallocation of resources → deadweight loss → great cost to China.</p> <p><u>Conclusion (Direction word is comment, must remember to give evaluative comment)</u></p> <p>EV: Depends on ability of the Chinese government to mitigate the cost of economic growth. – The central government is very powerful and strong in</p>	

		implementing its legislation to reduce pollution such as reducing the number of cars on the road. It also has the necessary fiscal spending power to implement technological solutions through its state own firms to reduce pollution in many industries. However, they may not be willing to curb the pollution cost if it deters significant investment in the country which will curb excessive economic growth.	
(e) i		Using the information in Extract 5, explain the possible changes in relative importance of the key components of the circular flow of income in China. (3)	
		<p>Answer:</p>  <p>Circular flow of income diagram+ definition  <u>Explaining the changes in components within circular flow of income in determination of China's NI</u>  Export revenue is likely to become less important in future as supported by the extract which mentions that China can no longer depend on the conventional cycle of a robust rebound in global growth that has sustained its export-led growth model since the 1990s." This is because of weakening economic growth in Europe.  The importance of investments in determining national income in China is also expected to decline as their share of 45% of GDP is unsustainable as mentioned in Extract 2.  Consumption is likely to become more important as China reduces its dependency on exports and focus on their transition to a pro-consumption economy.</p>	
(e) ii		To what extent do you agree with the view that China's export and investment led growth is no longer sufficient to ensure "China's long term economic prospects" (Extract 6). (8)	
		<p><b>Introduction:</b>  Long term economics prospect here refer to</p> <ul style="list-style-type: none"> <li>• sustainable,</li> <li>• productivity driven and</li> <li>• inclusive economic growth</li> </ul> <p>in order to effectively address issues of changing comparative advantage, natural resource constraints and efficiency concerns in Extract 3.</p>	



	<p>China's export and investment led growth is sufficient to ensure growth in the short run but might be insufficient to ensure China's long term economic prospect. It does not address some challenges such as falling growth in US and European economies, natural resource depletion and efficiency concerns. Therefore, other growth strategies such as productivity driven growth is required.</p> <p><b>Thesis:</b> Previous growth strategy (<b>I and X led economic growth model</b>) is sufficient because long term growth is <b>still possible but is unable to ensure sustainability</b>.</p> <p><u>Explain how an increase in I and X can lead to increase in AD and AS in LR</u></p> <p>In the short run, an increase in investment and export revenue will lead to an increase in aggregate demand as Investment spending is a component of aggregate demand which is <math>AD = C_d + I + G + X</math>. The increase in AD will lead to a multiplied increase in national income through the multiplier process. As AD increase from AD1 to AD2, real output increase from Y1 to Y2.</p> <p>In the LR, there will be a greater accumulation of capital goods due to the increase in investment. This leads to an increase in the quantity of resources in the country. With a greater quantity of resources in the economy, productive capacity of the economy increases. The increase in AS will lead to a further increase in real output from Y1 to Y2 and create sustained economic growth.</p> <p>However, sustained growth does not result in sustainable growth. The sustained growth often compromises the living standards of future generations as it leads to huge environment cost as explained in part d.</p> <p><b>Anti-Thesis: Previous growth strategy is no longer sufficient and warrants other strategies/ approaches such as productivity driven and consumption led growth although these other strategies/ approaches are not entirely fool proof</b></p> <p><u>Possible Anti Thesis 1</u></p> <p><b>Other strategies are required to ensure China's long term economic prospects. Linking sentence to consumption led approach through explaining the limitation of current approach:</b></p> <p>Limitation: Since developed countries such as the US are slowing down in their economic growth and this will reduce the increase in china's export revenue and hence China's economic growth will be increasingly affected by volatility in the US growth due to globalisation.</p> <p>In light of the limitations, <b>consumption led growth</b> is important to enable China to reduce dependency on external factors for growth. (2<sup>nd</sup> approach)</p> <p>Although China has a huge domestic market, its savings rate is rather high due to "inadequate social safety provisions" because households save excessively as a precaution for health and education. In order to ensure China's long term economic prospects, it needs to introduce more social safety provisions to reduce savings and increase both the size of domestic consumption and the multiplier size to increase effectiveness of its fiscal policies to increase growth and reduce dependence on export led growth.</p>	
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	<p>EV: Due to the “Pro-savings mindset”, they may find it difficult to change the size of the multiplier and such policies is likely to take a long time for behaviour change to take effect.</p> <p><b>OR</b></p> <p><b><u>Possible Anti Thesis 2</u></b></p> <p><b>Linking sentence to Productivity Driven approach through explaining the limitation of current approach:</b></p> <p>Since developed countries such as the US are slowing down in their economic growth and this will reduce the increase in china’s export revenue and hence China’s economic growth will be increasingly affected by volatility in the US growth due to globalisation.</p> <p>Therefore, in order to sustain long term economic prospects, China’s need to change its growth strategies to a <b>productivity driven</b> one (3<sup>rd</sup> approach):</p> <p>a. Evidence: “develop high-value, high-technology and services industries, to innovate, and to lift hundreds of millions more people out of poverty through urbanisation, employment, and expanded social services”.</p> <p>With increase productive driven investment by “developing high-value, high-technology and services industries and to innovate”, it will increase AD in the short run from AD1 to AD2 and it will also increase aggregate supply in the long run from AS1 to AS2 due to increase in productivity capacity brought about by technological advancements. There will be an increase in real output and this leads to an increase employment for everyone as it can “lift hundreds of millions more people out of poverty”. Chinese citizen would enjoy an increase in purchasing power and increase SOL. Inclusive growth for everyone as dollar votes of everyone increases and this may help to reduce inequality</p> <p><b>OR</b></p> <p><b><u>Possible Anti Thesis 3</u></b></p> <p><b>Linking sentence to sustainable growth approach through explaining the limitation of current approach(issues of environmental sustainability):</b></p> <p>The investment and export led growth also does not take into account the environment cost and negative externalities involved as stated in part e.</p> <p><b>Analysing and evaluating sustainable growth approach.</b></p> <p>High tech industries and services might also help to reduce the MEC and result in sustainable growth by reducing the impact on the environment by reducing the amount of carbon emissions during energy production through high end technological equipment. The MEC of producing energy might decrease from MEC to MEC’ and this leads to a decrease in the marginal social cost from MSC1 to MSC2, the socially ideal quantity increase from Q* to Q**. The overconsumption and overproduction is reduced to Q**Q. The deadweight lost is reduced as well. (Analytical)</p> <p>However, it might be difficult to induce the firms to research on cleaner production methods of technology as they will need to incur a high cost of research and reduce their profits and it is with no certainty that their research will be successful.</p>	
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**Conclusion(1m):**

1. Depends on ability of US and European government to improve their economy. If the US and European economy can improve their economy, then China can still rely on export led growth in the short term, however, greater dependence creates greater volatility which is undesirable for China's long term prospects.
2. Depends on the amount of MEC and inequality. → highly unlikely that current growth strategy is sufficient as current amounts of environmental pollution is very high and is unsustainable and current environmental policies such as mitigating road usage or moving factories further from cities are insufficient as the current approach does not treat the root cause which is their approach towards economic growth.
3. Depends on the amount of spare capacity → might not have spare capacity in terms of labour → already signs of rising wages and some industries and investments have started to move away from China. Investments led growth is unlikely to continue to be sufficient as China's attractiveness as a cheap manufacturing hub might wane in the long term.

Level	Knowledge, Application, Understanding, Analysis	Marks
L3	For an answer that comprehensively analyses strategies to ensure China's long term economic prospects with evaluative comments	7-8
L2	For an answer that inadequate analyses strategies to ensure China's long term economic prospects with evaluative comments	4-6
L1	For an answer that is largely descriptive in nature and/or contains conceptual errors or theoretical answer that does not relate to the case material	1-4
	<b>Allow up to 2 additional marks for evaluation</b>	
E1	For an unexplained judgment, or one that is not supported by economic analysis	1-2

### **Essay 3**

Like many societies, Singapore attempts to solve the central economic problem by improving the standard of living of her citizens. Two key challenges that Singapore faces are dealing with an ageing population and pushing productivity gains.

a) Using the concept of opportunity cost, explain the central economic problem that the Singapore government will have to solve. [10]

### **Introduction**

#### **Identify the central economic problem – Scarcity**

All societies including Singapore face the same fundamental problem of scarcity. There are unlimited wants e.g. higher levels of consumption that all Sg citizens desire but limited resources in terms of the limited land, natural resources, capital and labour available in the country. Material well-being which is measured by the amount of goods and services consumed by an individual and non-material well-being to measure one individual's quality of life.

### **Development 1**

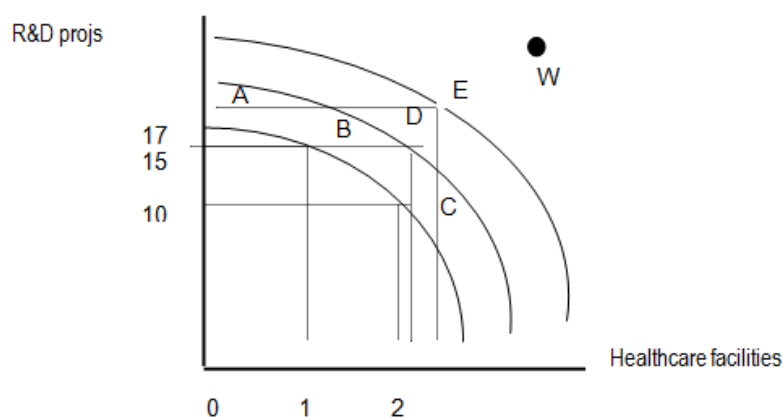
#### **Using the PPC, Illustrate the concepts of scarcity, choice and opportunity cost**

Scarcity is implied by the combination of output that is desirable but currently unattainable e.g. Point W given the country's present amount of resources. Since resources are limited but wants are unlimited, choices have to be made by the Sg govt in deciding how to allocate resources that would ultimately bring about increases in standard of living for its citizen. In deciding how resources should be allocated, they have to consider what to produce with the limited resources, how to produce them and for whom to produce the goods for.

In making these choices, alternatives have to be foregone. Opportunity cost is then defined as the highest-valued alternative that has to be sacrificed when an option is chosen. For instance, if the Sg govt decides to allocate more resources into building healthcare facilities such as hospitals, clinics and hospices for the needs of the ageing population, lesser resources are therefore available for investing into R&D projects to increase productivity gains.

Lets assume that Singapore faces a fixed amount of resources and the country produces only 2 goods – R&D projects and healthcare facilities and there is full utilization of resources in the country, it'd face a Production Possibility Curve as shown in Figure 1.

Suppose initially Sg were to produce at point A, where all the resources are channeled to R&D projects and none for production of healthcare services, as shown in Figure 1. If this economy were to change its stance and build one more healthcare facility instead, 2 units of R&D projects would have to be given up.



Sg govt also faces increasing opportunity costs as they seek to produce more units of either good. For the second healthcare facility to be built, an additional 5 units of R&D projects would have to be forgone. This is because in reality, resources are not perfectly substitutable, resources that used in producing healthcare facilities are not equally skilled in working on R&D projects. Therefore, as more and more resources are transferred from the production of R&D projects, they will be increasingly less skilled, resulting in the PPC being more steeply sloped from left to right.

## **Development 2**

### **Link to any aspects of standard of living**

Sg govt can choose to produce any combinations of healthcare facilities and R&D projects on the PPC as explained above. When the govt invests in R&D projects across various industries, this can lead to creation of better technology or process innovation to take place, which increases efficiency as more goods and services can be produced in the future.

For example, in choosing to produce more consumer goods, in this case healthcare facilities at Pt C, the country gives up producing some capital goods(R&D projects). This means that the country will enjoy a higher current standard of living by forgoing a higher future standard of living. This is shown as the PPC will expand by a smaller extent to PPC2 instead of PPC3 where Sg will produce and consume at a Pt D instead of on a Pt E.

Non-material wellbeing will also improve as the availability of more healthcare facilities means that individuals will have more access to healthcare services which therefore increases their life expectancy, indicating an improvement in their quality of life.

## **Conclusion**

In making these choices above, the Sg govt will incur opportunity costs.

Level	Description	Mark Range
L3	Key concepts like scarcity, choice and opportunity cost explained fully, with clear reference made to the context of resource allocation and linking to standard of living.	7-10
L2	Key concepts like scarcity, choice and opportunity cost explained with some reference made to the context of resource allocation.	5- 6
L1	Explanation of scarcity, choice and opportunity costs with some inaccuracies in the explanation of concepts or inability to link the concepts together	1 – 4

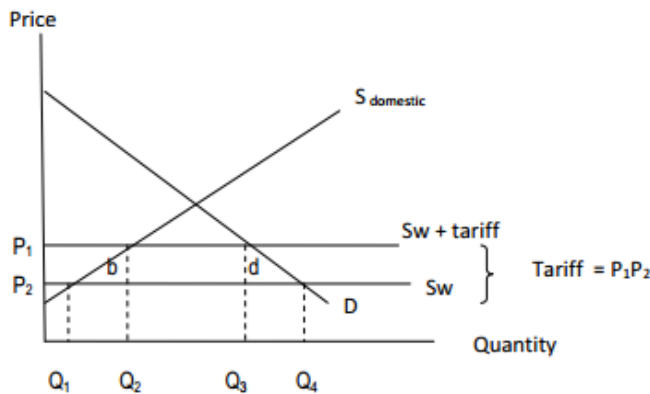
b) Discuss the view that a government should protect its potential key industries despite the benefits of free trade. [15]

**introduction – Explain challenges brought about by free trade**

- Increased trade has created an unequal level playing field for potential domestic firms to enter the international market as established foreign firms, usually having more market share, are more efficient in producing their goods given the extensive network of suppliers they have.
- Some industries may have potential comparative advantage which can be exploited but is currently in its infancy with limited technological know-how and a small market share, therefore, governments may wish to protect these key industries as with the realized comparative advantage, this can help to bring benefits to the macroeconomy.

**Thesis- A government should protect its potential key industries to achieve competitiveness and employment**

- A tariff is a tax on imports that artificially raises the price of imports. The government restrict imports so as to increase the qty demanded for locally produced import substitutes.
- Referring to the diagram, before tariff at world price  $P_w$ , country imports  $Q_1Q_4$  and domestic output is  $Q_1$ . Imposition of tariff of  $P_1P_2$  raises the unit COP of foreign firms, which raises world price to  $P_1$ . There is a decrease in imports to  $Q_2Q_3$  as consumers switch to consuming relatively cheaper domestic goods, hence increasing in domestic production from  $Q_1$  to  $Q_2$ .



- The output increases from  $Q_1$  to  $Q_2$  under protection, allowing the potential firm to have a greater domestic market share and hence, it is given time to grow and acquire the technological know-how in production.
- At the same time, with the increased production, this will lead to an increase in demand for labour  $\rightarrow$  increasing employment levels in the country
- Eventually the infant industry may be competitive enough in the international market as its unit COP falls and its price is lowered. The industry with realised CA could possibly move on to export to other countries and generate economic growth, higher income and greater employment for the country. Successful cases of protecting key industries can be seen in the case studies of South Korean car industries where Hyundai & Kia have successfully gain substantial market share in the international car market.

Effectiveness of the tariff in increasing domestic production:

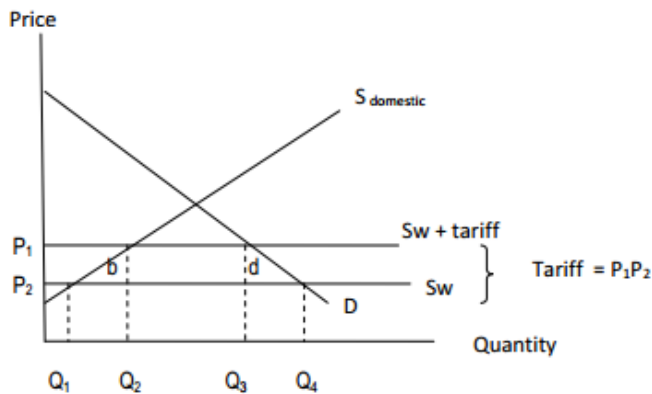
- If PES for the good is less than 1 due to lack of availability of raw materials/inputs, production of the good cannot be increased easily therefore increase in price will not lead to substantial increase in domestic output.

Limitations:

- Difficulty in identifying the right infant industries. High cost incurred with wrong identification of industry as it leads to a long-term loss of consumer welfare and misallocation of resources.
- Politically difficult to remove protection once firms are used to their protected status. Moreover, protection may increase the firms' inefficiency and dependency on a ready domestic market. Such is the case of Malaysian car company, Proton, that failed to gain entry into the global car market despite years of protection.

**Anti-thesis – A government should not protect its key industries due to the drawbacks of protectionism which reduces the gains to trade**

- 1) Significant welfare loss as a result of tariffs



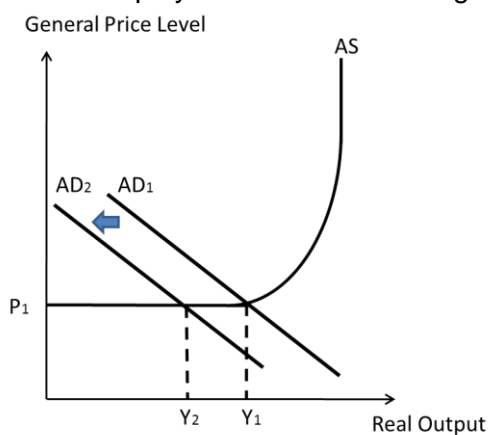
- When imposed, tariffs have the impact of reducing the supply and raising the equilibrium price of the import. This would increase the price to domestic consumers from  $P_2$  to  $P_1$ . Consumers will have to pay a higher price of  $P_1$  instead of  $P_2$  under free trade which results in loss of consumer surplus. There is also a welfare loss to society of area  $b+d$ .
- This will also mean lesser variety of goods and services to be enjoyed by the domestic consumers. This reduces the gains from trade that consumers would have previously enjoyed.

2) Inefficient allocation of resources → reduced economic inefficiency

- High opportunity cost incurred with employment of protectionist measures. Funds channeled into monitoring adherence of protectionist policies could have been diverted to better alternatives such as education and healthcare.

3) Retaliation from trade partners

- Protectionist practices might warrant retaliation from trade partners - by imposing trade restrictions such as tariff/quota on the country's exports. AD falls from  $AD_1$  to  $AD_2$ , leading to lower real output from  $Y_1$  to  $Y_2$ . This lead to lower production for the country and lead to loss of jobs in export-oriented industries. Unemployment increases while economic growth decreases, which reduces the gains from trade where with trade, countries will gain from greater export revenues hence create more employment and economic growth.



Conclusion



Protectionism is justified as long as it brings about greater efficiency and welfare gains in the economy. However in the long-run, prolonged protectionism tends to encourage dependency on the measure and it usually brings about greater welfare loss and inefficiency. Moreover, the protected domestic industry is likely to have lost comparative advantage and will require lots of resources, that could have been allocated elsewhere to support it. In the case for developing infant industry, the impact of is not immediately felt, and the long term benefits of realising potential of infant industry is highly uncertain and dependent on whether the right industry is selected. Attempts to identify and protect infant industries in countries such as Malaysia failed to realise substantial benefits.

Hence, protectionism is not a viable long term solution as the costs and inefficiencies generated far outweigh the benefits. Another viable option governments can pursue over the long term is to invest in retraining to increase the mobility of workers. This solves the root cause of the problem by reducing structural unemployment brought about by globalisation and minimise its negative impact, without relying too heavily on protectionism in the long run.

<b>Knowledge, Application, Understanding and Analysis</b>		
L3	A well developed and balanced argument on the advantages and disadvantages of protectionism in the context of free trade demonstrating application of economic analysis and theories.	9-11
L2	For an underdeveloped answer on protectionism that lacks scope and depth.	6-8
L1	An answer that shows unexplained knowledge of free trade and protectionism.	1-5
<b>Evaluation</b>		
E2	For well supported judgement.	3-4
E1	For unexplained evaluative statements.	1-2

#### Essay 4

The global economic outlook is likely to remain uneven across countries. Advanced economies are expected to see a pick-up in growth, emerging markets and developing economies are projected to see slower growth.

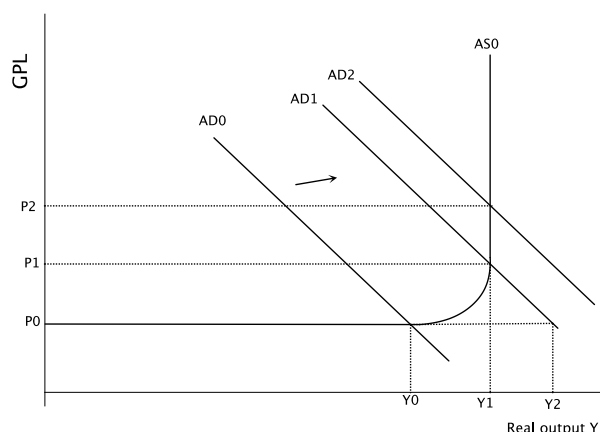
- a) Explain the potential trade-offs in macroeconomic goals that governments face in the pursuit of high and sustained economic growth. [10]

#### Introduction

When high and sustained economic growth is achieved in the economy, this means that citizens in the economy will enjoy increases in their purchasing power through higher real GDP/capita, allowing them to consume a greater quantity of goods and services, leading to higher material SOL.

#### **Development 1a – Achieving high EG will lead to lower unN, but will conflict with aims of low and stable inflation as it causes DD-pull inflation**

- Any expansionary policy, such as monetary policy (fall in interest rates) to achieve economic growth and result in lower DD-deficient unemployment, but can cause demand-pull inflation
  - Decrease in  $i/r$  will lead to lower cost of borrowing → firms face an increase in the returns to their capital investments → greater incentive to increase  $I$
  - Decrease in  $i/r$  leads to lower cost of borrowing for consumers → consumers more likely to borrow to consume durables requiring borrowing for expenditure → greater incentive to increase  $C$



○ Since  $AD = C + I + G + (X - M)$ , increase in  $C$  and  $I$  will increase  $AD$   
 At the original price level  $P_0$ , a shortage of  $Y_0Y_2$  exists in the economy → firms face an unplanned decrease in inventories → increase output by hiring more factors of production (labour) → increase the demand for labour in the macroeconomy → real output of the economy increases from  $Y_0$  to  $Y_1$ , the general price level raises from  $P_0$  to  $P_1$

- However, if  $AD$  were to further increase to  $AD_2$  due to loose monetary policy usage, there will be no increase in real output as the economy has already reached its productive capacity. This increase in  $AD$  will only serve to bid up factor prices (wages) as firms increase their demand for labour → This drives up wages in the economy, leading to higher unit costs for the firms and therefore higher prices charged → the general price level rises to  $P_2$  → demand-pull inflation

#### **Development 2 – If rising inflation rate is greater than trade partners, then current account in balance of payments may worsen**

A relative rise in inflation (a fall in the country's internal value of money) would cause the country's exports to become relatively more expensive compared to other country's' exports, while imports become relatively cheaper compared to domestically produced goods. Higher export prices in international markets would lead to a lower quantity demanded of exports.

Receipts from exports will fall assuming that the demand for exports is price elastic. On the other hand, imports become relatively cheaper, resulting in domestic consumers increasing their demand for imports and hence payments for imports rise assuming that the demand for imports is price elastic. Thus, a relatively higher inflation in comparison with other countries will worsen the current account balance. Hence, inflation will cause the balance of payments of a country to worsen. **OR**

**Development 2 - Achieving higher economic growth can also lead to a possible worsening of the BOP**

When citizens of an economy experience higher purchasing power, some of these increases in purchasing power could be directed to greater consumption of imported final goods and services, assuming they are normal goods. This increase in import expenditure will lead to a worsening of the balance of trade, and subsequently the current account on the BOP, ceteris paribus.

**Development 3 – Greater economic growth may lead to greater unemployment rates**

In achieving high and sustained economic growth, a country may experience greater structural changes as businesses and firms adapt to changing comparative advantages worldwide to remain competitive. Examples could be a shift towards greater capital-intensive or technology-intensive production. The shift towards greater capital-intensive production could possibly lower the demand for labour, while the shift towards technology-intensive productions may lead to some workers' skills and knowledge becoming obsolete. Both will lead to greater unemployment in the economy (the former leads to DD-def unN while the latter leads to structural unN)

Explaining for structural unemployment: in the usage of SS-side policies in moving towards technology-intensive production → e.g. subsidies to boost R&D → better process innovation → usage of better machineries to increase efficiency → as such, this usually happens for manual assembling work where mechanization would greatly reduce the need for workers to work on the task → causes structural unemployment to occur as these workers with low skills get displaced by use of machinery/technology and are unable to find similar jobs elsewhere

**Conclusion**

These potential trade-offs occur in the short run and are likely to occur depending on the choice of policy tools chosen by the govt and whether the economy is operating very close to full capacity. E.g. if the economy is working with a lot of spare capacity i.e. on the flat portion of the AS curve then there is not likely to be any conflict with inflation goal since additional resources can be diverted into production without bidding up the prices of these resources.

Knowledge, Application, Understanding and Analysis		
Level	Descriptor	Mark
L3	For an answer that <u>analyses</u> at least two macroeconomic conflicts that may arise.	7-10
L2	For an answer that <u>explains</u> one macroeconomic conflict that may arise.	5-6
L1	For an answer that demonstrates some understanding of the macroeconomic conflicts.	1-4

- b) Discuss the effectiveness of using exchange rate as a policy tool to achieve both low inflation and economic growth in Singapore. [15]

### Introduction

Singapore is vulnerable to imported inflation as we are a small and open economy that lacks natural resources. As such, we have to import raw materials, intermediate products, and final goods and services as we lack the resources to acquire them on our own.

We use the exchange rate policy to curb imported inflation by enacting a gradual appreciation of the SGD. The Monetary Authority of Singapore (MAS) does this by buying SGD and selling foreign currency on the foreign exchange market, causing the SGD to appreciate.

**Thesis: Exchange rate policy is effective in achieving low inflation and economic growth in Sg**

### Development 1a: Appreciating the exchange rate can help to reduce imported inflation

When we import raw materials and intermediate products for further production, any rise in prices of our trading partners's goods will translate to greater costs of production for SG's manufacturing businesses. This will lead to greater cost-push inflation due to the higher prices of imported inputs.

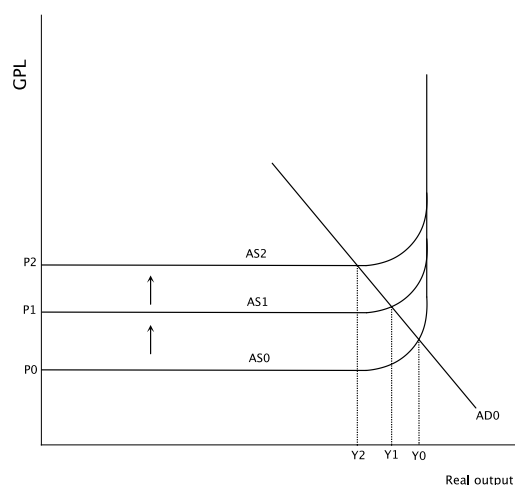


Figure 1

As firms experience increases in costs of production, this will lead to them supplying less goods and services. If all firms experience the same, then there will be a decrease in the aggregate supply of goods and services in the economy (as represented by AS0 falling to AS1 and further to AS2), leading to greater shortages of goods and services produced, as such driving up the general price level from P0 to P2.

Appreciating the exchange rate will lead to lower prices of imported inputs, and this will help to counter the effect of higher input prices, preventing the fall in AS from being too severe.

Imported inflation can also come from higher prices of final goods and services, and this may lead to greater consumer price index (CPI) inflation. Appreciating the exchange rate will also help to lower CPI inflation through cheaper prices of imported final goods and services.

**Evaluation:** Given that Sg lacks natural resources, it is heavily dependent on imported raw materials for production purposes and at the same time, imported final goods and services for direct consumption by consumers. This makes Sg more vulnerable to risks of imported inflation. Therefore, exchange rate policy is very effective in curbing this significant source of inflation in Sg.

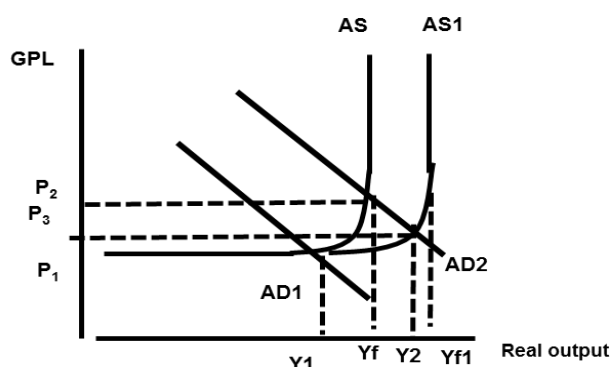
**Development 1b: Appreciating the exchange rate can also help to reduce demand pull inflation**

Effect on price on export and imports: A appreciation of the exchange rate will make the country's exports dearer in foreign currency and the country's import cheaper in the domestic currency. Relevance of the Marshall-Lerner Condition: As long as Marshall-Lerner condition holds, i.e. sum of price elasticities of exports and imports exceeds 1, appreciation of the currency will lead to overall decrease in net export revenue. If the sum of price elasticities of demand for exports and imports is greater than 1 (Marshall Lerner condition holds), a stronger domestic currency lowers net exports and reduces AD, thereby reducing demand-pull inflation in the country.

Evaluation: Given that exports make up  $\frac{3}{4}$  of AD in Sg, changes in export revenue will bring about a larger change in AD → hence exchange rate policy is very effective in bringing down GPL substantially

**Development 2: Achieving low inflation helps to boost economic growth**

In the long run, with stable prices maintained in the economy, this can bring about greater economic certainty and hence help to promote greater investments in the country as firms can better predict their future profitability levels and hence make future planning decisions to increase production levels etc. This will help to boost actual and potential economic growth in the country as AD and AS increase due to the increase in investments. Full employment level increases from  $Y_f$  to  $Y_{f1}$  and real output increases from  $Y_1$  to  $Y_2$ . At the same time, GPL falls to  $P_3$ , bringing about non-inflationary growth in the LR.



OR

Alternative thesis approach: Students can also explain how low inflation and economic growth can be achieved through depreciation

**Anti-thesis: Exchange rate policy is not effective in achieving both low inflation and economic growth**

**Development 3: Exchange rate policy is not effective in achieving low inflation**

**1) in the short run, Marshall-Lerner condition does not hold**

In the short run, export revenue may increase instead as  $PED_x$  and  $PED_m$  may be less than 1. This means that Marshall-Lerner Condition does not hold in the SR. Producers are held by contractual agreements and hence may not be able to find substitutes even with the increased export prices. At the same time, consumers may also have demand preferences and may not switch consumption to alternative cheaper imported goods. This will therefore cause AD to increase, hence increasing GPL instead.

**2) Other underlying root causes e.g. Structural Rigidities – Cost-push inflation**

High inflation can be caused by problems of structural labour rigidities, leading to cost-push inflation. A fall in short run AS occurs, GPL rises and cost push inflationary pressures ensue. Exchange rate policy will be ineffective in addressing this root cause as a supply-side policy such as education & retraining will be required to resolve the issue of factor immobility in the labour markets.

Workers receive relevant training in skills and become more mobile across industry enabling labour movement from sunset to sunrise industry. SS of labour increases in sunrise industry which causes a downward pressure on wages and reduces unit COP for producers. **Draw DD-SS Dig for Labour market of sunrise industry ( Double Shift case)** → draw initial increase in DD → result in higher wages  $W_1$  → draw subsequent increase in SS ( after training) → result in wages falling from  $W_1$  to  $W_2$  → unit COP falls → AS rises → GPL falls. Hence, when structural rigidities cause cost push inflationary pressure; supply side policies will be the most appropriate policy to achieve price stability.

**Development 4: Exchange rate policy is not effective in achieving economic growth**

**1) Other external factors**

Low and stable prices may not necessarily boost higher investment levels if cost conditions in other countries are more favourable than Sg. Lower wages in foreign countries is often an important determinant in attracting in foreign investments. This tends to be so in countries that are abundant in labour. As countries such as China get increasingly skilled in producing higher value-added goods, the relatively cheaper cost conditions may draw investments out of Sg and hence slow down our rate of economic growth.

**2) Conflicts with Econ. Growth**

As explained above, when appreciation of currency is used, the fall in AD will lead to a decrease in economic growth and an increase in unemployment instead.

**3) Other underlying root causes e.g. Increases in AS – Potential growth**

On its own, exchange rate policy is largely a demand-management policy that is aimed at influencing AD but not AS. This means that it is largely ineffective in bringing about sustained economic growth in the future.

As mentioned above, with increasing globalisation, Sg will face greater competition in maintaining our international competitiveness. This will hinder our ability to maintain sustained economic growth in the LR. Supply-side policies aimed at increasing productivity through investing in R&D maybe more effective in bringing about sustained economic growth in the LR.

**Conclusion**

Exchange rate policy is the most effective policy in Singapore to achieve low inflation and high and sustained growth. This is because low inflation is deemed by MAS to be the key macroeconomic priority given our heavy reliance on imported raw materials and final goods and services and hence the increased vulnerability to imported inflation being the main influence. In the longer term, low inflation can then bring about higher sustained growth as low and stable prices overtime will help to improve export- competitiveness and at the same time, stimulate business confidence through greater price certainty.

<b>Knowledge, Application, Understanding and Analysis</b>		
<b>L3</b>	For a well-developed balanced discussion of effectiveness of exchange rate policy with recognition of the context of Singapore.	9-11
<b>L2</b>	For an undeveloped discussion of effectiveness of exchange rate policy AND/OR without addressing the context of the question.	6-8
<b>L1</b>	For an answer that descriptively explains the various policy options with limited or no analysis.	1-5
<b>Allow up to 4 additional marks for Evaluation</b>		
<b>E2</b>	For an evaluative assessment based on economic analysis.	3-4
<b>E1</b>	For an unexplained judgement, or one that is not supported by analysis.	1-2