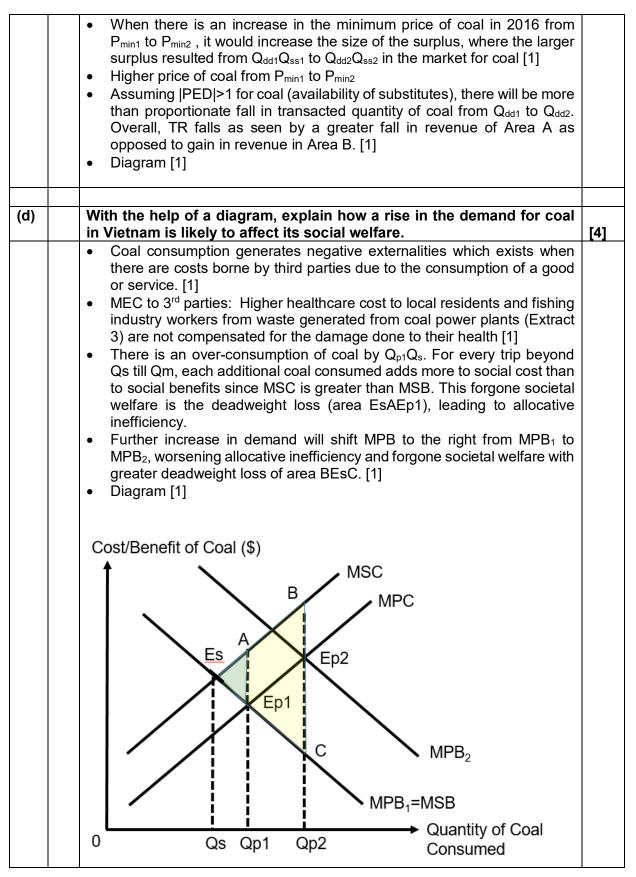


### Suggested Answers for H2 N2019 CSQ1: Market Failures in the Vietnamese energy market

(a)	With reference to Extract 1, identify a demand factor and explain how it has affected demand for coal in the US.	[2]
	• Demand factor: Cheaper substitute such as cleaner gas produced using fracking.	
	• A fall in the price of cleaner gas which is a substitute for coal as an	
	alternative source of energy, will cause profit-driven US firms to increase	
	the quantity demanded for cleaner gas and switch away from coal. Thus, the demand for coal falls. [1]	
(h)	Light the ovidence in Extract 4, explain whether the errors electricity of	
(b)	Using the evidence in Extract 1, explain whether the cross elasticity of demand in China between coal and renewable energy is positive or negative.	[3]
	• As coal and renewable energy are substitutes in demand (to produce energy). [1], the cross elasticity of demand (XED) between coal and renewable energy is <b>positive</b> . [1]	
	• Evidence: From Extract 1, an enormous investment in renewable energy would lead to a large increase in the supply of renewable energy which would cause a fall in the price of renewable energy. Hence a <b>fall</b> in price of renewable energy would lead to a <b>fall</b> in demand for coal in China. [1]	
(c)	Using a diagram and Extract 1, explain how the UK government's change in the minimum price of coal in 2016 is likely to have affected the UK market for coal.	[3]
	• Imposing a minimum price at $P_{min1}$ would result in a surplus of $Q_{dd1}Q_{ss1}$ in the market for coal. Price of Coal (\$) $P_{min2}$ $P_{min1}$ $P_{0}$ $Q_{dd2}$ $Q_{dd1}$ $Q_{0}$ $Q_{ss1}Q_{ss2}$	







and switch travel to pu	etnamese government's plan to ban motorbikes blic transport is likely to be better than a policy oving air quality in Hanoi.	[8]
Command words:	Two-sided perspective:	
Discuss whether	P <sub>1</sub> : Banning motorbike and switching to public transport is a better policy in improving air quality in Hanoi.	
	P <sub>2</sub> : Road pricing is a better policy in improving air quality in Hanoi.	
Context words:	<ul> <li>Air Quality in Hanoi,</li> <li>Motorbike Ban</li> <li>Public Transport</li> <li>Road Pricing (Taxes)</li> </ul>	
Content words:	<ul> <li>Negative Externality</li> <li>Ban (HAL)</li> <li>Taxes (HAL)</li> </ul>	
End Point	Ban + Switch to public transport or Road Pricing is a better policy in reducing allocative inefficiency	
Suggested Response:		
Introduction		
resources are allocated i spews gas into the air. externalities, such as se pedestrians which may i Vietnamese governmen such as a ban on mo transportation as well as	ket in Vietnam is facing a market failure, where nefficiently to the consumption of motorbikes which This is primarily due to the presence of negative vere air pollution, resulting in breathing difficulty for neur healthcare expenses. To tackle this issue, the t has decided to intervene by proposing policies torbikes in conjunction with implementing public introducing road pricing, which will be discussed in pest in resolving the market failure.	
P1: Explaining the mar	ket failure of negative externality	
		1

The consumption of motorbikes result in negative externalities. The marginal private cost (MPC) of a motorcycle rider would include the cost of fuel. However, gas spewed from the five million motorbikes will result in severe



air pollution, where third parties such as pedestrians would face breathing difficulties. In turn this may cause them to incur higher medical expenses, resulting in an external cost. This leads to a divergence between MPC and MSC as seen in Figure 1 below. Assuming no positive externality, the marginal social benefit (MSB) is equal to the marginal private benefit (MPB), which consists of the utility and convenience of a rider travelling via motorbikes. If riders are driven by their private costs and benefits, the market equilibrium is derived from the intersection between MPC and MPB, where the output is Qp. However, the socially optimal output level is given by the intersection between MSB and MSC, at Qs. Hence the overconsumption of motorbikes results in a deadweight loss of area ABC and hence allocative inefficiency.

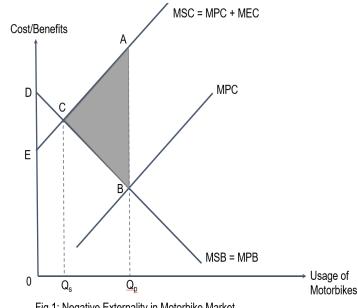


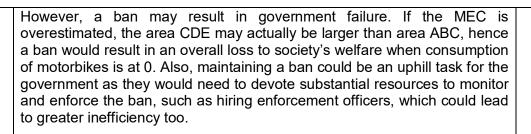
Fig 1: Negative Externality in Motorbike Market

### P2: How + Advantage of a ban

An effective ban on motorbike would result in the usage of motorbikes to fall to 0, eliminating the deadweight loss ABC entirely. This would effectively remove the air pollution caused by the motorbikes in Hanoi, improving the air quality significantly. However, this would also mean Hanoi would forgo all the potential improvement to society's welfare from the usage of motorbikes, such as the benefits of convenience in travelling from one place to another. With a ban in place, it means that society is forgoing area CDE in Fig 1, sacrificing any improvement to welfare between 0 and Qs of motorbike usage. Assuming that the MEC is extremely high, area ABC exceeds area CDE significantly, therefore a ban is justified and should be implemented to improve air quality. The advantage of a ban is that as a blanket policy, it is simple to implement and identify transgressors, for example motorbike users who continue riding even after the ban.

#### P3: Limitations of a ban





### P4: How + Advantage of road pricing

The policy of road pricing works by charging riders a fee every time they use their motorbikes on specified roads by setting up toll booths. The Vietnamese government can charge a fee on riders equal to the size of the marginal external cost (MEC), effectively increasing MPC to MPCt in Fig 3. This would allow riders to internalise the spillover costs, removing the divergence between MSC and MPC. Hence at this new equilibrium, motorbike riders will consider their MPCt and MPB and consume at the new output which coincides with the socially optimal output, Qs, eliminating the deadweight loss of ABC effectively and the market for motorbikes achieves allocative efficiency as air quality is improved.

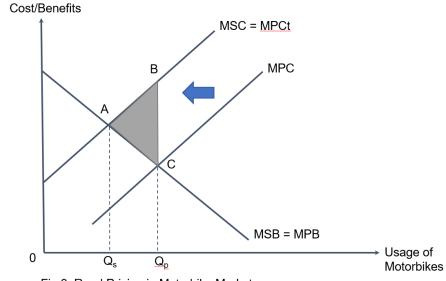


Fig 3: Road Pricing in Motorbike Market

### P5: Limitation of road pricing

However, it is not feasible for the government to set up toll booths at every single road in Hanoi. Therefore, the government can only prioritise road charges on busy roads on certain timings such as peak hours and public holidays. As a result, riders can simply avoid these roads during such timings and choose to take alternative routes to avoid paying the fees. Hence there is a limit to how such a road pricing strategy would deter riders from using motorbikes, but merely redirect them to other routes and raise the level of pollution in some other areas, hence the MEC may not be entirely internalised by motorbike users, preventing MPC from increasing to MPCt.



Therefore, there would still be a significant amount of air pollution being generated every day.

#### Evaluation

On balance, road pricing would still be a better policy than the ban on motorbikes as a short term policy. It is a more feasible way in controlling overconsumption of motorbike especially for a large city such as Hanoi, where there could be feasibility issues in terms of monitoring and limiting motorbike usage. The cost of enforcement may cause a great strain in the government's budget. However, that being said, the government should pursue a more sustainable approach in improving air quality by investing in public transportation,— so as to provide an affordable alternative for the residents to reduce overdependence on motorbikes and eventually switch over to and eradicate air pollution more significantly in the longer term.

#### Mark Scheme

Level	Knowledge, Application, Understanding and Analysis	Marks
L2	<ul> <li>Two well explained policies (Ban &amp; Road Pricing) with limitations to address the market failure (Negative Externality)</li> <li>Substantial reference to the extracts</li> </ul>	4-6
L1	<ul> <li>Underdeveloped explanation and limitation of one policy</li> <li>Answer is brief and contains conceptual error</li> <li>Listing of policies without explanation</li> <li>No reference to the extracts</li> </ul>	1-3
Evaluation	Descriptor	Marks
E	<ul> <li>For evaluative comment</li> <li>Judgement is based on reasoned economic analysis and substantiated with information from the extract</li> </ul>	1-2



	e more competitive markets in energy provision ve economic efficiency in Vietnam.
Command words:	Points of analysis:
Discuss whether	P <sub>1</sub> : Removing state monopolies and creating competitive market will improve economic efficiency (allocative, dynamic, productive)
	P <sub>2</sub> : Removing state monopolies and creating competitive market may not improve economic efficiency (allocative)
Context words:	<ul><li>Vietnam</li><li>Energy provision market</li></ul>
Content words:	Market Structure – State Monopolies
	Barriers to Entry
	Market Failure: Market Dominance, Negative Externality
End Point	Whether market failure in the energy market can be reduced by removing state monopolies and increasing competition.



of increasing competition via the erosion of barriers to entry in the energy market in Vietnam

# P1: Thesis – Removing state-owned monopoly can improve allocative efficiency

By removing the title of state monopolies, the government has effectively removed the barriers to entry in this market, increasing the competition within the industry. With the entry of more firms, Vinacomin will now face a set of smaller and gentler set of revenue curves,  $AR_2$  and  $MR_2$ . This is because the market power of Vinacomin has been eroded by new competitors while at the same time, the demand for energy production is now more price elastic due to the availability of a greater number of substitutes. With reference to the figure above, at the intersection between MC and  $MR_2$ , the firm will produce at profit maximising output  $Q_2$  and prices will fall to  $P_2$ . There is an improvement in allocative efficiency as deadweight loss has decrease from ABC to the smaller area of DEF.

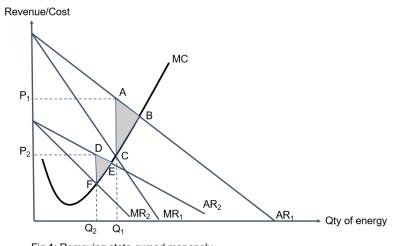


Fig 1: Removing state-owned monopoly

# P2: Thesis: Increasing competition would improve productive efficiency and dynamic efficiency.

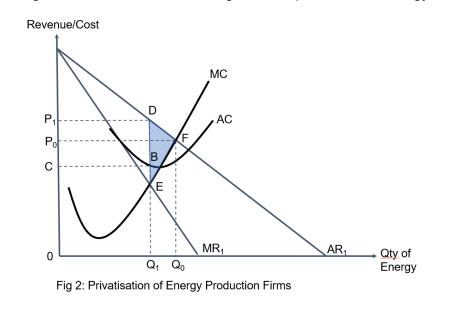
Also, the increased competition can result in greater productive efficiency. As a state-owned monopoly, Vinacomin is inefficient and has reported low profitability. This is because it was not incentivised to keep costs low as it was not profit driven. There could be many inefficient and old processes based off yesterday's technology causing firms to suffer from x-inefficiency as it produces on a point above its LRAC. With the removal of state monopolies and hence the objective of profit maximisation, Vitacomin will now be committed to minimising costs as much as possible to maximise profits, moving from a point above the LRAC to a point on the LRAC, achieving productive efficiency and reducing x-inefficiency. This is especially so given the fact that the market is highly competitive, having low costs would allow firms to set more competitive prices to deter new entrants, so as to secure market share and profits in the long run. Also, firms may now have greater incentive to conduct research and development (R&D) to



improve their energy production process, to gain a competitive edge over the other firms. This can lead to the invention of sustainable green technology, which could reduce the amount of emission while ensuring the energy produced remains the same. This would allow firms to achieve dynamic efficiency through innovating their processes of energy production

# P3: Anti-Thesis – Removing state-owned monopoly worsens allocative efficiency

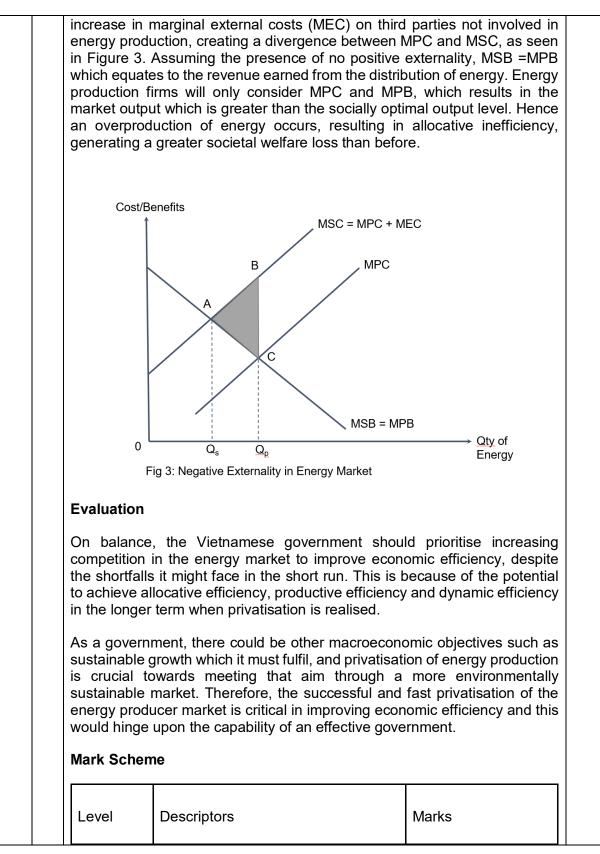
The removal of state-owned monopoly may not improve economic efficiency. Vinacomin, as a state-owned monopoly must produce energy at the socially optimal output level, ensuring AE, to meet the economic objective of the government. This is because energy is a necessity used for essential needs such as heating and lighting. The Vietnamese government would require Vinacomin to produce at the output where price is equal to the marginal cost (MC), P=MC, to attain allocative efficiency at Q<sub>0</sub> and P<sub>0</sub> in Figure 2. This is possible because profit maximisation is not the main objective of a state-owned monopoly. Hence, by privatising the energy market, energy producer would now be subjected to profit maximising objective and produce at the point where MR<sub>1</sub> intersects MC, at output Q<sub>1</sub> and charges P<sub>1</sub>. Therefore, Vinacomin will earn a total revenue of 0P<sub>1</sub>DQ<sub>1</sub> and the total cost incurred will be 0CBQ<sub>1</sub>, resulting in supernormal profits of P<sub>1</sub>CBD. Since P > MC, there will be allocative inefficiency, as shown by the deadweight loss of area DEF, reflecting an underproduction of energy.



### P4: Anti-Thesis – Increasing competition would worsen economic efficiency via negative externalities

Increasing competition in the energy production market may not achieve greater allocative efficiency due to generating greater negative externalities. With an increase in energy production firms using coal-fired power plants in order to keep up with growing demand for energy. This could generate greater emissions which results in air pollution. This would result in an





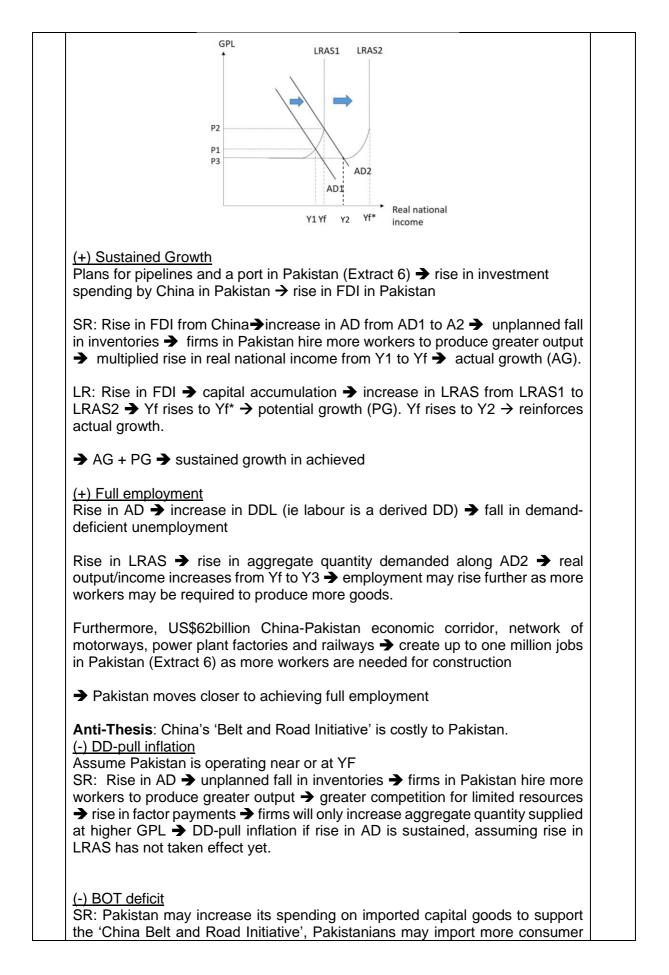


L2	<ul> <li>Two sided explanation of how increasing competition can improve or worsen economic efficiency that is well developed</li> <li>Covers allocative efficiency, productive efficiency and dynamic efficiency</li> <li>Substantial reference to the extracts</li> </ul>	5-7
L1	<ul> <li>Underdeveloped one-sided explanation of how increasing competition can improve or worsen economic efficiency</li> <li>Answer is brief and contains conceptual error</li> <li>Listing of points</li> <li>No reference to the extracts</li> </ul>	1-4
Evaluation	Descriptor	Marks
E	<ul> <li>For evaluative comments</li> <li>Judgement is based on reasoned economic analysis and substantiated with information from the extract</li> </ul>	1-3

### 2019 A-Levels H2 Economics Paper 1\_CSQ 2\_suggested answers

(a)	With reference to Figures 1 and 2, what evidence is there to suggest an increase in the productivity of workers in US manufacturing over the period 1987-2017?	[2]
	Figures 1 and 2 show a decline of US manufacturing employment and a rise in US real manufacturing output over the period respectively. Hence, this suggests	
	an increase in the productivity of workers in US manufacturing, which means that the number of output per worker increased since more output was produced	
	though fewer workers were employed over the period.	
(b)	Using an example, explain a benefit to a firm producing on a larger scale through participation in the global value chain.	[2]
	Participation in global value chains allows the scale of production in each country to increase (Extract 5). Hence, a firm producing on a larger scale through participation in the global value chain is able to reap lower unit cost of production as it reaps internal marketing economies of scale such as bulk buying of raw materials.	
(c)	Explain one possible reason why Singapore has such a high participation	[2]
	rate in the global value chain. Singapore has such a high participation in the global value chain as it enables	
	Singapore to focus on certain aspects of the production process that it has a comparative advantage in so as to perform most efficiently, while outsourcing	
	the aspects of the production process that it performs less efficiently. As	
	Singapore is a small economy with limited natural resources, a high participation in the global value chain will allow Singapore to optimise the use of its scarce	
	resources.	
(d)	Explain two possible reasons for the US government's call for tariff protection of the manufacturing industry.	[6]
	Price	
	(\$)	
	P2 Sw+T	
	$Q_1 Q_3 Q_4 Q_2$	
	0 $Q_1$ $Q_3$ $Q_4$ $Q_2$ Quantity of good	
	For protecting US domestic employment : US imposes import tariff $\Rightarrow$ rise in unit cop $\Rightarrow$ the world supply of manufactured good falls from S <sub>w</sub> to S <sub>w</sub> +t $\Rightarrow$ the price of the imported manufactured good rises from P <sub>4</sub> to P <sub>6</sub> $\Rightarrow$ the quantity demanded of imported manufactured good falls	
	US imposes import tariff $\rightarrow$ rise in unit cop $\rightarrow$ the world supply of manufact	l rises d falls

	Content and Context Introduction:		<ul> <li>Positive and negative consequences for the Pakistan economy in terms of achieving the four macroeconomic goals</li> <li>Pakistan</li> <li>→ both advantages and disadvantages to</li> </ul>	
		End Point	Is China's 'Belt and Road Initiative' likely to be of overall benefit to Pakistan?	
	Approach	Start point	Advantages and disadvantages of China's 'Belt and Road Initiative' to the Pakistan economy	
		Command Word	Assess	
		all benefit to Pakista	coad Initiative', assess whether it is likely an.	
(e)	domestic cons	sumers (in terms of h	on in the domestic market at the expense of igher prices or lower output). ages or disadvantages to Pakistan's	[8]
	good falls from from $P_1$ to $P_2$ dumping $\rightarrow$ defined	n S <sub>w</sub> to S <sub>w</sub> +t ➔ the pr → foreign firms are omestic firms survive	init cop $\rightarrow$ the world supply of manufactured rice of the imported manufactured good rises e not able to set a predatory price through s and competes with foreign firms $\rightarrow$ foreign	
	Dumping occu	on of dumping in US urs when a manufact ow its marginal cost o	tured good is sold in foreign markets	



goods as natio X remains unc		s (assume YED >0) ➔ BOT deficit ris	es assuming
Conclusion/E	valuation:		
Whether China's 'Belt and Road Initiative' is overall beneficial to Pakis depends on time period.		to Pakistan	
In the short run, net benefits to Pakistan may be limited due to the significant import spending that is likely to occur due to building infrastructure while the Pakistanian economy is still operating near full employment.			
beneficial to I facilitates trac countries. Th employment productive cap	Pakistan with the le and investme is has the po- level and hene bacity is enhance	a's 'Belt and Road Initiative' is likely he successful completion of infras ent opportunities between Pakista tential to further enhance its BC ce actual economic growth. Add ed it will also lead to potential growt the Pakistanian economy.	tructure that n and other DT position, ditionally as
Level Kno	wledge, Unders	standing, Application, Analysis	Marks
L2 •	2-sided discuss analysis	sion, supported by sound economic within the given contexts.	4-6
L1 •	One-sided discu		1-3
			10
•		coherent flow and organisation	Marks
• Level Eval	Lack of clarity, of	coherent flow and organisation	
Level Eval E • F Using econor whether you a	Lack of clarity, o uation Reasoned judger mic analysis an agree with the v	coherent flow and organisation	Marks 1-2
Level Eval E • F Using econor whether you a	Lack of clarity, o uation Reasoned judger mic analysis an agree with the v	coherent flow and organisation ment Ind based on the evidence provided	Marks 1-2
Level Eval E • F Using econor whether you a	Lack of clarity, of uation Reasoned judger mic analysis an agree with the vertice of the second seco	coherent flow and organisation ment id based on the evidence provided view that globalisation is reversib	Marks 1-2 d, discuss le.
Level Eval E • F Using econor whether you a Question Anal	Lack of clarity, of uation Reasoned judger mic analysis an agree with the way way with the way with the way with the way with the way way way with the way	coherent flow and organisation         ment         id based on the evidence provided         view that globalisation is reversib         Discuss         Factors       that increase/reduited	Marks 1-2 d, discuss le.
Level Eval E • F Using econor whether you a Question Anal	Lack of clarity, or uation Reasoned judger mic analysis an agree with the v ysis Command Word Start point	coherent flow and organisation         ment         ind based on the evidence provided         view that globalisation is reversib         Discuss         Factors       that         integration of the world economy	Marks 1-2 1, discuss le. uce the /.

Globalisation refers to the increased integration of the world economy. The process of globalisation involves increased trade, greater mobility of labour and capital and the increased interdependence of national economies  $\rightarrow$  whether globalisation is reversible depends on whether there is more/less integration of the world economy.

Development:

Thesis: Globalisation is reversible.

Point:

Globalisation is reversible by implementing protectionist measures that reduce the flow of trade and foreign direct investment between countries to protect domestic firms and employment. In Extract 4, it states that the ratio of global trade to global GDP has fallen from 52% to 45%.

#### Explain/Elaborate:

Because of the US economic slowdown and high domestic unemployment  $\rightarrow$  In Extract 4, the US President Donal Trump expressed that "we must protect our borders from the ravages of other countries making our products, stealing our companies and destroying our jobs."  $\rightarrow$  implement protectionist policies, like import tariff  $\rightarrow$  the world supply of a good falls  $\rightarrow$  the price of the imported good rises  $\rightarrow$  the quantity demanded of imported good reduces  $\rightarrow$  the domestic production of domestically manufactured good increases  $\rightarrow$  derived demand for domestic labour rises  $\rightarrow$  higher domestic employment  $\rightarrow$  Hence, the integration of the world economy via trade is reduced.

In addition, in Extract 4, it states that automation/new technologies allow for smaller factories and localised production  $\rightarrow$  transition from labour-intensive production to capital-intensive production  $\rightarrow$  falling unit COP  $\rightarrow$  new comparative advantage developed in these industries + customers' preference toward personalisation and near-immediate delivery  $\rightarrow$  smaller and localised production becomes possible and attractive  $\rightarrow$  foreign direct investment reduces  $\rightarrow$  Hence, the integration of the world economy via foreign direct investment is reduced.

Link:

Therefore, implementing protectionist measures that reduce the flow of trade and foreign direct investment between countries make globalisation reversible.

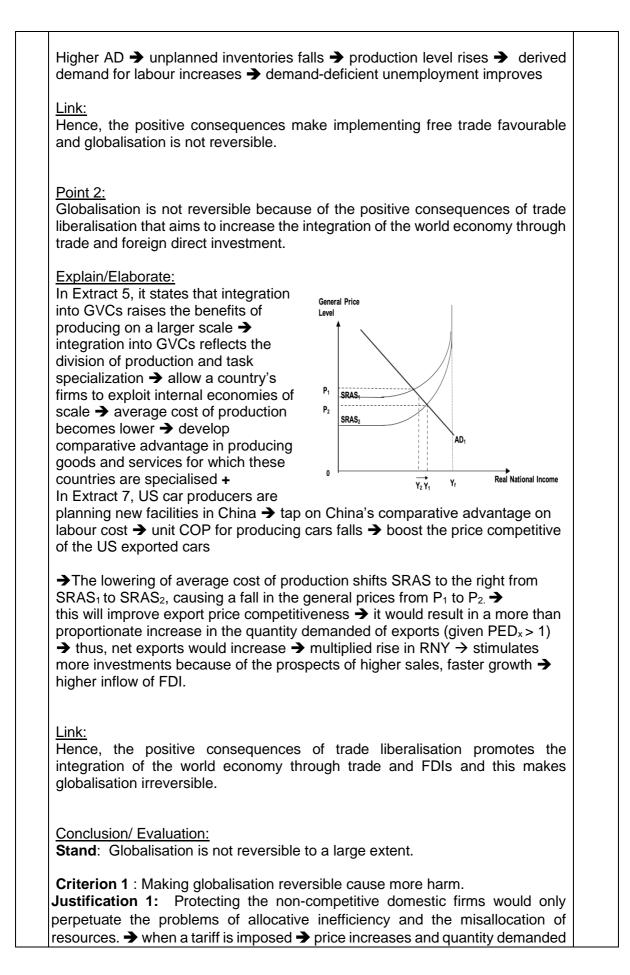
Anti-thesis: Globalisation is not reversible.

Point 1:

Globalisation is not reversible because of the positive consequences of trade integration that aims to increase the integration of the world economy.

### Explain/Elaborate:

In Extract 7, it states that governments are pursuing free-trade deals and the leading indicators of trade (manufacturing export orders and shipping rates) remain high + global growth is forecast to remain robust  $\rightarrow$  access to larger overseas market with fewer trade barriers + strong demand for overseas products (M rises)  $\rightarrow$  export volume rises and AD increases  $\rightarrow$  multiplied increase in RNY  $\rightarrow$  actual growth results + BOT position improves +



falls  $\rightarrow$  loss of consumer surplus + unnecessarily allocate resources to noncompetitive industries, which should be allocated to industries with comparative advantage  $\rightarrow$  allocative inefficiency

**Criterion 2**: The vast majority of economies in the world still favour globalisation.

**Justification 2**: The deeply interconnected GVCs make unrealistic all stages of production of a good taking place in a single country. In Extract 5, it states that the clear beneficiaries of globalisation are the emerging economies. These emerging economies are still actively participating in economic activities that promote the integration of the world economy, for instance, the partnership between China and Pakistan in the 'Belt and Road Initiative'. Furthermore, Asia, as the growth engine of the world economy, has seen strong export orders and high shipping rates. This is an indication of a trade boom.

_evel	Knowledge, Understanding, Application, Analysis	Marks
L3	<ul> <li>2-sided discussion: globalisation is (not) reversible.</li> <li>Accurate and conceptually sound using AD-AS framework</li> <li>Clear elaborations</li> <li>Exemplification within the given contexts.</li> <li>Coherent flow and organisation</li> </ul>	5-7
L2	<ul> <li>Attempted to address the question</li> <li>Used AD-AS framework, but with some inadequacy and/or inaccuracy</li> <li>Some attempt to elaborate</li> <li>Some exemplification within the given context</li> </ul>	1-4
evel	Evaluation	Marks
E2	<ul> <li>Insightful judgment substantiated with analyses, including but not limited to the following considerations:</li> <li>long vs short term</li> <li>other factors</li> <li>different contexts</li> <li>underlying assumptions</li> </ul>	2-3