



# SERANGOON JUNIOR COLLEGE

## JC2 Preliminary Examination

**ECONOMICS**

**9757/01**

**Higher 2**

PAPER 1

11 September 2017

**2 hours 15 minutes**

Additional Materials:      Answer Paper

### **READ THESE INSTRUCTIONS FIRST**

Write your name and civics group on all the work you hand in.  
Write in dark blue or black pen on both sides of the paper.  
You may use an HB pencil for any diagrams, graphs or rough working.  
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Start your answer to each case study question on a new sheet of writing paper.

Fasten your answers to each question separately.

The number of marks is given in brackets [ ] at the end of each question or part question.

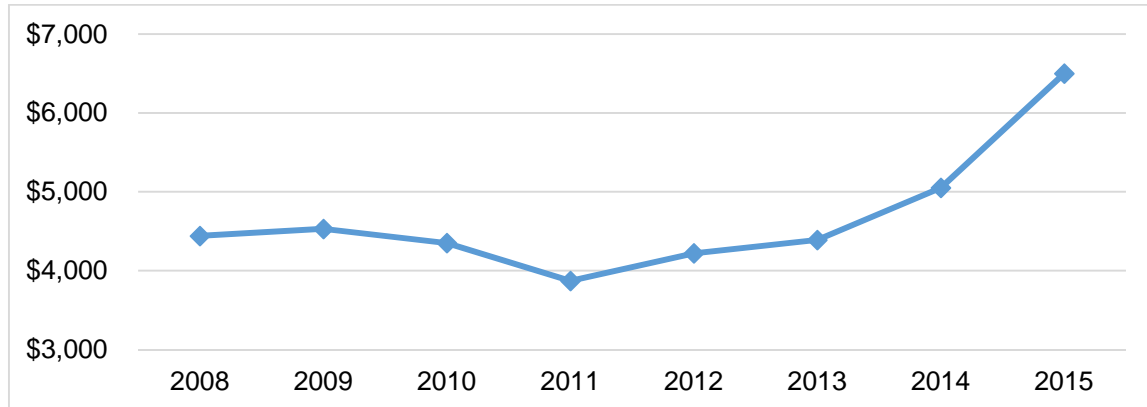
This document consists of **7** printed pages and **1** blank page.

Answer **all** questions.

### Question 1

#### The automobile and energy industries

**Figure 1: The world price of lithium (US\$)**



Source: Metalary, accessed Aug 2017

#### Extract 1: The electric car revolution is accelerating

Electric cars will outsell fossil-fuel powered vehicles within two decades as battery prices plunge, turning the global automobile industry upside down and signalling economic turmoil for oil-exporting countries.

The Bloomberg New Energy Finance (BNEF) forecast says adoption of emission-free vehicles will happen more quickly than previously estimated because the cost of building cars is falling so fast. The seismic shift will see electric cars account for a third of the global automobile fleet by 2040 and displace about 8 million barrels a day of oil production - more than the 7 million barrels Saudi Arabia exports today.

China, the US and Europe will drive demand for battery powered cars over the next 25 years, according to BNEF. These governments which have already been the most advanced in providing subsidies and installing charging points, will reap the benefits sooner than other emerging economies like India.

"Electric cars are intrinsically cheaper than gas or oil fuelled cars because they're simpler and their maintenance is a lot easier," said Francesco Starac, Chief Executive Officer of Enel SpA, in an interview in Rome.

While traditional car suppliers may be hurt by electric vehicle growth, some commodities will get a lift. Demand for lithium will rise significantly when electric vehicles become mainstream as the commodity is a vital component for lithium-ion batteries. Extraction of lithium from brine requires a lengthy evaporation process that lasts between 8 months to three years.

Source: Bloomberg, July 2017

**Extract 2: Should Tesla be worried about competition?**

Tesla Superchargers are a network of 480-volt fast-charging stations built by Tesla Inc. to allow longer journeys for their all-electric manufactured vehicles through quick charging of the vehicle's battery packs. Such convenient charging options to its car users has given Tesla a competitive edge, given that no other player has been able to replicate this kind of network so far. While other car makers are working on fast charging alternatives, competing with Tesla on the charging network might be tough for other automakers, given its first mover's advantage. Tesla is the only automaker exclusively developing electric cars on a significant scale and this gives it an edge over other automakers that also need to focus on their traditional models.

Source: Forbes, 4 Jan 2016

**Extract 3: Intense competition leads to low profit margins for automakers**

Japanese automakers Toyota and Honda have among the highest profit margins in the business at 13.8% and 13.1%, respectively. In contrast, General Motors (GM) has a relatively lower margin of 8.5% and Ford the lowest with a margin of 8.2%. The biggest reason for the difference between Japanese and American manufacturers' profit margins is the weak Japanese yen. The yen depreciated by 29.2% against the US dollar over the past two years. Toyota exports about 56% of the vehicles it manufactures in Japan—more than both Nissan and Honda. This helps it to achieve higher margins.

Japanese automakers are also known for using common components across different models. This results in significant cost savings for the manufacturer. However, in the US, labour problems and significant healthcare costs contribute to their lower profit margins.

The automobile industry in general has lower profit margins primarily because of intense competition and compliance to stringent fuel emission standards and fuel efficiency requirements.

Source: Market Realist, 5 Feb 2015

**Extract 4: Car industry: What Australia could learn from state support around the world**

Car manufacturing is a proud pillar of the western world's industrial history, but the industry was facing serious problems which afflicted automotive superpowers such as the US, the UK, France and now Australia, where Toyota will close all of its factories by 2017. But in recent years some of those countries have at least stopped the decline of the industry. Government intervention has been key in rebuffing the global pressures such as cheaper labour elsewhere, deteriorating consumer confidence and excess factory capacity that have seen car plants shut all over the world since the credit crunch exposed an over-expanded and over-leveraged industry.

The US was the most successful example of intervention with the managed bankruptcies of GM and Chrysler which were supported financially by the government. "Despite being seen as a free market, the US had an industrial policy to rescue those car manufacturers and get them to shift to new low-carbon vehicles," said Professor David Bailey of Aston University. Without government intervention, the US car industry would not have survived on its current scale, he said.

If it were a free market, two of Detroit's biggest companies would have gone bankrupt as they were not fleet-footed enough for a global car market that had seen the likes of Toyota enter GM and Chrysler's backyard. But the Bush and Obama administrations took the view that the collapse of two-thirds of the US automobile industry would have ramifications that stretched far beyond the industry, with hundreds of thousands of jobs at risk in the supply chain.

Source: The Guardian, 10 Feb 2014

### Extract 5: Big six energy firms braced for government price crackdown

UK Prime Minister, Theresa May, said the energy market was not working after a flurry of price rises by the big six companies – British Gas, E.ON, EDF Energy, npower, ScottishPower, and SSE – and dozens of smaller suppliers. A government crackdown is expected, most likely in the form of a price cap on the standard variable tariffs affecting nearly two-thirds of households.

Steep hikes in fuel bills by the big six, who control more than 80% of the market, have prompted calls for action by consumer groups. The suppliers have blamed a series of factors, from smart meter installation costs and green energy policies to, most frequently, rising wholesale energy costs. But the energy regulator Ofgem said in January that while wholesale costs had gone up, they were not large enough to warrant passing on to consumers.

Source: The Guardian, 17 Apr 2017

### Questions

- (a) Describe the trend in the world price of lithium from 2008 to 2015. [2]
- (b) With reference to Extract 1, what can you conclude about the price elasticity of supply of lithium? Explain your answer. [2]
- (c) Analyse the likely impact of falling prices of electric cars on the market for crude oil. [4]
- (d) Explain the barriers to entry created by Tesla in the market for electric cars. [4]
- (e) To what extent does a weak yen help to boost the profits of a Japanese automaker such as Toyota? [8]
- (f) Discuss the reasons for a government's decision to either regulate or subsidise big firms such as those in the automobile and energy industries. [10]

**[Total: 30]**

**Question 2****The benefits and costs of globalisation****Extract 6: Love imported goods, but hate losing American jobs?**

The United States (US) imported \$2.69 trillion in 2016. That includes \$2.2 trillion in goods and \$502 billion in services. America is the world's second-largest importer. The European Union imports more, at \$2.24 trillion. China is third, importing \$1.4 trillion. Combined, these countries import \$5.8 trillion, or one-third of the world's total imports of \$15.34 trillion.

The largest US import category is capital goods at \$590 billion. Businesses import telecommunication, semiconductors, computers and related equipment. Consumer goods is almost as large, at \$584 billion. Most of this is cell phones, televisions, apparel and footwear. Services is a large and growing category. In 2016, US service imports totalled \$502 billion. More than half of US imports come from five countries: China, Canada, Mexico, Japan and Germany.

US imports more than it exports. That is despite being the third-largest exporter in the world. That creates a US trade deficit of \$502 billion. Even though America exports billions in oil, consumer goods and automotive products, it imports even more of those same categories.

Everything that is imported is obviously not made in the US. For that reason, it creates US unemployment. The biggest change occurred with the growth of imports from China. In 2007, 28 percent of all imports were from China and other low-income countries. This was a dramatic rise from 2000, when this value was only 15 percent. At the same time, the US was losing manufacturing jobs. A study found that in 2000, more than 10 percent of the labour force worked in manufacturing but by 2007, it had dropped to 8.7 percent. Imports create US jobs in transportation, distribution and marketing. However, it is unlikely that these job gains offset the job losses in manufacturing.

Although America can produce all it needs, China, Mexico and other emerging market countries can produce it for less. Their cost of living is lower, which allows them to pay their workers less. That makes them better than American companies at producing what US consumers want. For example, Indian technology companies can pay their workers just \$7,000 a year, much lower than the US minimum wage. In other words, there is a trade-off between plentiful US jobs and low-cost products.

Many people say we should only buy items that are "made in America." That would solve the problem only if everyone were willing to pay higher prices.

Source: The Balance, accessed 19 Apr, 2017

**Extract 7: The cost of Brazil's closed economy**

Brazil is an unusually closed economy as measured by trade penetration, with exports plus imports equal to just 27.6 per cent of GDP in 2013. Notably, Brazil's trade openness lags far behind its peers among the BRICS (Brazil, Russia, India, China and South Africa) countries, all of which reached trade-to-GDP ratios of at least 50 percent in recent years.

Very few Brazilian firms export and of all Brazilian exporters, a much smaller number of firms make up the overwhelming share of exports. The top one percent of exporting firms generates 59 percent of total exports, while the top 25 percent of firms account for 98 percent of export revenue.

Brazilian exporters also lack dynamism. Brazil has a very low entry rate – very few companies become new exporters. On the flipside, established exporters have a very high survival rate.

Brazil's extraordinary lack of openness and its small number of exporters are closely related to the fact that Brazilian companies are poorly integrated into transnational value chains. This can be observed in the very high share of domestic value added in Brazilian exports, which implies that such exports incorporate few components and intermediate goods imported from other countries. The reasons behind this include precarious logistics and high transaction costs related to international trade, as well as deliberate policy decisions to favour local content over international integration.

Over the past decade, Brazilian companies have also faced serious challenges to competitiveness, such as exchange rate appreciation and defensive trade policies. Brazilian exports have remained mostly "made in Brazil," while many emerging economies today boast an export base that is largely "made in the world."

Brazil's first priority should be to remove local content requirements that keep foreign investment away and hurt local firms in the process. Opening up and moving toward integration into global value chains could produce efficiency gains and help Brazil address its productivity and competitiveness challenges.

Source: World Bank Group, 15 Feb 2015

#### **Extract 8: What is driving Brazil's economic downturn?**

Brazil's economic situation has deteriorated significantly in recent years. The economy entered into recession in 2014 and the situation worsened in 2015, with real GDP likely to have declined by 3%, while inflation has remained close to 10%. The downturn of the non-energy commodity price cycle revealed the underlying structural weaknesses in the Brazilian economy.

In the first decade of the century, Brazil benefited from strong demand, particularly from China for some of its key export commodities such as iron ore, soybeans and raw sugar. Supported by positive terms of trade effects, Brazil's annual GDP growth rate averaged 3.1% over this period.

Since the fall in world commodity prices in 2011, these terms of trade effects have reversed. As a result, GDP growth has been consistently lower than predicted, while structural weaknesses underlying the economy have resurfaced. These weaknesses include a burdensome tax system, poor infrastructure, limited competition, the high costs of starting a business and high tariff rates.

Source: ECB Economic Bulletin, Jan 2016

**Table 1: Total merchandise trade for selected economies (US\$ million)**

		2010	2011	2012	2013	2014	2015
Brazil	Exports	201 915	256 040	242 578	242 034	225 101	191 134
	Imports	191 537	236 964	233 398	250 556	239 152	178 798
China	Exports	1 577 754	1 898 381	2 048 714	2 209 005	2 342 293	2 274 949
	Imports	1 396 247	1 743 484	1 818 405	1 949 990	1 959 233	1 681 951
United States	Exports	1 278 495	1 482 508	1 545 703	1 579 593	1 620 532	1 504 914
	Imports	1 969 184	2 266 024	2 336 524	2 329 060	2 412 547	2 307 946

Source: WTO, World Trade Statistical Review 2016

**Table 2: Exchange rates: Units of national currency per US dollar**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
<b>Brazilian Real</b>	1.759	1.673	1.953	2.156	2.353	3.327
<b>Chinese Yuan</b>	6.77	6.461	6.312	6.196	6.143	6.227

Source: OECD, accessed Aug 2017

**Questions**

- (a) Using Table 1, compare the change in China's balance of trade in goods with that of the US between 2010 and 2015. [2]
- (b) Explain how the theory of comparative advantage can be applied to account for the pattern of trade between the US and her trade partners. [3]
- (c) With reference to Extract 6, explain the 'trade-off between plentiful jobs and low-cost products'. [3]
- (d) (i) With reference to Table 2, how does the value of the Brazilian Real in 2015 compare to its value in 2010? [1]
- (ii) How could the difference in the value of the Brazilian Real observed in (d)(i) be explained by the fall in world commodity prices? Explain with the help of a diagram. [3]
- (e) Discuss whether Brazil's defensive trade policies is the key reason for its lack of export competitiveness. [8]
- (f) Assess whether opening up its economy is the best option for the Brazilian government to achieve sustainable economic growth. [10]

**[Total: 30]****[End of paper]**

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