

VICTORIA JUNIOR COLLEGE
2016 JC 2 PRELIMINARY EXAMINATION
H1 ECONOMICS – PAPER NO.8819

15 September 2016
Thursday

8am - 11am
3 hours

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name and class on all the work you hand in.

Write in dark blue or black pen on both sides of the paper.

You may use a soft pencil for any diagram, graphs or rough working.

Do not use staples, paper clips, highlighters, glue or correction fluid.

Section A

Answer **all** questions.

Section B

Answer **one** question.

At the end of the examination, fasten your work securely, by Section, using the strings provided.

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

This document consists of **8** printed pages.

Section A

Answer **all** questions in this section.

Question 1

Electricity markets in Europe

Table 1: Electricity consumption in the UK by sector (in Terawatt-hours)

Sector	2010	2011	2012	2013	2014
Domestic	118.8	111.6	114.7	113.5	108.3
Industry	104.5	102.4	98.2	96.9	92.8
Others	105.5	103.9	105.1	105.9	101.8
Total	328.8	317.8	318.0	316.2	302.9

Source: *Digest of UK Energy Statistics (DUKES)*

Table 2: Average annual household expenditure on electricity (in £)

Year	2010	2011	2012	2013	2014
Expenditure	474	502	522	546	549

Source: *Department of Energy & Climate Change (DECC) UK*

Extract 1 Britain's shift to renewable energy

Britain generated more of its electricity from renewable sources than from burning coal for the first time in the second quarter of 2015, as more wind and solar farms were built.

The Government has encouraged the shift to green energy through subsidies for renewable generation and punitive measures on coal plants as it seeks to meet climate change targets. The drop in coal power also reflected the closure or temporary shutdown of other coal power stations and an increase in the UK's carbon tax which made coal plants less profitable to run.

A DECC spokesman said: "Government support has driven down the cost of renewable energy significantly and these statistics show that has successfully enabled renewables to compete with other technologies."

Source: *The Telegraph*, September 2015

Extract 2 Obstacles to renewable energy use

It seems to be that Britain's aged electricity grid is stopping renewable energy projects connecting to the system, threatening the country's prospects for a low-carbon consumption future. Ashley Seager, a director at solar energy firm Sun4net, said the lack of capacity was exacerbated by prohibitively high connection charges of £40m annual fee it has to pay to be connected to the National Grid especially for businesses wanting to produce their own energy. He said: "For about 80% of those projects, grid connection was too expensive to make them viable." In another claim, the cost of connecting offshore wind to UK's grid was estimated at £17bn, leading to a possible black hole in UK's budget in the near future, given the deficit it already faces and such cost is inevitably going to be added to everyone's electricity bills.

Source: Adapted from *The Telegraph*, March 2014

Extract 3 Expansion of solar power

Six years ago, the Intergovernmental Panel on Climate Change identified solar power as the most expensive of all renewable energy technologies, estimating it cost twice as much to generate a unit of electricity from a solar panel as from a wind turbine.

But the cost of solar panels and batteries has plunged by more than half in the last five years. Financial services company UBS says in Germany, Italy and Spain, solar power soon won't need government subsidies to be economically viable.

One decision had a significant part to play in the drop in solar costs: a few years ago, China's government opted to subsidise its manufacturing sector to produce cheap solar panels. The aftermath has been mixed for the European solar industry. On one hand, cheap panels made expansion of solar power easier. But the imported panels also undercut Europe's manufacturing sector. In Germany, for example, this led to companies going out of business and significant job cuts.

Source: *Carbon Brief*, September 2013

Extract 4 Europe's tariffs on solar panels

The European commission is imposing anti-dumping tariffs on Chinese solar panels, in a move that could spark tit-for-tat retaliation from the world's second largest economy. The commission, the EU's executive arm, accused China of undercutting European rivals by selling panels below-cost and threatening 25,000 jobs in the European solar industry. "Our action today is an emergency measure to give life-saving oxygen to a business sector in Europe that is suffering badly from this dumping," said the European commissioner for trade, Karel De Gucht.

Hosuk Lee-Makiyama, the director of the European Centre for International Political Economy, said tit-for-tat tariffs could be imposed on those EU member states known to have supported the anti-dumping duties. "China is likely to retaliate and they know who their friends are," he said.

Source: *The Guardian*, June 2013

Extract 5 Power generation in the European Union

The European Commission has released an interim report providing the first full data set on energy costs and subsidies for power generation technologies across the 28 European Union countries.

Examining energy subsidies in 2012, the *Subsidies and Costs of EU Energy* report shows that the EU spent between €120 and €140 billion on power sector support. The largest amount -- €40 billion -- went to renewables, reflecting EU efforts to expand the share of renewable energy in its overall energy consumption.

The report also presents estimates on external costs across power generation technologies that are not reflected in market prices, such as costs of environmental and health impacts and the impact of climate change. The external costs of the EU's energy mix in 2012 are estimated at between €150 and €310 billion.

Source: *PV Magazine*, October 2014

Questions

- (a) Compare the trends in domestic and industrial electricity consumption in the UK from 2010 to 2014. [2]
- (b) (i) Using Tables 1 and 2, what can you infer about UK households' price elasticity of demand for electricity? [4]
- (ii) Comment on the likely price elasticity of supply of electricity. [2]
- (c) Explain **one** supply-side reason that accounts for the rise in the use of renewable energy sources for electricity production in the UK. [3]
- (d) Extract 4 highlights protectionist measures that the European Commission adopted in the solar panel industry. Comment on the arguments for and against such protectionism. [6]
- (e) According to Extract 5, power generation creates "external costs that are not reflected in market prices".
- (i) Explain how these 'external costs' may lead to market failure. [5]
- (ii) Discuss the relative effectiveness in addressing this market failure problem by using renewable energy subsidies as opposed to taxation. [8]

[Total: 30]

Question 2

Economic Challenges in different economies

Extract 6: US hiked interest rate for the first time since 2006

The US Federal Reserve (Fed) hiked interest rate for the first time in nearly a decade, signalling faith that the U.S. economy had largely overcome the 2008 financial crisis.

The Fed raised interest rate by 0.25 per cent in view of the projected rise in the rate of inflation to 2% in the medium term. With the economy performing well and expected to continue to do so, the Fed committee judges that a modest increase in the interest rate is appropriate. "Policy remains accommodative," Yellen said. "The US economy has shown considerable strength. Domestic consumer spending has continued to rise and investment by firms have risen".

Adapted from *Reuters*, 16 Dec 2015

Extract 7: China takes steps to transit to a knowledge-based economy

China posted its weakest economic growth in the fourth quarter of 2015, adding pressure on policymakers to take more steps to ward off a sharper slowdown that could jolt global markets.

The government could widen the budget deficit to about 3 percent this year as leaders turn to tax cuts and increased spending on infrastructure to support growth. While the government is expected to lean more on fiscal policy to support growth this year, the central bank may still need to ease monetary policy to help cushion the impact of structural reforms on the economy. The central bank has already cut interest rates six times since November 2014 to spur economic growth.

China intends to transit to a knowledge-based economy by encouraging its organizations and people to acquire, create and use knowledge more effectively for greater economic and social development. Strong economic incentives and institutions are required to enable organizations and people to adjust to changing opportunities in flexible and innovative ways.

The government plans to push forward "supply-side reforms" by cutting corporate tax, upgrading the information and communication technology (ICT) and R&D infrastructure and removing barriers to encourage domestic entrepreneurship and foreign direct investment in the services sector. There is a need to establish clear rule of law and property rights. They also strive to privatize big, highly inefficient state-owned enterprises into market-oriented institutions.

In the short term, the critical challenge for China is to ensure a smooth and efficient transition, minimizing unemployment that will inevitably result from the restructuring. Retraining also needs to be provided for millions of workers that may be displaced. Even though literacy rates had soared due to government's increased spending on education, there is still overemphasis on knowledge transfer rather than the development of imaginative and creative capabilities. This has proved to be a major hindrance to its education reforms.

Adapted from *Asian Development Bank, World Bank & The Guardian*, 9 May 2016

Extract 8: Singapore faces external headwinds

While manufacturing remained in the doldrums, Singapore's economic growth in the fourth quarter of 2015 was supported by public-sector construction activities, and the finance and insurance sectors. With no signs of external demand picking up yet, economists, however, were cautious about the outlook for the coming year despite the better-than-expected fourth quarter performance. Barclays' economist Leong said: "The US economy is strong but it is offset by China's growing weakness, precipitated by a weaker ability to import due to the weaker Chinese yuan."

DBS economist, Irvin pointed out the risks of potential capital flight that could result from further US rate hikes and fears of further economic slowdown in China. "Growth outlook in the next six to nine months will remain tepid before an improvement in the later part of 2016," he added.

Adapted from *Today*, 4 January 2016

Extract 9: Singapore's top export partners

Singapore shipped US\$346.8 billion worth of products around the globe in 2015.

The top 5 export markets are:

1. China: US\$47.7 billion (13.8% of total Singapore exports)
2. Hong Kong: US\$39.7 billion (11.4%)
3. Malaysia: US\$37.8 billion (10.9%)
4. Indonesia: US\$28.4 billion (8.2%)
5. United States: US\$23.2 billion (6.7%)

Source: <http://www.worldstopexports.com/singapores-top-import-partners/>, 17 Apr 2016

Table 3: Macroeconomic Indicators (China)

	2011	2012	2013	2014	2015
Real GDP growth (% per year)	9.5	7.8	7.7	7.3	6.9
Rate of inflation (%)	5.4	2.6	2.6	2.0	1.4
Unemployment (% of labour force)	4.3	4.5	4.6	4.7	4.8
Government budget balance (% of GDP)	0.1	-0.3	-0.7	-1.2	-2.6
Current account balance (US\$ billion)	136.1	215.4	148.2	219.7	330.6

Table 4: Macroeconomic Indicators (United States)

	2011	2012	2013	2014	2015
Real GDP growth (% per year)	1.6	2.3	2.2	2.4	2.0
Rate of inflation (%)	3.2	2.1	1.5	1.6	0.1
Unemployment (% of labour force)	9.0	8.2	7.4	6.2	5.0
Government budget balance (% of GDP)	-10.7	-9.3	-6.4	-5.8	-2.4
Current account balance (US\$ billion)	-460.4	-449.7	-376.8	-389.5	-484.1

Table 5: Macroeconomic Indicators (Singapore)

	2011	2012	2013	2014	2015
Real GDP growth (% per year)	6.2	3.4	4.4	2.9	2.0
Rate of inflation (%)	5.3	4.5	2.4	1.0	-0.5
Unemployment (% of labour force)	2.9	2.8	2.8	2.7	2.8
Government budget balance (% of GDP)	1.2	1.7	1.1	-0.3	-1.2
Current account balance (US\$ billion)	60.6	49.8	54.1	58.8	57.5

Source: *The Economist*, World Bank (2015), <http://stats.mom.gov.sg>, 28 Apr 2016

Questions

- (a) (i) Compare the change in China's current account balance with that of the US for the period 2011 to 2015. [2]
- (ii) Explain whether the US should be concerned about the changes to her current account balance. [2]
- (b) (i) What conclusion would you draw from Table 4 about the overall economic performance of United States in 2015 compared with 2011? [2]
- (ii) Comment whether the US central bank's action of raising the interest rate is justified. [4]
- (c) Explain how the slowdown in China's economic growth will affect its government budget balance. [4]
- (d) With reference to the data, discuss the likely impact of China's monetary policy (Extract 7) on the Singapore's economy. [8]
- (e) Assess the effectiveness of China's supply-side reforms in facilitating a smooth transition to a knowledge-based economy. [8]

[Total 30]

Section B

Answer **one** question from this section.

- 3 (a) Explain why government intervention is needed for public goods and merit goods. [10]
- (b) Discuss whether government provision is the best way to address market failure arising from merit goods. [15]
- 4 Globalisation has helped Singapore attain actual economic growth and low unemployment through increased international trade; and kept inflation low. In addition, large amounts of foreign direct investment have helped Singapore achieve potential economic growth. Despite all its apparent benefits, globalisation has some downsides particularly in times of global recession.

Source: Adapted from *The Business Times*, Jan 24 2013

- (a) Explain how globalisation has adversely affected the growth of the Singapore economy. [10]
- (b) Discuss whether fiscal policy alone is effective for Singapore to overcome the effects of the global recession. [15]