

ACJC Prelim: H1 Case Study 1 (Healthcare in China and India)

- (a) (i) **Compare the trend of health expenditure per capita between India and China from 2009 to 2013.** [2]

Similarity:

The health expenditure per capita in both China and India shows increasing trend from 2009 to 2013.

(Any) Difference:

China's health expenditure per capita is consistently increasing while India's fell once in 2012.

OR

China's health expenditure per capita is increasing faster than India's (94% versus 33%)

- (ii) **What conclusion would you draw from Tables 1 and 2 about the relationship between health expenditure and health outcomes? Explain your answer.** [4]

Explain relationship

We can conclude that there is a positive relationship between health expenditure per capita and healthcare outcomes. Higher per capita spending on health would lead to better healthcare outcomes as more spending on healthcare would mean people can get protected and treated against diseases and illnesses.

Explain evidence

China has a larger spending on health expenditure per capita than India and better healthcare outcome in terms lower mortality rate of children under 5 years old. This could be due to China having higher % of children whom are immunized against measles hence they are less likely to be infected and grow up healthily.

China has also better healthcare outcome than India in term of higher life expectancy at birth. A reason could be because China has better sanitation facilities than India which resulted in the Chinese being able to live more hygienically and less susceptible to diseases which resulted in higher life expectancy.

- (b) **Using demand and supply analysis, explain what you would predict about healthcare prices in China beyond 2015.** [6]

Increase in demand

- Increase in income: China's per capita GDP grew more than 25-fold from 1980 to 2011 (Extract 1)
- China will continue to experience slowing but still positive economic growth beyond 2015. There will be an increase in per capita disposable income, and assuming healthcare is a normal good, its demand will rise beyond 2015.
- OR change in demographics: By the end of last year China's elderly comprised 14 percent of its population. That figure is expected to grow to 25 percent by 2030. (Extract 1)
- As China's is expected to have an increased proportion of elderly and aged, there will be an increase in the proportion of population who need

healthcare, thus there will be an increase in demand beyond 2015.

Increase in supply

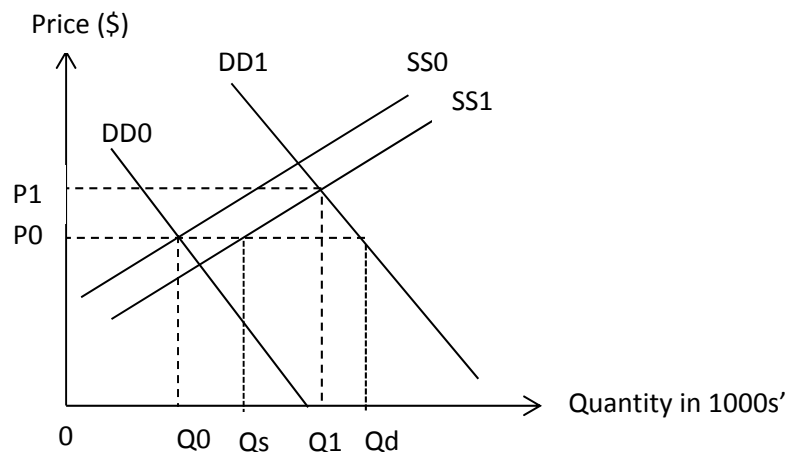
- Government policy: China will increase its healthcare subsidies by 19 percent this year/ reduce the cost of drugs and medical checks/ increase the availability of doctors (total number of doctors doubling by 2020) (Extract 1)
- Subsidies by the Chinese government / reduced cost of drugs and medical checks will lead to a fall in cost of production of healthcare and an increase in supply beyond 2015.
- OR increase in doctors: The increase in number of doctors can lead to an increase in number of clinics or healthcare facilities, thus increasing the supply of healthcare beyond 2015.
- OR Technology: Authorities will also use new technologies (Extract 1)
- The use of new technology will allow hospitals to use current resources more efficiently and be able to produce more healthcare services like surgeries and check-ups, leading to an increase in supply beyond 2015.

Relative magnitude of shift

- The government policies are still insufficient as these resources are likely to move into more lucrative sectors like cosmetics and cardiology, rather than the much-needed general family medicine (Extract 1)
- The increase in demand is likely to outweigh the increase in supply because the increase in demand due to rapid increase in income is reinforced by a large increase in demand due to the rise in the aged population.
- This is represented by the demand curve shifting to the right more, from DD0 to DD1 than the supply curve shifting from SS0 to SS1.

(Or any explained judgement)

Diagram



Price Adjustment Process

At original price P_0 , the new quantity demanded exceeds the new quantity supplied. The resultant shortage of $(Q_d - Q_s)$ will cause an upward pressure on price along DD1 and SS1 to clear the shortage.

Overall conclusion on prices

The equilibrium price for China's healthcare beyond 2015 is likely to increase, from P_0 to P_1 , since the increase in demand is larger than the increase in supply.

- (c) (i) **Illustrating your answer by reference to the data, explain how a positive externality can create a divergence between private and social benefits.** [4]

Identifying example

Positive externality is an external benefit enjoyed by third parties not involved in the consumption or production of a good, and is unpaid for.

In the health market, immunization against measles is a health service that exhibits positive externality. (Table 2)

OR

In the healthcare market, consumption of healthcare services, such as vaccinations, surgeries or even medication to keep one healthy can have spill over benefits to society and the economy (Extract 3).

Explanation of example: External benefit

Measles is a highly contagious disease and when an individual decides to get immunized by it, he reduces the probability of third parties around him contracting the contagious disease.

OR

A healthier individual is more productive, being physically present and well, and is able to produce a greater output for his employer.

OR

A healthier labour force can lead to a more productive workforce and attract foreign firms to invest, which enables a country to enjoy higher economic growth, with its citizens, even those who did not consume healthcare enjoying higher incomes.

Explanation of example: Private benefit

Individuals will not consider this benefit enjoyed by others as they aim to pursue self-interest and will only consider his private costs and benefits, such as his own health and comfort and the medical bills, when deciding whether to consume a measles vaccination.

Explanation of divergence

As $\text{marginal social benefits} = \text{marginal private benefit} + \text{marginal external benefit}$, the existence of positive externalities in the consumption of healthcare can lead to a divergence between private and social benefits.

- (ii) **Comment on the extent to which subsidies should be used as a means of increasing the consumption of healthcare in India.** [6]

Explanation of how a subsidy works to increase the consumption of healthcare in India

- A subsidy is a payment made by the government to producers in order to lower their cost of production.
- By subsidizing the production of healthcare, the supply will increase and equilibrium price lowers and equilibrium quantity increases. (OR the MPC of consuming healthcare will decrease)
- This higher equilibrium quantity of healthcare would mean its consumption has increased.

Weighing the extent of using subsidies

Large extent:

- Subsidies can be effective when it is well-targeted measure as it is able

to increase the consumption of healthcare directly. It is also well-received by producers and consumers, which is crucial as India is still a developing country and healthcare is an essential service for consumers to enjoy.

- India's current health expenditure is very low, even compared to China – another developing country (Table 1) and with poor health outcomes in terms of life expectancy and infant mortality as compared to China (Table 2). They perform poorer than Japan, a developed country and certainly need to increase spending on healthcare to achieve higher consumption as the country develops economically.

Small extent:

- Considerations of government budget (the size of the budget, trade-offs of other aspects like education and public goods). India is still a developing country with low national income and low tax revenue, and with many essential products like defence and education that require government spending. Constraints of the government budget may mean limited amount of subsidies can be provided, so consumption of healthcare would only increase by a small amount.
- Limited effectiveness of subsidy in increasing consumption of healthcare, given that the demand for healthcare is price inelastic. Consumption on healthcare may only increase by a small amount. Otherwise, a significantly large amount of subsidy is needed to bring about a substantial increase in healthcare consumption, which again strains the government budget.
- Many rely on herbal, alternative medicine and government programmes in rural health clinics as they do not know the importance of proper healthcare (Extract 4). Limited effectiveness of a subsidy as the cause of under-consumption may be imperfect information rather than the presence of positive externalities or inability to afford or access (rural areas). In this case, consumers may not be fully aware of the benefits of proper healthcare systems and its effectiveness, and instead are misinformed about the benefits of herbal and alternative medications.
- Subsidies alone may not be sufficient to increase the consumption as it needs to address the issues of the different standards and access to healthcare in rural and urban regions.
- Other policies can be more appropriate to increase consumption of healthcare: such as joint provision, especially in rural areas with poor access, education about herbal versus proper medication and legislation of compulsory measles vaccination.

Overall conclusion:

Given that the level of the current low level of government intervention and poor health outcomes, subsidies are certainly needed for the India government to increase the consumption of healthcare. However, while they can rely on subsidies to a large extent, the Indian government needs to use other policies as well to prevent a prolonged drain on their budget. Since they may be constrained by the size of their budget, they can choose to only subsidize services which create large positive externalities, or those that are crucial and necessary for survival. This will allow the Indian government to maximize the benefits of higher healthcare consumption given its budget.

Level descriptors		Marks
L3	Developed analysis of how a subsidy works, as well as well-explained considerations of some strengths and limitations of using a subsidy before coming to a conclusion about the extent of using subsidies.	5-6
L2	Weak analysis of how a subsidy works and its strengths and limitations OR Well explained but unbalanced, e.g. only explaining the strengths or limitations of a subsidy. Conclusion may be given, but not weighed. Answer was not in the context of India (no reference to case materials)	3-4
L1	Descriptive answer without good linkages in statement Did not understand question requirements e.g. giving a range of policies and comparing against each other.	1-2

(d) Discuss the impact of easing curbs on foreign investments in hospitals as mentioned in Extract 2 on China's current and future standard of living. [8]

Easing curbs on foreign investment in hospitals will allow the supply of hospitals to increase, as more private, international firms enter to offer medical services. This is also an increase in Investment at the economy level, and would lead to actual and potential economic growth in China.

There will be a micro and macro effect of this policy, and it should increase the current and future standard of living of the Chinese. Standard of living refers to the material goods and necessities, comfort and wealth available to a person. It comprises of the material aspect, which refers to the amount of goods and services one has at their disposal to enjoy, and the non-materials aspect which is a more holistic picture of their well-being: including health, income inequality and education.

Micro effect (DD/SS diagram optional):

This will lead to an increase in supply of healthcare, **fall in equilibrium price and increase in equilibrium quantity of healthcare**. There will be an increased consumption of healthcare, affordability and able to improve people's **health standards and thus improve non-material standard of living** in China.

Furthermore, it allows increased **variety and choice** for consumers, who will then be able to choose the hospitals that can better cater to their needs. For example, the public hospitals may begin to offer basic, necessary services like family medicine (Extract 1) which are kept affordable for the general population. On the other hand, the private firms, or especially international firms, can **specialize and focus** on more complicated healthcare services like cardiology and cosmetic surgery that are more expensive. This will allow the low income to be able to afford healthcare they need, and the higher income to pay for the quality they want. This differentiation also ensures a more **efficient and equitable allocation of resources** in the healthcare market, by ensuring both low and high income Chinese can enjoy healthcare.

Also, the **increased competition** between the private domestic and international firms may result in better quality services that allow consumers to enjoy health and an improvement in non-material standard of living.

The increased supply and availability of more healthcare services is important since there is a rising elderly population in China (Extract 1). The existence of a rural and urban population, which may suggest a differing income level and ability to afford healthcare, so domestic and foreign firms specializing in different types and quality of health services and thus differing prices of healthcare, can enable Chinese to afford the appropriate, basic healthcare services they need.

Nonetheless, a long period of time is needed for construction of these new hospitals and healthcare services and so in the current period, there may not be the desired effect of a lower price and higher quantity, so the non-material living standards will only improve in the future. Also, whether the introduction of new firms can really ensure better healthcare and living standards for the lower income depends on whether firms will then all choose to specialize in areas that can earn more, or choose to focus on different aspects of healthcare. The Chinese government needs to intervene and regulate the market, by ensuring that there is a better allocation of resources into the different types of healthcare services.

Macro effect (AD/AS diagram optional):

This will lead to an **increase in Investments** in China, and will increase the Aggregate Demand since I is a component of the AD. The increase in AD will cause an **increase in national income in China**. The higher demand for capital goods will lead to firms hiring more workers to increase production, hence higher national output produced and higher national income earned by these workers. The increase in national income will mean an increase in disposable income for the Chinese, assuming the increase in population does not outweigh the increase in national income. With higher real disposable income and greater output, Chinese citizens are able to purchase more goods and services for their consumption. This will improve their **current material standard of living**.

Furthermore, as investments represent an accumulation of capital goods that will enable them an increase in quantity of factors of production. Also, an increase in foreign investments can also lead to a transfer of knowledge and technology, which in total can **increase China's productive capacity**, and is seen by a rightward shift of the LRAS.

In addition, with more and better health services, the Chinese people would be able to achieve better health outcomes. The healthier workforce will be more productive, showing an improvement in the quality of labour. This will be able to **increase China's productive capacity** and is seen by a further rightward shift of the LRAS.

Furthermore, the healthier and more productive Chinese labour force would be able to attract more foreign direct investments, especially in the areas of manufacturing (Extract 3), which further means an accumulation of capital goods and will be able to **increase China's productive capacity** and is seen by a further rightward shift of the LRAS.

This means China will experience a higher full employment national output, and

allow her to enjoy non-inflationary economic growth in the future, if AD continues to increase. This means the Chinese will be able to enjoy higher disposable income and output in the future and thus purchase more goods and services for their consumption. The **future material standard of living** in China will also improve.

However, this increase in supply of healthcare providers may come with a lower quality of healthcare as firms aim to cut costs to lower prices and compete more. Overall, this may not signify an improvement in the standards of healthcare and thus health outcomes of the Chinese.

Also, this improvement in material standard of living and health standards in China does not necessarily mean the overall standard of living will improve. SOL includes other aspects of one's well-being. The higher national income may result in longer working hours for Chinese workers, which will mean less leisure time and time with families. Also, the increased production and construction means more energy is used, leading to higher carbon emissions, which may cause pollution and cause poorer health standards, worsening their non-material SOL.

Overall conclusion:

Overall, the easing curbs on foreign investments in hospitals will, to a larger extent, have a positive impact on China's current and future, material and non-material, in terms of health, standard of living. This is also dependent on how the China government regulates these new firms to ensure that there is an overall improvement in health outcomes for its people.

Level descriptors		Marks
L3	Developed analysis of how the ease of curbs on foreign investment will improve current and future standard of living. Answer has considered material, non-material (with some understanding of the healthcare market) aspects of SOL	5-6
L2	Undeveloped analysis of how the ease of curbs on foreign investment will improve current and future standard of living. OR Unbalanced but well explained answer: e.g. Considered material SOL or non-material SOL only, OR Considered current or future SOL only.	3-4
L1	Descriptive answer, without economic concepts. Did not understand question requirements	1-2
E2	Well-explained judgement about overall impact on various SOL aspects (with some reference to possible negative impacts)	2
E1	Unexplained or one-sided judgement	1

ACJC Prelim: H1 Case Study 2 (Japan and Greece)

(a) (i) **Explain the theoretical relationship between economic growth and public debt.** [2]

- There is an inverse relationship between economic growth and debt. When economic growth is positive and increasing, public debt should fall.
- As the country experiences positive economic growth, national income increases, income tax revenue increases while expenditure on unemployment benefits falls, thus reducing the budget deficit and in turn the public debt levels.

(ii) **How far does Table 4 demonstrate this relationship?** [3]

- The relationship is demonstrated in Greece in 2011 and 2013. During this period, GDP growth worsened while public sector debt was increasing as a percentage of GDP.
- However, the relationship is not demonstrated in Greece in 2012, where GDP growth was improving but public sector debt increased as a percentage of GDP.
- Conclusion: Thus the relationship is demonstrated in Table 4 to a large extent.

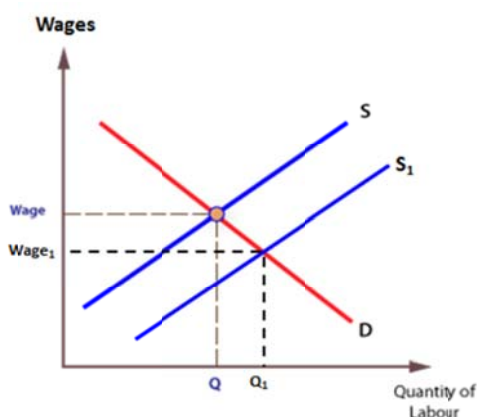
(b) (i) **What evidence is there in the data that real interest rate was negative in Greece?** [2]

- Real interest rate is nominal interest rate, adjusted to remove the effects of inflation
- From **2010 – 2012 (time period must be stated)**, the inflation rate as measured by annual % change in consumer prices was higher than the nominal interest rate. (Table 4)
- Therefore Greece had negative real interest rate from 2010 to 2012.

(ii) **Explain one adverse effect of negative real interest rate on an economy.** [2]

- Savings are discouraged leading to less loanable funds available in banks. This could reduce future investment levels and affect the potential growth of the economy in the long run.
- Savers suffer lost their returns to deposits, and instead, incur a cost for saving. This reduces their future income levels, therefore reducing future material standard of living.
- Negative interest rates if used in the long run may lead to overheating of the economy once it is out of recession. It may lead to high levels of consumption and investment which increases AD. This causes demand pull inflation if the economy is close to full capacity.

(c) (i) **Using a diagram, explain why the structural reforms identified in Extract 7 “have left many Japanese workers cautious about how Abenomics would affect wages”.** [3]



According to extract 7, the structural reforms include relaxing migration rules. This could lead to an influx of foreign labour into Japan, increasing the supply of labour.

- An increase in the supply of labour would result in a surplus of labour at the current wage rate. There would be a downward pressure on wages until a new equilibrium, with lower wages, is established in the market. Therefore the risk of falling wages would be a cause for concern for Japanese workers.

(ii) Assess the costs and benefits of the structural reforms on the Japanese economy. [6]

Explain the structural reforms:

- Refers to market oriented supply side policy
- Relaxing labour laws are likely to lower wages, which will lower cost of production for firms
- Technological innovations will also help to boost the productive capacity in Japan

Benefits:

- Lower wages → lower cost of production → increase in SRAS → growth in the economy
- Lower COP → attracts foreign firms to invest in Japan → increase investment → growth in both AD and LRAS → actual and potential growth + creation of jobs and lower unemployment rate (demand deficient unemployment)
- Exports also become more price competitive due to lower COP → growth in exports → actual growth and improvement of BOP (current account)

Costs:

- Japanese may suffer from lower wages due to the loosening labour rules. Existing employees may be fired more easily leading to loss of income. This could result in a fall in consumption expenditure by households and may lead to a fall in AD → fall in actual growth.
- Structural reforms may worsen the problem of deflation. Japan is already suffering from very low levels of inflation, with CPI growth falling below 0 in 2010 and 2011. Expanding the aggregate supply through structural reforms will lead to further fall in general price levels. This will cause Japan to be stuck in a deflationary spiral where consumers expect prices to fall further and delay expenditure. It also reduces business confidence in the economy, further reducing investment levels.

Synthesis:

- Structural reforms are likely to bring about more harm than good in the short run given that the current situation of Japanese economy is that of unhealthily low level of inflation and slow growth in Japan
- However, if used together with other demand management policies, such as the first two arrows of expansionary fiscal policy and quantitative easing (as mentioned in extract 7), it may be beneficial to Japan in the long run. This is because it targets the root problem of poor expectations in the economy.

Level	Descriptors	Marks
L3	<ul style="list-style-type: none"> • Well-developed explanation of both costs and benefits • Good reference to data and context given • Weighs the benefits and costs to come to an overall conclusion 	5-6
L2	<ul style="list-style-type: none"> • Underdeveloped explanation of costs and benefits of structural reforms • Developed explanation of either costs OR benefits • Some reference to the context given 	3-4

L1	<ul style="list-style-type: none"> • Descriptive answer lacking economic analysis • Points are largely irrelevant • Pure listing of points 	1-2
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(d) Identify and explain the type of unemployment experienced in Greece from 2010 to 2013. [4]

- Greece experienced demand deficient/cyclical unemployment from 2010 to 2013
- Evidence: Growth rate was negative from 2010 to 2013, indicating that Greece was suffering from a recession
- This indicates that aggregate demand was low and falling from 2010 – 2013. As AD falls, national output is falling. With less goods and services being produced, the economy would experience a loss of jobs, resulting in rising cyclical unemployment.

(e) In view of the large public debt, discuss what would be the most appropriate policy for Greece to achieve economic growth. [8]

Introduction:

- Explain debt levels in Greece: High level of debt (up to 156% of GDP). Debt is held externally which results in leakages from the economy when Greece repays its debt. This will then affect the BOP of Greece as there are more outflows than inflows, resulting in a loss of foreign reserves in financing its deficit.
- Explain current economic conditions of Greece –Negative economic growth (-3.9% in 2013), High Unemployment (27.3% in 2013), falling consumer prices which has brought about weak consumer and business confidence in Greece.

Body:

A) Austerity measure might be appropriate in reducing high government debt to pursue EG for Greece

- In light of the high government debt, austerity measures by cutting government spending and increasing taxes, seems more appropriate to reduce its debt level. However, this will be contractionary and will result in negative growth in the short run.
- Yet by reducing public debt levels in Greece, this may start to improve business and consumer sentiments which will increase C and I and increase AD and NY in the long run (Extract 5).

However, austerity measures will have a contractionary effect on Greece's economy and will result in negative growth in the short run. By cutting G and increasing T, this will cause a fall in AD and NY. Also, falling GDP will also cause debt-to-GDP ratio to look less favourable in Greece (Extract 5). Thus there is a need for more appropriate policies to generate economic growth in both the short and long run.

B) Expansionary DD-management policies are appropriate in using domestic demand to pursue EG for Greece even with the high government debt

- Expansionary FP by increasing G more than the contractionary impact of the sales tax (ie. fall in C & I) – describe mechanism & its net impact on AD
 - The impact: Rise in AD would promote the level of economic activity that leads to greater employment of resources (esp labour – derived dd) leading to a magnified rise in NY due to the multiplier effect, achieving economic growth.
 - Contextualisation/Link to the question:

However, the high government debt limits the scope of expansionary fiscal policy, thus make it inappropriate as it may worsen the situation where the debt increases further if the government expenditure is larger than the tax revenue that it collects.

- High debt levels are unsustainable in the long run as the government may not be able to pay back their debts.
- There is also a further strain on the budget due to the interest on borrowing that has to be paid back in the future. Therefore this may limit the government's spending in the future, and impeding future economic growth.
- Greece is already experiencing deflation and negative growth, which results in weak business and consumer confidence. In this context, reducing taxes will be ineffective as consumers and firms are unwilling to borrow and spend. The poor economic outlook encourages them to save instead.
- Increasing levels of debt also reduces business and consumer confidence (as mentioned earlier) and could in fact lead to a fall in I and C, especially if the economy experiences the crowding out effect when the government borrows from private banks.

But expansionary fiscal policy need not lead to a worsening of debt and hence it may still be appropriate. Since the economy is in recession, the government should not try to reduce its debt yet, but wait for the economy to recover, as growth will help to alleviate the debt levels.

Yet expansionary fiscal policy will still require government spending in the short-run, which might lead to the worsening of debt. Since monetary policy does not require government spending, it seems like an appropriate policy tool for the Greek government to use in order to stimulate aggregate demand.

ii. Expansionary MP:

- The impact: Rise in AD would promote the level of economic activity that leads to greater employment of resources (esp labour – derived dd) leading to a magnified rise in NY due to the multiplier effect—achieving actual growth.
- Contextualisation/Link to the question:
 - However in the case of Greece, it does not have control over its own monetary policy as it belongs to the Eurozone which shares a common currency –Euro, and the ECB determines the interest rate. Thus in Greece's case, it is unable to change its interest rate or exchange rate unilaterally.
 - Hence for Greece, its expansionary monetary policy would be implemented by relaxing loan obligations, giving more incentives for companies to borrow, making it easier for people to borrow money which will increase C & I.
 - At the same time, the current expansionary monetary policy which ECB is adopting is appropriate for Greece (Extract 6). Interest rate levels are at a very low level, which is hence supposed to encourage borrowing, increasing C & I, increasing actual growth.

However, as Greece is currently experiencing high unemployment rates and going through recession, the current consumer and business sentiments are very weak. As a result, using domestic demand to drive economic growth in Greece might not be very appropriate and thus Greece might need to use external demand to drive the economy instead.

C) Trade policies are appropriate in using external demand to pursue EG for Greece even with the high government debt

Currently as there is weak domestic demand, Greece should hence tap on external demand to drive economic growth by signing more FTAs and diversify its trading partners. This is to increase net exports, which will then increase AD and achieve higher growth rates. Also by

opening up new markets, this will encourage foreign direct investments that will also increase both actual and potential economic growth.

However, Greece needs to build up its domestic industries and develop a comparative advantage in various areas in order to benefit from trade. Thus there is a need for SS-side policies to increase productivity and upgrade the skills of its citizens.

D) Supply side policies may be more appropriate to achieve economic growth despite high government debt

- Given the high amount of debt, Greece's government is unable to use expansionary fiscal policies indefinitely.
- Greece should use SS-side policies to address the root problem of poor expectations in the economy in order to get out of the recession and ensure sustainable growth in the long run as well.
- Short run supply side policy:
 - The government can try to encourage more competition in markets through deregulation and anti-trust policies. This will encourage firms to be productively efficient and find lower cost methods of producing.
 - There will be an increase in SRAS and corresponding increase in national income
- Long run supply side policy:
 - The government can spend on skills upgrading or building infrastructure to develop a comparative advantage in certain goods and services.
 - This will help to attract investors into the country by boosting the confidence in the economy as well as increase export revenue into Greece.
 - Though spending is needed in the short run, it is not an indefinite increase in expenditure as the government can cut down spending once investment and consumption starts increasing.

For an economy like Greece which is facing a chronic govt debt, as well as falling economic growth, the odds are against Greece in being able to get the funds to incentivize retraining to enhance the labour productivity level or to generate adequate domestic demand to pursue EG of both types.

While some supply side policies may require spending by the government, they are able to solve the root problem in the long run and are more sustainable (Extract 6). These policies are more sustainable as they are self-financing. By channelling funds to training workers, this will increase productivity and generate higher income in the long-run. Hence even though these policies may incur higher spending in the short-run and worsen debt levels, this will generate higher income and economic growth in the long-run, which can be used to repay Greece's debt.

E) Synthesis/Conclusion:

In spite of Greece's high debt levels, it would be myopic to adopt austerity measures as this will hinder growth. But it would be more appropriate for Greece to use expansionary DD-management, trade and SS-side policies to achieve economic growth. Growth will also help to reduce public debt levels in the long run. As the country experiences positive economic growth, national income increases and as a result, income tax revenue increases. In the same way, through increasing tax incentives/concessions, this will increase the profitability of firms, which will also increase tax revenue and thus reduce budget deficit. Also, as the country experiences increase in economic growth rates, this will lead to higher production and hence higher

demand for labour, increasing employment levels. This will cause expenditure on unemployment benefits to fall, thus reducing the budget deficit and in turn, public debt level falls.

Hence in Greece's case the most appropriate policy measure is not simply a choice between dd-side or ss-side, but whether any macroeconomic policy measure undertaken by the Greek government would actually achieve any degree of EG that would create a positive ripple-effect (multiplier-accelerator effect) that would gain momentum to cure all the chronic components of the ailing economy albeit one at a time.

Level	Knowledge, Application, Understanding and Analysis	Marks
L3	<ul style="list-style-type: none"> Balanced and developed discussion of at least 2 policies to pursue economic growth for Greece (& how it might conflict with other macro objectives) Answer exhibits consideration of Greece's large debt Good reference to data and context given 	5-6
L2	<ul style="list-style-type: none"> Developed but one-sided discussion of at least 2 policies to pursue economic growth for Greece Undeveloped but balanced discussion of various policies to pursue economic growth for Greece Limited reference to Greece's large debt Limited reference to data 	3-4
L1	<ul style="list-style-type: none"> Descriptive answer lacking economic analysis Points are largely irrelevant Pure listing of points 	1-2
E2	<ul style="list-style-type: none"> Reasoned judgement on appropriateness of various policies for Greece based on a criterion for e.g Expansionary Fiscal Policy is unlikely to be the most appropriate in the long-run given that Greece already has high levels of unsustainable debt. 	2
E1	<ul style="list-style-type: none"> Unreasoned judgement of one policy being more appropriate to pursue economic growth for Greece 	1

3. (a) **Explain how the price mechanism allocates scarce resources in the free market.** [10]

(b) **Assess the ability of the price mechanism in allocating scarce resources efficiently.** [15]

Suggested Solution

Synopsis:

Candidates will show how the price mechanism works to allocate scarce resources in the free market. Candidates may use DD/SS framework for their analysis of the price mechanism, and explain how the three questions of allocation of resources are solved. Examples of how resources are allocated should be raised.

Introduction:

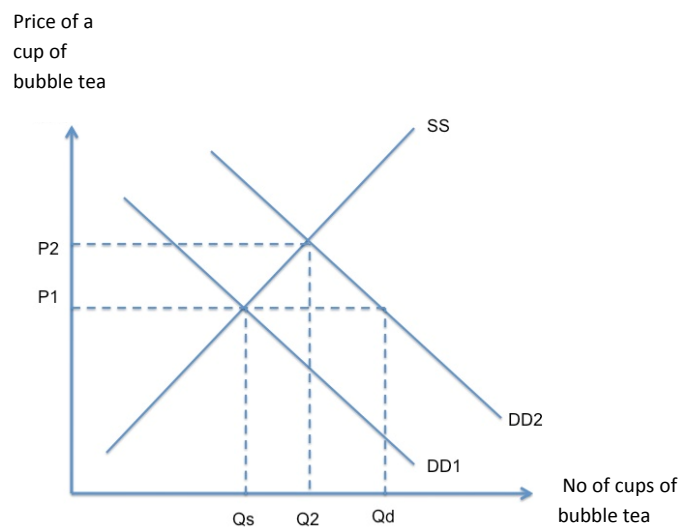
1. Explain the meaning of “free market” and price mechanism:
 - a. A free market is an economic system in which prices and wages are determined by unrestricted demand and supply forces, without government regulation or intervention.
 - b. Through the use of price signals, the price mechanism is the ‘invisible hand’ that guides goods, services and resources (Factors of production) to move to where they are most needed.
2. Explain why resources are “scarce” → unlimited wants but limited resources

Body/Analysis:

3. How the price mechanism works to allocate scarce resources in the free market:
 - a. The price mechanism serves as a signalling function for the free market.
 - b. Market prices of goods will adjust to changing demand and supply forces, and highlight to the consumers and producers where resources are required, and where they are not:
 - i. Increasing prices signal a need for resources to be employed into those markets;
 - ii. Falling prices will indicate that resources are not needed in that market, and thus will be re-allocated elsewhere.
 - c. In the free market, these market price adjustments serve to re-allocate the scarce resources towards producing goods that fetch the relatively higher price at that time. Such adjustments will then reduce unnecessary use of resources in producing the less valued/wanted goods;
4. 3 resource allocation questions will be answered as the price mechanism works its way through the market: What to produce, How to produce and For Whom to produce.
 - a. **‘What’ to produce:** The market would decide which needs or specific goods/services among the unlimited wants would be produced instead of the others. Usually these are goods which may signal the relatively higher prices due to their higher demand.
 - b. **‘How’ to produce:** Once producers have been given the signal by consumers on what to produce, they will engage in seeking factors of production and conduct production processes that are the most productively efficient. Producers may thus

choose production methods that could be labour intensive or capital intensive, depending on the overall costs that will be compared against the benefits derived.

- c. **'For Whom' to produce:** The free market system would decide who would ultimately get to enjoy these goods/services produced and usually it would be those who are willing and able to pay the prices of these goods/services. They might even bid for the goods at higher prices if they are willing and able to purchase it.
5. Illustration/Example of the price mechanism in action: the bubble tea market
 - a. *To answer the question of 'what to produce':* When there is rising demand for bubble tea (from $Dd1$ to $Dd2$), the price of bubble tea will rise (from $P1$ to $P2$) and this signals producers to produce more teas to meet the rising demand. More resources such as labour and capital will then be allocated to production of bubble tea.



- b. As shown from the above diagram, producers would react to the higher price by increasing the quantity supplied of bubble tea from Qs to $Q2$.
 - c. As the producer allocates more resources to the production of teas, he would try to increase production using lowest cost possible. The question of "How to produce" is answered through sourcing for the lowest cost teas and labour available. The firm would hence use the cheapest possible combination of resources to increase production of teas so that his profits are the highest.
 - d. *'For whom' to produce:* At the same time, as more people demand bubble teas, its price will rise. Consumers who can afford the higher prices of Bubble teas will leave the market. At the higher price, some people will not wish to consume bubble teas will leave the market.
 - e. Without government intervention, resources are allocated more efficiently towards production of bubble teas.
6. The price mechanism, when allowed to exist freely without any govt intervention, would be able to achieve **allocative efficiency**.

Conclusion:

7. The price mechanism works well without government intervention.

Knowledge, Analysis and Application		
L3	<ul style="list-style-type: none"> • Good explanation and analysis of the price mechanism PLUS a good account of the 3 questions of allocation of resources. • Candidates using demand/supply framework should show a complete analysis of how changes in demand and supply forces may lead to changes in resource allocation. • Candidates use an example to illustrate how equilibrium price and quantity is achieved through the price mechanism, and make some reference to resource allocation taking place. 	7-10
L2	<ul style="list-style-type: none"> • Sound explanation of the price mechanism but with insufficient or inadequate analysis of the 3 questions of allocation of resources. • Candidates might only provide token explanation for the questions of 'What to produce, how to produce and for whom to produce'. • Candidates may illustrate the working of the price mechanism or the dd/ss framework using an example of a good without making reference to resource allocation. • Sufficient explanation of the price mechanism using demand/supply framework without making reference to resource allocation 	5-6
L1	<ul style="list-style-type: none"> • Inaccurate explanation of price mechanism or mostly irrelevance in demand and supply analysis. • Not using demand/supply framework • Presence of major conceptual inaccuracies. 	1-4

(b) Assess the ability of the price mechanism in allocating scarce resources efficiently.

[15]

Suggested Solution

Synopsis:

Candidates will assess the ability of the price mechanism to allocate scarce resources efficiently. This is dependent on a variety of factors, and society might need the government to intervene to achieve allocative efficiency.

Introduction:

1. Define allocative efficiency:
 - The situation in which one could not be made better off without making some else worse off;
 - All resources are fully employed, and are being used to obtain the maximum benefit to the entire society.
 - Consumer and producer surpluses are maximised.

Body/Analysis/Evaluation:

2. Analyse how efficiency is achieved in the free market system, alluding to the details in part (a), where the price mechanism has already been explained.
3. Students should highlight that consumer surplus and producer surplus would be maximised, if the equilibrium price were to be achieved in the market. (A diagram on

maximum consumer/ producer surplus would be useful, if it has not been indicated earlier)

4. Allocative efficiency also means that maximization of welfare in the economy is achieved. At this point, the valuation of the good should be equal to the additional cost of producing the good ($P = MC$).
5. However, the ability of the price mechanism to allocate scarce resources efficiently depends on some conditions being present: *(students should highlight at least two reasons that show inefficiencies in the market)* firms are operating in a perfectly competitive environment and externalities (external costs and benefits) are not present, goods sold are rival and excludable.
6. **Imperfect competition in markets**
 - a. This exists when there are barriers to entry and products are differentiated. Firms in such markets may engage in some competitive behaviour, but due to the presence of barriers, they may acquire some level of market power, and their demand curve would be less than elastic.
 - b. Differentiated products also lead to firms' demand to be less elastic, and thus would have some ability to set a price that is greater than the market price.
 - c. The market would have thus failed to achieve allocative efficiency if the price is not at equilibrium. Resources would thus have to be allocated less efficiently in this case.
7. **Presence of externalities (positive & negative):**
 - a. The valuation of goods and services by consumers and producers are only based on self-interests; third-parties may be affected positively or negatively without having been compensated.
 - i. Explain external costs and benefits.
 - ii. This would mean that the overall costs and benefits to society are much higher than the market price that has been paid and received by consumers and producers respectively.
 - iii. Goods with negative externalities will be over-consumed; goods with positive externalities will be under-consumed. Thus, the market would thus have failed to allocate resources efficiently.
8. Some goods cannot rely on the price signals. These are called **public goods**.
 - a. Public goods are non-excludable and non-rival in nature.
 - i. Define non-excludable and non-rival.
 - ii. **Non-excludable:** it is not possible to exclude non-payers from consuming the good. There exists a free-rider problem in this case as consumers will not be willing to pay for the good.
 - iii. **Non-rivalry:** consumption of the good by one does not diminish the benefits and satisfaction by subsequent consumers. The provision of the good to additional consumers does not incur additional costs.
 - b. For these goods, consumers are able to consume these goods even though they have no intention to pay for it. There is no price signal, and this is a case of missing market. For example, the military defence forces.
 - c. As a result, the free market does not allocate resources for production of these essential goods. Allocative efficiency is not attained.
9. For all the cases above where the price mechanism is not able to allocate resources efficiently (situations of market failure), the government would have to intervene: *(not limited to these measures)*

- a. The govt may subsidise the low income groups for them to sufficiently afford basic consumption goods or goods with positive externalities like healthcare and education
- b. The government may impose indirect taxes on demerit goods or on goods with negative externalities like alcohol and cigarettes.
- c. These specific measures, if calibrated correctly, would help the market achieve efficient resource allocation.

Conclusion:

Left on its own, the price mechanism is not able to achieve efficient resource allocation, unless the above conditions are met. Intervention by the govt is then needed to achieve allocative efficiency most of the time.

Knowledge, Analysis and Application		
L3	<ul style="list-style-type: none"> • Candidates provide a comprehensive analysis of achievement of allocative efficiency by the price mechanism. • Candidates give a good account of sources of market failure (where price mechanism is not able to achieve efficient resource allocation) • Candidates show good analysis of both forms of market failures (externalities and public goods). 	9-11
L2	<ul style="list-style-type: none"> • Candidates are able to show that the price mechanism is not always able to achieve efficient allocation of resources • Candidates make some attempts to discuss allocative efficiency but lacked economic analysis of both forms of market failure. • Answers are not balanced and limited to just good detailed analysis of one form of market failure. 	6-8
L1	<ul style="list-style-type: none"> • Candidates have not discussed the reasons for the inability of the price mechanism to achieve allocative efficiency • Mostly inaccurate and irrelevant answers 	1-5
Evaluation		
E2	<ul style="list-style-type: none"> • For an evaluative assessment based on sound economic analysis. 	3-4
E1	<ul style="list-style-type: none"> • Evaluation without justification. 	1-2

4. (a) **Explain the consequences of a persistent and large balance of payments deficit on an economy.** [10]

(b) **Discuss the extent to which expenditure-reduction policy alone can be effective in correcting balance of payment deficit.** [15]

Suggested Solution

Synopsis:

Candidates will explain the impact of a persistent and large balance of payments deficit on the domestic and external facets of an economy.

Introduction:

1. Define and explain the make-up of a country's balance of payments (BOP): Current Account, Capital Account and the Official Reserves Account.
2. Explain the meaning of deficit in the BOP.

Body/Analysis:

3. Explain some reasons why the deficit BOP may be ***persistent and large*** in some cases:
 - a. Could be due to a deficit in the Current Account:
 - i. When the economy is continuously dependent on imported consumption goods; local production is insufficient to satisfy local demand for goods and services
 - ii. When the economy does not own natural resources and is dependent on imported raw materials for its production processes
 - iii. When there is insufficient demand for its exports – could be due to a relatively high rate of domestic inflation or relatively lower quality of goods as compared to its competitors
 - b. Could be due to a deficit in the Capital Account:
 - i. An unresolved economic or political crisis in the economy could also lead to persistent outflow of funds over a few years as foreign investors flee the country.
 - ii. Increasing investment overseas by domestic firms who seek expansion elsewhere that are not matched by an inflow of investment from overseas companies.
 - c. When the economy does not have sufficient reserves or it is unable to borrow from official sources to offset the deficit in the primary balance (deficit in current and/or capital accounts).
4. Analysis of the consequences an economy might face if a persistent and large deficit in the BOP is present:

(Students may incorporate the analyses below as a consequent of each of the reasons above)

 - a. Depreciation of exchange rate against other currencies, such that
 - i. Prices of imports increase → higher cost of living (due to high import prices) for domestic residents → lower purchasing power for residents

- ii. Investors' confidence may be negatively affected, and investment and employment may be significantly reduced. → Long-run AS (productive capacity of the economy) will shift left, indicating that their potential income is reduced.
- b. **Persistent deficit:** The country's reserves could be depleted if the country chooses to continuously support the weakening exchange rate → these reserves could be funds that could be used for future infrastructural development projects. → AS could be reduced
 - i. Overall, funds required to build the economy up for the future would be reduced, and potential inflows discouraged from being invested in the economy.
 - ii. Possibility of reducing imports in the future → ability to support production is affected negatively

Conclusion:

5. A persistent and large deficit in BOP can cause costs of living to increase and standards of living to fall in an economy. In the long run, the economy could face severe contraction in their economic potential and high unemployment.

Knowledge, Analysis and Application		
L3	<ul style="list-style-type: none"> Candidates give a well-written analysis and addresses the issue of "a large and persistent BOP" Candidates give a good analysis of the economic problems of inflation, unemployment and contraction of AD in the economy Candidates provide a clear analysis of the consequences of persistent deficit using AD/AS framework 	7-10
L2	<ul style="list-style-type: none"> Candidates just adequately explain in general, the effect of a deficit BOP, without highlighting its persistence and magnitude Candidates may not be consistent in using AD/AS framework in analysis of the consequences of deficit. 	5-6
L1	<ul style="list-style-type: none"> Candidate shows inaccurate analysis of BOP components and the effects of a persistent and large deficit BOP on the economy Mostly inaccurate and incoherent explanation of a deficit in BOP and its effects. 	1-4

(b) Discuss the extent to which expenditure-reduction policy alone can be effective in correcting balance of payment deficit. [15]

Synopsis

Candidates are expected to analyse the effectiveness of expenditure-reducing strategies in order to correct BOP deficit. It is also expected that students offer alternative policies, for example, expenditure-switching measures, which could supplement expenditure-reduction policy to improve the deficit in BOP.

Introduction:

1. Explain the meaning of expenditure-reduction policy → These involve a general reduction in aggregate demand to achieve the goal of **reducing expenditures on imports**

Body/Analysis/Evaluation:

2. Expenditure-reduction policies may include contractionary fiscal or monetary policies that reduce aggregate demand, which would reduce expenditure on imports:
 - a. **Contractionary fiscal policy** → e.g. a reduction in government expenditure and/or a rise in taxes to reduce aggregate demand.
 - b. **Contractionary monetary policy** → e.g. a rise in interest rates, stricter hire purchase regulations, more constraints on bank lending, which can dampen spending and investments.
 - Expenditure on imports could be reduced, with a long-term view of eradicating the deficit BOP.
 - Both contractionary policies will lower AD, and will also lower domestic inflation → improvement in competitiveness of exports, hence also reducing trade/ current account deficit.
3. **Evaluation** → The effectiveness of these policies depend on:
 - a. The extent of conflict between external and internal objectives:
 - i. As the BOP deficit improves, the deflationary policies could slow down the country's economic growth and increase unemployment.
 - ii. If the BOP deficit is due to inflation caused by high domestic goods prices, then the contractionary policy could solve both problems at the same time.
 - b. The proportion of consumption attributed to import expenditures → the higher the proportion, the more imports will fall and thus reduce the deficit.
 - c. The economic slowdown due to the contractionary policies could be worse and longer than expected: higher unemployment would result, and the economy should brace itself for a recession, if the downturn is prolonged.
4. **Other policies considered: Expenditure-switching strategies** → These policies are aimed at reducing the consumption of imported goods in favour of domestic goods:
 - a. Depreciating or devaluing the domestic currency → prices of imports increase relative to prices of domestic goods
 - i. depending upon the PED for X and PED for M, this might worsen the deficit before improving it after a time lag (J-Curve effect)
 - b. Use of import restrictions and tariffs → this will increase the prices of imports and thus discourage its consumption:
 - i. These have to be targeted at consumer goods and not at producer goods as taxes or quotas will add to cost of production to industries that depend on imported raw materials.
 - c. Switch the expenditures of foreign households from domestic goods to foreign goods (e.g. Singapore goods) to boost our exports. → improve quality of goods, seek new markets to export to.
5. **Other policies considered: Reducing investment overseas, and re-structuring the economy**
 - a. Investment overseas can be reduced by changing tax policies on profits from investments abroad or through direct foreign exchange control. → Capital account deficit can be overcome.
 - A problem with this policy is that a future source of invisible receipts (i.e. future income earned from overseas in the form of profits and dividends) is reduced, hence worsening the balance on current account.
 - b. If the current industries in the economy are not competitive, then such investments can be re-channelled into potentially lucrative areas and industrial development.

- This requires the govt to take a longer-term perspective, and target the LRAS. In the short-run, however, current consumption expenditures would have to be reduced.

6. **Other policies considered: Reducing other debit items**, e.g. limiting the amount of foreign exchange allowed to the country's residents travelling abroad.

Conclusion:

7. Expenditure-reducing policies may be risky for economies that are already facing a downturn, as it may worsen the gloomy conditions further. A better policy could be to re-structure the economy, and target improving productivity and quality of goods. This can ensure an improvement in exports as well as future growth prospects and potential.

Knowledge, Analysis and Application		
L3	<ul style="list-style-type: none"> • Candidates provide a comprehensive analysis of expenditure-reducing and one other alternative measure • Candidates use AD/AD framework well in analysing the effects of those policies. 	9-11
L2	<ul style="list-style-type: none"> • Candidates adequately analyse the expenditure-reducing measures to correct the BOP deficit and offer alternative policy, but analysis is not developed or did not use AD/AS framework in the analysis. • Candidates offer alternative policies, but ideas are less coherent • Candidates give an unbalanced view/analysis with respect to expenditure reducing strategies and the alternative policies. 	6-8
L1	<ul style="list-style-type: none"> • Insufficient or incoherent analyses of the measures to reduce deficit BOP. • Conceptual error in analyses. 	1-5
Evaluation		
E2	<ul style="list-style-type: none"> • For an evaluative assessment based on sound economic analysis. 	3-4
E1	<ul style="list-style-type: none"> • Evaluation without justification. 	1-2