

Preface



Dear JC students in Singapore,
Hope you will find this A Level examination solution set useful for your revision.

The answers and comments to this solution set are personally crafted and written by Mr Mitch Peh, an experienced former MOE JC lecturer and tutor in Singapore. Currently, Mr Peh is a full time A Level private tutor, specialising in the teaching of A Level subjects: Physics, Chemistry, Mathematics and Economics at both H1 and H2 Levels. You can find the A Level solutions for the other subjects under the various subject tabs at www.jcpcme.com.

Mr Peh has a proven track record in helping his students achieve success for the A Levels and internal school examinations including promos, advancement tests to JC2, block tests, mid years and prelims. Most of Mr Peh's students achieve "A's and 'B's grades for the A Level examinations. During his stint teaching at St Andrew's Junior College, Mr Peh has helped his classes achieve 100% promotion to JC2 on multiple occasions, attain close to 100% "A"s for H1 Project Work, clinch accolades like "Most Improved Class Award" and "Best Performing Class of the Cohort" for many of the internal school examinations. Mr Peh also has former students who subsequently went on to pursue H3 subjects and enroll in prestigious university courses like Dentistry, Medicine and Law.

If you are interested to be coached by Mr Peh for your preparations towards the A Levels, these are 3 more reasons why you should join Mr Peh's classes:

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- You have the full autonomy to decide the subject(s), content and pace that you want to cover for each lesson, out of any of the 4 subjects: Physics, Chemistry, Mathematics or Economics.
- Mr Peh will help to analyse your weaknesses in each individual subject and provide personalised feedback and suggestions for improvement.

2. Answers to your questions can be addressed outside of the classroom

- If you face any difficulty or challenge doing any of your tutorial questions, simply take a screenshot with your phone and send it to Mr Peh via Whatsapp. Mr Peh will answer your questions in the earliest possible time when he is available.

3. You only pay the price of 1 subject but enjoy premium coverage for all 4 subjects.

- Mr Peh provides resources for all 4 subjects including summarised notes, compiled topical questions sourced from past year school prelim examinations, Practical guides for Chemistry & Physics, examination checklists, mock papers etc.
- This is probably the only tuition service in Singapore which allows you to enjoy such extensive coverage and benefits.

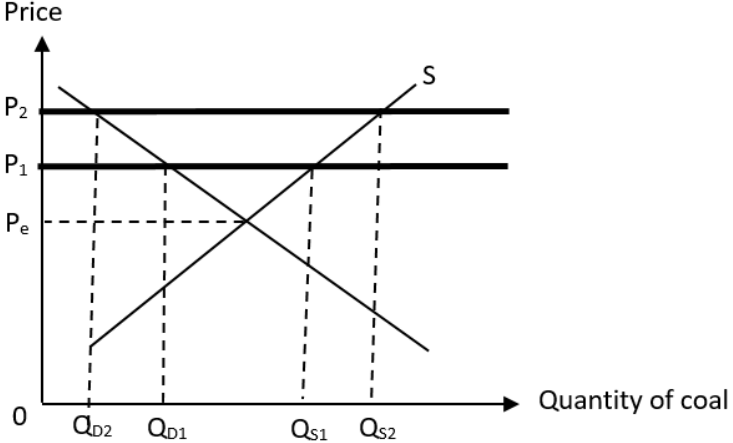
Note that Mr Peh only takes in a limited number of students each year. You can find his lesson slots available under "Tuition Services" tab at www.jcpcme.com. For any further enquiries, you can directly whatsapp him at 9651 7737.

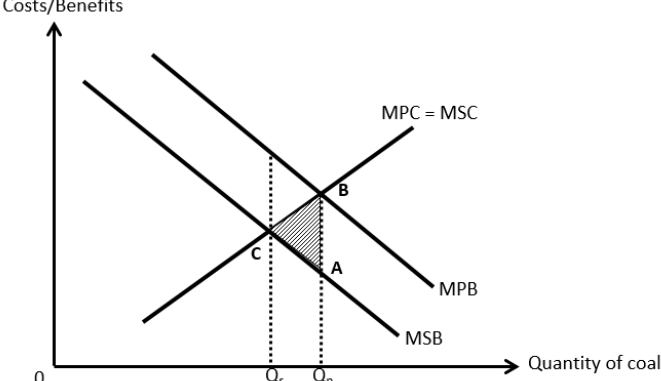
For the solution set below, if you find any discrepancies or you have any feedback or comments, please kindly direct them to Mr Peh through Whatsapp at 9651 7737.

The question paper has been omitted due to copyright reasons.

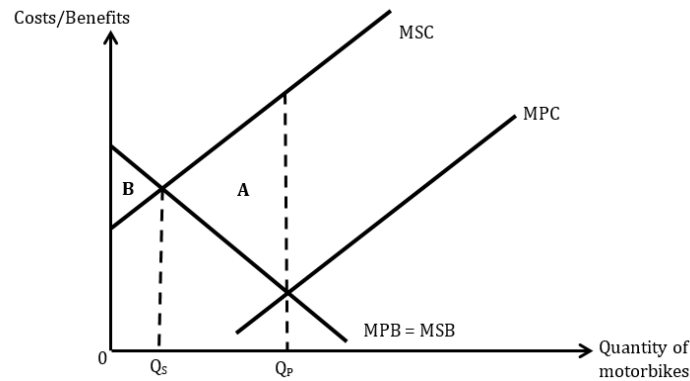
2019 A Level H2 Economics 9757 P1 Suggested Answer

Question 1

(a)	<p><u>Demand factor: Fall in the price of substitutes such as gas</u></p> <ul style="list-style-type: none"> • A demand factor is the fall in price of substitutes such as gas in US. • Coal and gas are considered as substitutes as they all satisfy the same need of power generation. • The price of the substitute gas has fallen due to a new technique called fracking used in US. • This leads to an increase in quantity demanded for the substitute and fall in demand for coal as consumers switch from the use of the coal to the substitute gas instead. <p><u>Comments</u></p> <ul style="list-style-type: none"> • Note that the question has set the context to be on the change in demand for coal in US. • Hence, demand factors relating to the fall in demand for coal in China such as fall in price of substitute renewable energy and slowing growth in China would not be accepted here. 	[2]
(b)	<ul style="list-style-type: none"> • Cross elasticity of demand refers to the responsiveness of demand for a good to a given change in price of a related good, ceteris paribus. • The cross elasticity of demand in China between coal and renewable energy is positive. • This is because coal and renewable energy are substitutes, leading to a positive relationship between the price of renewable energy and the demand for coal. • The fall in the price of renewable energy has led to consumers switching away from the use of coal and towards the use of renewable energy instead. • Hence, this leads to a rise in quantity demanded for renewable energy and fall in demand for coal. <p><u>Comments</u></p> <ul style="list-style-type: none"> • Students should provide the definition of XED, state that the two goods are substitutes explicitly and explain how the change in price of renewable energy has led to a change in the demand for coal. 	[3]
(c)	 <ul style="list-style-type: none"> • The effective minimum price of coal in 2016 has increased in the UK. • For the minimum price to be effective, it must be set legally above the market equilibrium price P_e, which then acts as a price floor. 	[3]

	<ul style="list-style-type: none"> Hence, when the minimum price is set to be higher from P_1 to P_2, the quantity demanded for coal falls from Q_{d1} to Q_{d2} and the quantity supplied for coal increases from Q_{s1} to Q_{s2} in the UK. This leads to a larger surplus of coal of $Q_{D2}Q_{S2}$ as the quantity supplied of coal is now significantly greater than the quantity demanded of coal. Also, there is now a higher market price of coal from P_1 to P_2 in UK. <p><u>Comments</u></p> <ul style="list-style-type: none"> Students should avoid using the terms “equilibrium price” and “equilibrium quantity” since there is no market clearing price and quantity where quantity demanded is equal to quantity supplied over here. Students should explain the effects to the price, quantity and the surplus in the market for coal in UK. 	
(d)	 <ul style="list-style-type: none"> Suppose Vietnam is originally consuming coal at the socially optimal quantity of Q_s where $MSB=MSC$. When there is an increase in the demand for coal, the MPB for coal will increase as consumers are now willing and able to consume more coal at every price level so now MPB becomes higher than MSB. Such an increase in demand for coal will also generate negative externalities where the residents living near the coal burning power plants (third parties) will suffer respiratory problems and incur healthcare costs. This is supported by Extract 3 which mentions that coal pollution has led to 4300 premature deaths in Vietnam in 2011. Such negative externalities is not being taken into account by consumers. Instead, consumers who aim to maximise their self-interest will now consume coal at Q_p where $MPB=MPC$. There is now an overconsumption of coal by Q_p-Q_s units, which leads to a deadweight loss of area ABC as the social cost from consuming Q_p-Q_s units of coal (Q_s-Q_pBC) outweighs the social benefits from consuming Q_p-Q_s units of coal (Q_s-Q_pAC). Hence, allocative inefficiency worsens and social welfare is reduced. 	[4]
(e)	<p><u>Introduction: Identify the market which generates negative externalities</u></p> <ul style="list-style-type: none"> The use of private vehicles such as motorbikes and motor cars have generated negative externalities where residents living near the roads (third parties) suffer from respiratory problems and incur healthcare costs. This leads to the divergence between MPC and MSC where $MSC=MPC+MEC$. Hence, this results in an overusage of private vehicles, where private consumption is higher than the socially optimal quantity. 	[8]

Explain how banning motorbikes and switching travel to public transport works in improving air quality

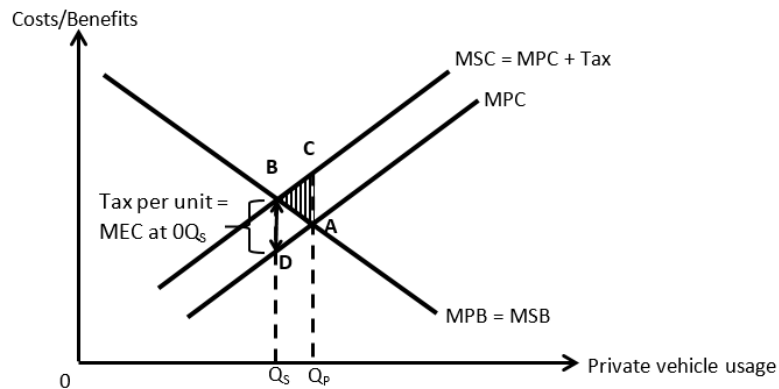


- Banning motorbikes will effectively reduce the usage of motorbikes from Q_p units to 0 units which will reduce the deadweight loss generated from the usage of motorbikes from area A to area B.
- Hence, there would be a reduction in allocative inefficiency and improvement of societal welfare as air quality improves.
- Private vehicles and public transportation are substitutes since they satisfy the same function of helping commuters to get from one place to another.
- After the Vietnamese government has improved the quality of public transport in Hanoi, it will be able to change the taste and preferences of users away from private motor vehicles to public transport.
- This will effectively help to reduce the usage of private vehicles to the socially optimal quantity, again leading to the reduction in allocative inefficiency and improvement of societal welfare as air quality improves.

Limitations of banning motorbikes and switching travel to public transport

- However, banning motorbikes completely may result in a tradeoff in terms of lower economic growth for Vietnam. This is because motorbikes can be perceived as a more efficient and faster method for workers and employees to travel from home to their workplaces compared to the use of public transportation. Hence, the productivity of workers may be reduced, resulting in lower output for the Vietnamese economy.
- Also, if the punitive measures for the illegal usage of motorbikes is not severe enough or the government does not invest in sufficient enforcement efforts, the banning of motorbikes will be rendered ineffective in reducing its usage and improving the air quality in Hanoi.
- In addition, getting users to switch travel to public transport may not be easy as Hanoi currently has limited bus transportation with fewer than 10% of residents using buses, and there is no metro or underground system as mentioned in Extract 3. Without significantly raising the quality of public transportation in Hanoi by the government, users may not switch their means of commuting, again rendering the policy ineffective and unable to improve the air quality in Hanoi.

Explain how road pricing works in improving air quality



- Road pricing functions like a tax where the government can impose a price per unit of private vehicle usage equal to MEC at the socially optimal quantity.
- This will cause users to internalise the external costs of private vehicle usage, raising their MPC to $MPC + tax$.
- Users will then reduce their usage of private vehicles to the socially optimal quantity as they equate $MPB = MPC + tax$.
- Hence, overusage of private vehicles and deadweight loss is eliminated, allocative efficiency is achieved and societal welfare is maximised where air quality in Hanoi is improved.

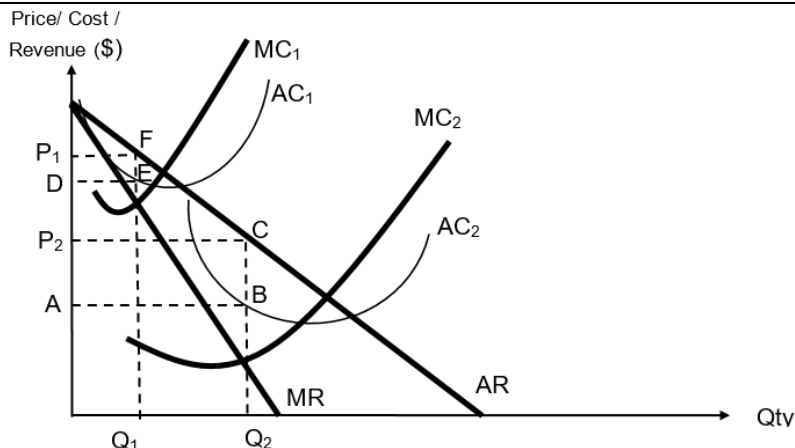
Limitations of road pricing in improving air quality

- However, it is difficult for the government to estimate the amount of MEC and thus difficult to determine the appropriate level of road pricing to implement. If the road pricing is set too low, motorists would continue their usage of private vehicles, overusage of private vehicles will then persist, rendering the policy ineffective.
- Also, the demand for private vehicle usage is likely to be price inelastic as private vehicle usage can be considered to have a high degree of necessity for users to travel from one place to another. There is also few close substitutes since alternatives like public transport in Hanoi is underdeveloped. Hence, if the road pricing is not substantial enough, the policy would not be effective in reducing the usage of private vehicles to the socially optimal quantity.

Conclusion: Take a stand and justify

- A policy of road pricing is likely to be more effective in improving the air quality in Hanoi instead.
- This is because road pricing provides market based incentives for users to reduce their consumption of motor vehicles. Hence, less administrative costs have to be incurred in monitoring and enforcing compliance compared to banning motorbikes, in ensuring the effectiveness of the policy.
- Also, road pricing is more effective in the short run compared to improving public transport where substantial amounts of funds and time have to be invested by the government in planning new bus and metro routes, building new metro and underground systems.

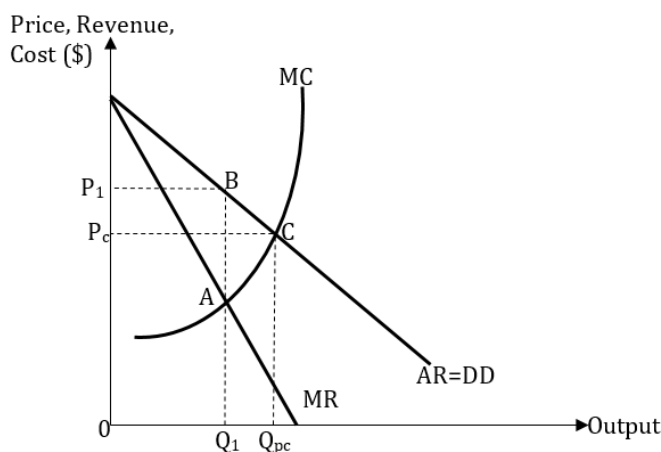
	<p><u>Comments</u></p> <ul style="list-style-type: none"> • A brief explanation on how negative externalities bring about overusage of private vehicles should be included as this has not been explained in the earlier parts of the question. • To score for the level marks, students should include economic analysis of how each policy works in reducing usage of private vehicles to the socially optimal quantity, and not just explaining the advantages and limitations of each policy. • This means that students should relate their explanations to concepts like external costs, allocative efficiency and deadweight loss. • For the conclusion, students should make sure that they answer the question directly first and not go straight to mention that the policies need to be implemented together. 	
(f)	<p><u>Introduction: State the 3 types of economic efficiency that we can examine</u></p> <ul style="list-style-type: none"> • Economic efficiency can refer to allocative efficiency, productive efficiency and dynamic efficiency. <p><u>Thesis 1: Creating more competitive markets will improve productive efficiency</u></p> <ul style="list-style-type: none"> • State monopolies tend to be inefficient due to the absence of profit and competition, which leads to higher cost. • For example, X inefficiencies may be present for state monopolies due to organisational slack. This is because the state monopolies may employ more workers than necessary as they fear the political implications and administrative costs from making these workers redundant. Also, due to inertia, the state monopolies may purchase raw materials from higher cost suppliers rather than look for cheaper cost suppliers. • In contrast, creating more competitive markets means that the amount of profits that each energy firm earns is less extensive and more likely to be eroded away by its market competitors. Hence, the firms will be less complacent and more likely to produce at the lowest possible average cost, thus leading to improvement in productive efficiency. <p><u>Thesis 2: Creating more competitive markets will improve dynamic efficiency</u></p> <ul style="list-style-type: none"> • Also, with more competitive markets, energy firms will have greater incentive to engage in research and development, and innovate as they will want to stay ahead of the competition. • This is because with process innovation, the energy firms will be able to produce at a lower cost, more specifically lowering their marginal costs and average costs from MC_1 and AC_1 to MC_2 and AC_2 respectively. • Then this will help the firm to produce at a higher profit maximising output at Q_2 instead of Q_1, allowing them to capture a larger market share and earning higher supernormal profits of P_2CBA instead of P_1FED. 	[10]



- Thus, with more incentive to innovate, this will lead to greater dynamic efficiency in Vietnam.

Antithesis 1: Creating more competitive markets may lead to allocative inefficiency

- However, creating more competitive markets may lead to allocative inefficiency.
- This is because the objective for firms in the competitive markets is to profit maximise and not to ensure affordability and accessibility of energy services especially to lower income households, unlike state monopolies.
- Thus the firms will produce at the output level Q_1 where $MR=MC$ and MC is rising, charging a price of P_1 that the consumers are willing and able to pay where $P > MC$.



- This means that consumers place a greater value on the last unit of the energy service than what it costs the society to produce it.
- Hence, more resources should have been allocated to the production of energy services as each additional unit results in a net gain in welfare up to $P=MC$.
- Thus, energy services will be under-produced by the competitive firms.
- The loss of consumer and producer surplus, which is known as deadweight loss, is represented by area ABC and indicates allocative inefficiency.

Antithesis 2: Creating more competitive markets may not improve dynamic efficiency

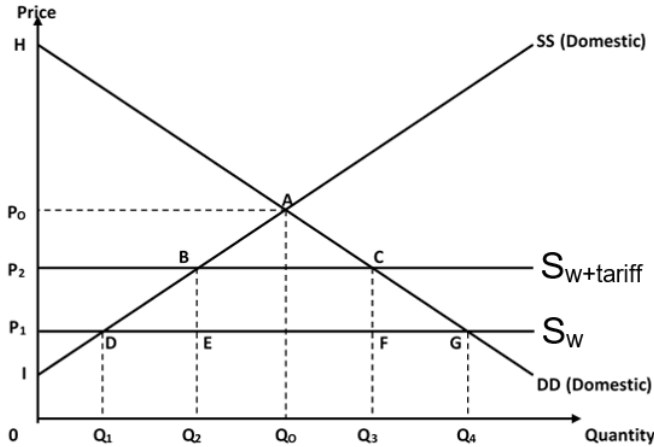
- Also, creating more competitive markets may not improve the level of dynamic efficiency in the economy.
- This is because with greater competition in the market, the profits that each firm earns will be to a smaller extent and more likely to be eroded away by its market competitors.

	<ul style="list-style-type: none"> • This reduces the ability of energy firms to engage in research and development as well as innovating new processes. • With lower ability to innovate, dynamic efficiency of firms will be reduced. <p><u>Conclusion</u></p> <ul style="list-style-type: none"> • Overall, creating more competitive markets in energy provision can still improve the level of economic efficiency in Vietnam. • This is because the improvement of productive efficiency can be substantial. • Also, with appropriate government regulations in place, the government can restrict and control the price that energy firms charges to the households so that the gap between P and MC is reduced and leads to an improvement of allocative efficiency. • Furthermore, the Vietnamese government can set up its own research and development agency in the energy sector, partnering industry players to build new sustainable energy solutions, thus overcoming the reduced ability of firms in innovation and improving the level of dynamic efficiency as well. 	
		[Total: 30]

Question 2

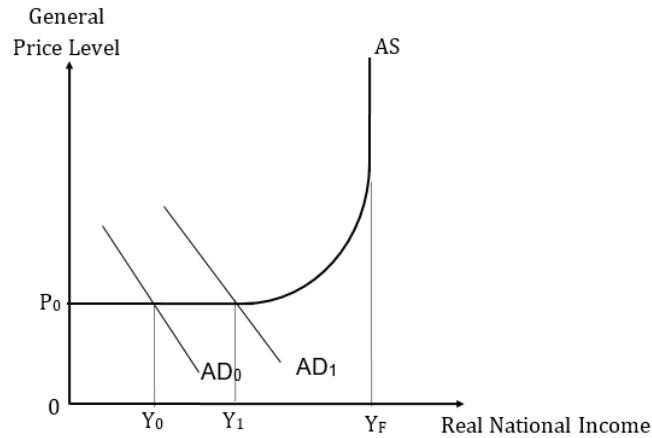
(a)	<ul style="list-style-type: none"> • Productivity refers to output per man hour. • Since Figure 2 shows that US real manufacturing output is increasing while Figure 1 shows that manufacturing employment is falling over the period, this implies that the output per man hour has increased. • Hence productivity of workers in US manufacturing has increased over the period. 	[2]
(b)	<ul style="list-style-type: none"> • Producing on a larger scale through participation in global value chain will allow a firm to enjoy <u>technical economies of scale</u>. • As mentioned in Extract 5, participation in global value chain will result in <u>division of production and task specialisation</u>, allowing participating countries to exploit their comparative advantage. • This means that <u>productivity</u> of labour will be raised which will lead to fall in <u>average cost of production</u>. • Hence, a firm producing on a larger scale through participation in the global value chain can possibly earn higher profits. 	[2]
(c)	<ul style="list-style-type: none"> • One possible reason why Singapore has such a high participation rate in global value chain is because of its lack of natural resources and endowments such as oil and rare metals. • As a result, raw materials such as oil and rare metals have to be extracted in a foreign country such as Middle East and Australia before being transported to Singapore for refinement processes and procedures. 	[2]
(d)	<ul style="list-style-type: none"> • One reason for the call for tariff protection of US manufacturing industry is to <u>improve the balance of payment position</u> of US by reducing its balance of trade deficit. • With the imposition of a specific tariff of P_1P_2, the supply of imported manufactured goods into US will decrease, causing world supply curve S_w to shift up to $S_{w+tariff}$ • Then US consumers will have to pay a higher price of P_2 for manufactured goods. • However, the quantity of imports will decrease from Q_1Q_4 to Q_2Q_3, leading to a fall in import expenditure from Q_1DGQ_4 to Q_2EFQ_3. 	[6]

- Assuming there is no change to export revenue, there will be a reduction of US's trade deficit and improvement of its balance of payment position.

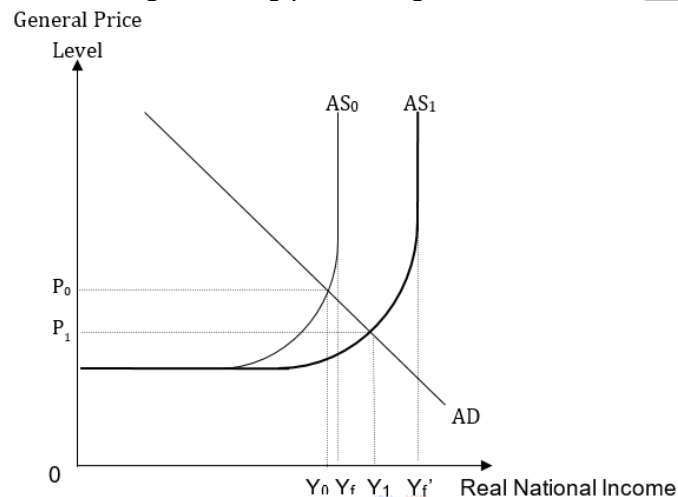


- Another reason is to prevent sudden and massive structural unemployment.
- The manufacturing sector of US may be considered a sunset industry which has lost its comparative advantage due to lower cost of production in China and India since they have relative abundance of cheap labour and land.
- Without any protectionist measure, the manufacturing industry of US which face intense competition from the foreign firms may shut down quickly, resulting in sudden, rapid and massive rise of structural unemployment.
- This is because of occupational immobility where workers need time to acquire the skills required by the new industries.
- With protectionist measures, this allows time for the manufacturing industry to decline gradually and for workers to acquire new skills and make a smooth transition to the new industries, thus preventing large scale structural unemployment.

(e)	<p>Considering possible advantages and disadvantages to Pakistan's economy of China's 'Belt and Road Initiative', assess whether it is likely to be of overall benefit to Pakistan.</p> <p><u>Introduction</u></p> <ul style="list-style-type: none"> China's 'Belt and Road Initiative' is a form of foreign direct investment in Pakistan where massive amounts of infrastructure are built including pipelines and port. <p><u>Body 1: Advantages to Pakistan's economy of China's 'Belt and Road Initiative'</u></p> <ul style="list-style-type: none"> An advantage to Pakistan's economy is that this will generate both actual and potential growth, and lowering demand deficient unemployment. With the influx of foreign direct investment from China, investment expenditure will increase. Since $AD = C+I+G+(X-M)$, there will be an increase in aggregate demand of Pakistan from AD_0 to AD_1 Given that there is excess spare capacity in Pakistan, this will lead to an increase in real national income from Y_0 to Y_1, thus generating actual growth. Since labour is a derived demand of production, more Pakistan workers will be hired to build the infrastructure, creating up to one million jobs as mentioned in Extract 6. Hence, demand deficient unemployment will be reduced as well. 	[8]
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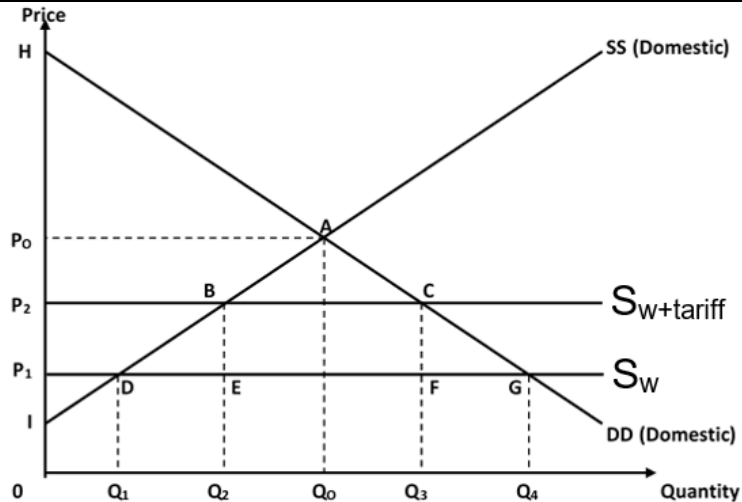
- Also, such infrastructure will increase the quality and quantity of capital in Pakistan, leading to an increase in productive capacity. Thus, long run aggregate supply will increase from AS_0 to AS_1 , which will increase the full employment level of national income from Y_f to Y_f' , thus generating potential growth.



Body 2: Disadvantages to Pakistan's economy of China's 'Belt and Road Initiative'

- However, China's 'Belt and Road Initiative' can lead to disadvantages to Pakistan's economy such as negative actual growth instead, worsening balance of payment position and structural unemployment.
- With the greater connection between China and Pakistan due to the 'Belt and Road Initiative', Pakistan is likely to import more goods and services from China such as excess cement and steel capacity as mentioned in Extract 6. This will increase the import expenditure of Pakistan, thus worsening its balance of trade position. Also, Chinese firms which have set up factories in Pakistan will repatriate its profits earned back to China, leading to an outflow of income, thus worsening both the current account position and balance of payment position of Pakistan.
- In addition, if the domestic Pakistan firms are less efficient and unable to compete with the Chinese firms, the products they produce may be less competitive in terms of price and quality, causing households to switch from domestic consumption to consuming imports. As a result, the fall in consumption expenditure and decrease in net exports will cause aggregate demand to decrease, which will lead to fall in real national income and causing negative actual growth.

	<ul style="list-style-type: none"> • Due to the lack of competitiveness, the domestic Pakistan firms may also outsource their production or shut down completely. Workers working for these Pakistan firms will lose their jobs and they may not possess the skills required by the other industries in Pakistan. Due to this mismatch of skills, there will be a rise in structural unemployment in Pakistan as well. <p><u>Conclusion</u></p> <ul style="list-style-type: none"> • Overall, whether China's 'Belt and Road Initiative' will be of overall benefit to Pakistan depends on Pakistan domestic firms' ability to adapt and compete after greater connection between Pakistan and China has been established. • If Pakistan is able to develop its area of comparative advantage that is different from that of China's, by producing goods and services at lower opportunity cost, both the price and non-price competitiveness of Pakistan's exports will improve. • Greater trade with China will boost Pakistan's export revenue and net exports, resulting in economic growth and lower demand deficient unemployment. • Then, China's 'Belt and Road Initiative' will be of overall benefit to Pakistan. <p><u>Comments</u></p> <ul style="list-style-type: none"> • Students should strive to cover sufficient scope for both advantages to disadvantages to the Pakistan's economy. • Advantages to the Pakistan's economy can include achieving actual and potential growth, lowering demand deficient unemployment. • Disadvantages to the Pakistan's economy can include worsening balance of payments, negative actual growth and structural unemployment. 	
(f)	<p><u>Introduction: Define globalisation</u></p> <ul style="list-style-type: none"> • Globalisation refers to the greater economic integration of markets in the global economy, resulting in greater flow of goods and services, labour, capital and technology between countries. <p>Thesis: Globalisation is reversible</p> <p><u>Body 1: Globalisation is reversible with government intervention</u></p> <ul style="list-style-type: none"> • Globalisation may be considered reversible when protectionist measures like tariffs are implemented which will reduce the flow of goods and services between countries. • Taking the example of US imposing tariffs on China, supply of imported goods and services into US will decrease, causing world supply curve S_w to shift up to $S_{w+tariff}$. • Then US consumers will have to pay a higher price of P_2 for goods and services and the quantity of imports will decrease from Q_1Q_4 to Q_2Q_3, leading to a fall in the flow of goods and services between the countries. • This is also supported by Extract 4 showing the reduction in the ratio of global trade to global GDP from 52% in 2008 to 45%. 	[10]



- Similarly, the government can impose immigration laws and capital controls to restrict the flow of labour and capital respectively into the country.
- Hence, with government intervention, the economic integration between countries can be reduced to make globalization reversible.

Body 2: Globalisation is reversible with a shift in focus towards domestic production

- With technological progress such as automation of production processes and ability of firms in building smaller factories as mentioned in Extract 4, there can be less reliance on labour for production of goods and services especially for countries which does not have an abundance of low skilled labour.
- Then, localised production becomes possible, resulting in a shift of demand from imported goods and services towards locally produced goods and services that offers personalisation and near immediate delivery.
- This results in a fall in the flow of goods and services between countries.
- In addition, there is less need for firms to engage in offshoring and outsourcing operations since they can now produce their goods and services domestically.
- This can lead to a fall in the flow of foreign direct investment between countries.
- Hence, globalisation becomes reversible when there is a decrease in the flow of goods and services as well as capital between countries.

Antithesis: Globalisation is not reversible

- However, globalisation may not be reversible due to presence of global value chain being an entrenched feature globally already.
- With the different stages of production process being located across different countries, each country produces goods and services according to the areas that they have comparative advantage in i.e. producing at a lower opportunity cost relative to other countries.
- Hence, if countries decide to pull out of such an arrangement, domestic firms will have to engage in all the stages of production process by themselves in order to produce the final goods and services.
- This will lead to greater inefficiency as the firms lack the expertise in certain areas of production, causing firms to incur higher average costs. In the long run, many of these firms may make subnormal profits and are forced to shut down.



- In turn, economic growth will be hindered due to the fall in output levels, structural unemployment worsened when displaced workers lack the relevant skills to be employed in the other sectors of the economy.
- Thus, it may not be feasible for governments to restrict the flow of goods and services, labour and capital between countries as their economies will risk slower or even negative economic growth.

Conclusion

- Overall, globalisation can only be reversed to a limited extent.
- When one country such as US decides to protect its domestic industries by restricting the flow of goods and services between itself and China, it can simply just lead to a case of trade diversion where there becomes greater flow of goods and services between China and the rest of the world.
- This is because there are great benefits to be gained from globalisation such as actual economic growth and lower unemployment derived from trade, as well as potential growth arising from the inflow of labour and capital.
- Hence, majority of economies will still embrace globalisation in order to reap the benefits which come with it.

Comments

- Students may find difficulty elaborating the answers for this part of the question.
- Always remember to link back to relevant economic concepts whenever possible.
- Note that you are not just restricted to the use of macroeconomic analysis, relevant microeconomic analysis such as inefficiency, higher average costs and subnormal profits can also be brought in here.

[Total: 30]