

## C2 H2 Economics Prelims 2015 Case Study Question 1 and suggested answers

(a)	With reference to Tables 1 and 2, use a relevant elasticity of demand concept to explain the likely reason for the changes in cargo tonnage passing through Singapore.	[4]
	<ul style="list-style-type: none"> <li>• Changes in Container tonnage into Singapore is larger than the changes in world's GDP and generally it is positively related. (1m)</li> <li>• Evidence: the cargo carried are luxury goods e.g. cars, furniture as well as raw materials used as factors of production in goods which are likely to be luxury goods.(1m)</li> <li>• Thus the income elasticity of demand would be positive and greater than one.(1m)</li> <li>• As global economic activities increases, world income increases leading to higher demand for goods, thus the derived demand for transportation (shipping) increases leading to a rise in volume of cargo, c.p. (1m)</li> </ul> <p>Note: Normal good argument is acceptable too. Basic necessities argument should be used with the correct evidence e.g. with cars, to be acceptable. If candidate equate cargo tonnage as Singapore's export cannot be accepted. If candidate quote uses only one year of evidence (assuming the rest are correct), max 3 marks. Candidates may analyse in terms of both increase of tonnage and increase of world GDP for the time period.</p> <p>Direct relationship – 1m  YED &gt; 0 or YED &gt; 1 – 1m evidence (normal/luxury) – 1m  Derived demand – 1m</p>	
(b)	Explain whether data suggest the melting Arctic ice cap has significantly affected the volume of cargo tonnage handled by Singapore between the period 2009 and 2012.	[2]
	<ul style="list-style-type: none"> <li>• The tonnage of ships using the NSR has grown tremendously (from 40,000 to 1.26million which is phenomenal at more than a 3000% growth. On the other hand, Singapore's cargo tonnage increased by 14%.(1m)</li> <li>• However, the represent <b>a small percent of the cargo traffic</b> that passes through Singapore for both years. The 1.26 m ton that passes through NSR is very insignificant (less than 1%) relative to total tonnage of 472 .3m and 560.9m handled by Singapore. (1m)</li> <li>• OR</li> <li>• However, it is not known if the cargo that passed through the NSR are those that were meant to go through Singapore. So it has no basis for comparison.</li> </ul> <p>Note: Candidates must 'prove' that they understand the significance of the data. They shouldn't just state that melting Arctic ice cap has small significance for Singapore to obtain full marks.</p> <p>If candidate says NSR is insignificant and world income factor is more significant can give 2m.</p>	
(c)	<b>How might shipping firms make the decision to take either the NSR or SSR route?</b>	[4]
	<p><b>Cost reasons (2m)</b>  Higher variable costs:</p> <ul style="list-style-type: none"> <li>• Wages for sailors through NSR could be higher due to harsh climate they have endure.</li> <li>• Even during summer months, ice breaker ships are hired to guide the ship.</li> </ul>	

	<p>Lower variable costs: Lower fuel cost by taking the NSR. In Table 3, The benefit is in terms of cost savings where <b>the fuel consumption can be reduced by 39%</b></p> <p><b>Revenue reasons (1m +1m)</b> Economic growth lies with countries along the SSR not NSR. Or reduced number of days increases the ability of firms to make more trips thus revenue increases</p> <p>In most cases, containers go where the demand for the good is. So firms would use the SSR if the destination of the cargo is within the countries that it traverse, even with higher fuel cost.</p> <p><i>Note: Table 3 must be used in order to obtain all 4 marks. 'benefit' alone is not acceptable, must linked to revenue.</i></p>	
(d)	<p>Despite being overtaken by Shanghai as the world's busiest container port, explain why Singapore Port Operator (PSA) should 'welcome its Shanghai counterpart's growth'.</p>	[2]
	<ul style="list-style-type: none"> <li>Shanghai overtook Singapore – appears to rivalrous and substitutes.</li> <li>But since Shanghai is a 'throughport' and serves China, while Singapore is a 'transshipment' port which serves slightly different market. Both are not considered close substitutes to one another.</li> <li>In fact, the cargo that goes out of Shanghai may use Singapore as a transshipment port. In that sense, both may be <b>complementary in their operations</b></li> </ul> <p><i>1m for evidence plus "not closed substitutes" only</i></p> <p><i>2m for Evidence plus complementary in operations</i></p> <p><i>Derived demand not acceptable</i></p>	
(e)	<p>Given the emergence of major shipping ports like Shanghai, Shenzhen and Guangzhou, discuss the appropriate strategies that you would recommend for PSA to maintain its profitability.</p>	[8]
	<p>Shanghai overtaken Singapore as world's busiest container port and set to widen. Singapore may consider examining price competition, non-price competition and other acceptable strategies in order to maintain its profitability.</p> <p><b>PSA strategies to maintain profitability</b></p> <p><b>Revenue factors</b> <b>Price Competition</b></p> <ul style="list-style-type: none"> <li>Lower price to attract more shipping firms to use Singapore port.</li> <li><i>'Shipping lines are forced to explore the cheapest-cost options which in turn impose downward pressure on the port charges. For instance, the attractiveness of Johor's Port of Tanjung Pelapas' (PTP) port price, which is some 30% lower than that of PSA's, becomes apparent.'</i></li> <li><b>Evaluation</b> – not likely to reduce price to attract the shipping firms as demand is inelastic due to its transshipment status.</li> </ul>	

	<p><b>Non-price competition</b></p> <ul style="list-style-type: none"><li>• Product Service innovation – design centre for maritime technology, green technology, legal and financial centre.</li><li>• Elaborate using concepts of leading to rising demand, reduce PED and CED.</li></ul> <p><b>Other methods</b></p> <ul style="list-style-type: none"><li>• Diversification – venturing into overseas markets, to increase revenue for the firm.</li></ul> <p><b>Cost factors</b></p> <ul style="list-style-type: none"><li>• Capacity expansion – increase scale of production by doubling the capacity and perhaps gain more internal economies of scale that can reduce long run average costs in the future.</li></ul> <p><b>Conclusion</b></p> <ul style="list-style-type: none"><li>• Shanghai is a port that is tied to the economic growth of China, while Singapore is a transshipment port for West and East Asia.</li><li>• Both serve different nature of markets.</li><li>• The challenge of losing its status as world’s busiest port looks inconsequential to Singapore’s PSA. The firm looks quite well placed to tackle them by enhancing effectiveness of the strategies both in Singapore and overseas.</li></ul> <p><b>Mark Scheme</b></p> <table><tr><td><b>L3 (6-8)</b></td><td>Balanced answer that considers on how to increase revenue and reducing cost based on the context. Candidates should <b>attempt</b> at arriving at <b>justified conclusion to reach a L3 mark</b>.</td></tr><tr><td><b>L2 (4-5)</b></td><td>Either: Lopsided answer with in-depth analysis, Or: Balanced answer but lacks depth in analysis. Both with some use of case evidence.  (No use of case evidence – capped at Low L2: 4m)</td></tr><tr><td><b>L1 (1-3)</b></td><td>High L1: List of relevant concepts and/or case evidence without adequate explanation.  Low L1: Largely irrelevant answer with major conceptual errors.</td></tr></table>	<b>L3 (6-8)</b>	Balanced answer that considers on how to increase revenue and reducing cost based on the context. Candidates should <b>attempt</b> at arriving at <b>justified conclusion to reach a L3 mark</b> .	<b>L2 (4-5)</b>	Either: Lopsided answer with in-depth analysis, Or: Balanced answer but lacks depth in analysis. Both with some use of case evidence.  (No use of case evidence – capped at Low L2: 4m)	<b>L1 (1-3)</b>	High L1: List of relevant concepts and/or case evidence without adequate explanation.  Low L1: Largely irrelevant answer with major conceptual errors.	
<b>L3 (6-8)</b>	Balanced answer that considers on how to increase revenue and reducing cost based on the context. Candidates should <b>attempt</b> at arriving at <b>justified conclusion to reach a L3 mark</b> .							
<b>L2 (4-5)</b>	Either: Lopsided answer with in-depth analysis, Or: Balanced answer but lacks depth in analysis. Both with some use of case evidence.  (No use of case evidence – capped at Low L2: 4m)							
<b>L1 (1-3)</b>	High L1: List of relevant concepts and/or case evidence without adequate explanation.  Low L1: Largely irrelevant answer with major conceptual errors.							
(f)	Assess whether the government or the private sector in Singapore should play a more important role in view of the economic inefficiencies in resource allocation brought about by the melting polar ice cap.	[10]						
	<p><b>Introduction</b></p> <p>The melting polar ice cap brought about both challenges and opportunities and both</p>							

the Singapore government and private sector have to work together to mitigate the negative impact and work to benefit from the opportunities. Whether the government or private sector has a bigger role to play, shall be discussed.

## Body

### Negative externalities and public goods - government

- *Manmade activities ...” Emission of greenhouse gases from the use of fossil fuels to power cars, factories and electricity production, resulted in the warming in the atmosphere and ocean.*
- *But melting ice could also cause coastal flooding, a real problem for Singapore.*
- Briefly explain the **negative externalities** involved and resulted in flooding problem in Singapore.
- In response, government has to pour into the construction of dykes and flood management infrastructure sooner rather than later. The market will not be building this due to missing market. No private firms will undertake this projects.
- Explain the concepts of **non-rivalry and non-excludability of public goods**.

### Opportunities and challenges – government

- *Singapore's Arctic involvement is driven primarily by an ambition to exploit an emerging market niche in which it sees itself as a technological and expertise leader. The republic is also home to firms with offshore and marine engineering experience.*
- *Singapore is now developing the next generation of oil rigs and ships, including Arctic life boats for Arctic oil companies.*

### Immobility in Factor of Production

- **Occupational Immobility:** Singapore businesses lacks the necessary manpower and expertise in this field of Arctic exploration and research.
- **Capital Immobility:** Singapore is also far from the Arctic to do first-hand research in freezing temperatures using equipment suited for warmer weather.

### + High risks involved in such venture

As a result, government needs to take the lead to provide education and training opportunities and funds for R&D in such areas; provide information; reduce risks involved for private firms to enter the business.

### Opportunities - private sector involvement

*In addition, tourism in the Arctic is expected to get much needed boost. Already, the volume of tourist trips throughout Greenland, Norway, Alaska and Canada have increased rapidly. Killer whales and grey whales sighting tours are expected to benefit from melting ice. This would prove to be a lucrative prospect for Singapore's travel industry.*

Lucrative such as Arctic tourism – private sector can work with the countries involved in tourism.

Government Intervention could come to support or nurture 'infant industries' related to melting ice caps e.g. provision of training for new skilled manpower, subsidise R&D so as to acquire new Comparative Advantage; provide financing to overcome barriers to entry such as very high initial capital outlay; negotiations for rights to operate tours to the Arctic with international organisations or foreign governments.

### Conclusion

Government seems to be in a better position to take the lead such as in provision of public good and rectifying immobility of factors of production while the private sector may be slower to take respond to these changes as they are long run changes.

Both private sector and government have key roles to play in the economy, albeit in different aspects. Correcting certain market failures must be left to government to ensure an efficient allocation of resources. Nurturing new growth sectors/industries requires the active partnership of both private sector and government to succeed. To survive, Singapore economy has to be able to restructure and reinvent. The government traditionally/historically plays an active role in helping to nurture/grow new sectors e.g. bio- medical, petrochemical to Gaming industry/casinos in the past. Therefore, should continue to play the same role in developing new growth sectors related to melting ice caps to make SG relevant to the rest of the world in order to sustain future economic growth.

### Mark Scheme:

<b>L3 (6-8)</b>	Balanced and accurately-analysed answer which is contextualised. Candidates must demonstrate good application of the data to the relevant Market Failure concepts.  (Note: No need for diagram(s) for L3.)
<b>L2 (4-5)</b>	Either: Lopsided answer with in-depth analysis, either from the private sector or the government sector. Candidates showed the ability to incorporate answers relating to Market Failure in the answer.  Or: Balanced answer but lacks depth in analysis.  Both with some use of case evidence.  (No use of case evidence – capped at Low L2: 4m)
<b>L1 (1-3)</b>	High L1: List of relevant concepts and/or case evidence without adequate explanation.  Low L1: Largely irrelevant answer with major conceptual errors.
<b>E2 (2)</b>	Gives a justified stand. Able to point out that Singapore's weak private sector is 'lagging' behind the government sector in this respect and government perhaps need to take a leading role.
<b>E1 (1)</b>	Gives an unjustified stand. Some attempt to compare both

		sectors.	