



SERANGOON JUNIOR COLLEGE

JC2 Preliminary Examination

ECONOMICS
Higher 2

9732/01

PAPER 1

14 September 2016

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 a soft pencil for any diagrams, graphs or rough working.
Do not use staples, paper clips, highlighters, glue or correction fluid.

Answer **all** questions.

Start your answers to each case study question on a new sheet of writing paper. Fasten your answers to questions 1 and 2 separately.

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

You are reminded of the need for good English and clear presentation in your answers.

This document consists of **7** printed pages.

Answer **all** questions.

Question 1

Oily Business

Extract 1: Why the oil price went down so far so fast

The reasons oil prices started sliding in June were hiding in plain sight: growth in US production, sputtering demand from Europe and China, Mideast violence that threatened to disrupt supplies and never did.

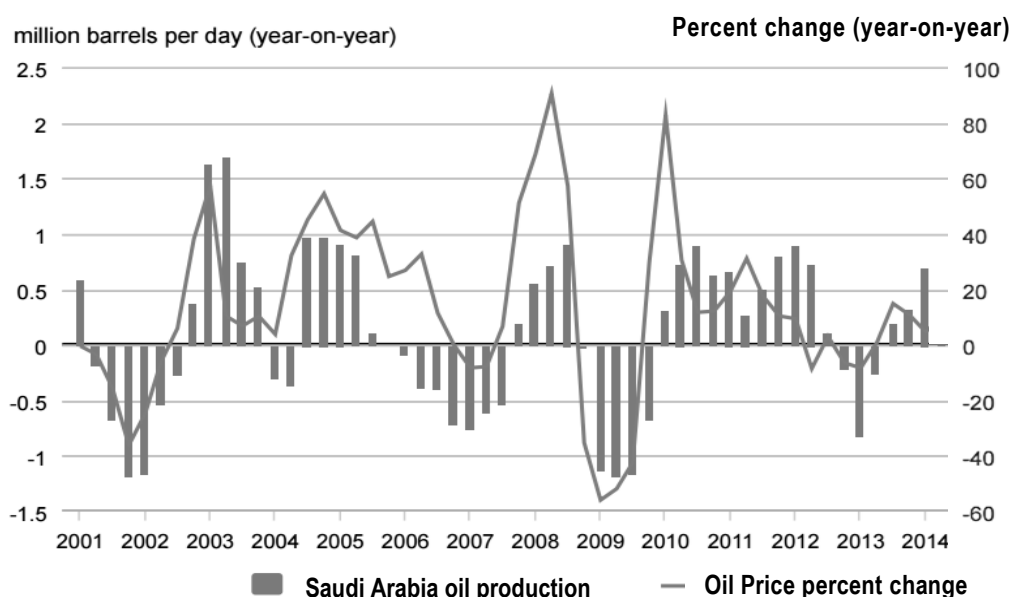
After three-and-a-half months of slow decline, the tipping point for a steeper drop came on Oct 1 when Saudi Arabia cut prices for its customers. Iraq and Iran followed. Frankfurt-based Commerzbank AG called it a price war. The move signalled that the world's largest producer would rather defend its market share than prop up prices.

While the decision was unpopular with most oil exporting countries and major international energy companies, there are several reasons why Saudi Arabia is taking this approach. First, from an internal Saudi perspective, lower oil prices are entirely manageable. Saudi oil is relatively cheap to extract so crude production can remain highly profitable at lower prices. In fact, with new drilling technologies, Saudi production costs have decreased even further while field reservoir management, a technique to prolong the life cycle of a producing field by better managing its reserves, has become more efficient. Second, the Saudis have about \$900bn in foreign assets, so their public finances are immune to a sudden big fall in revenues from petroleum sales.

The Saudis also clearly view lower prices as helping them keep market share in the face of the shale oil production boom in the US. This revolutionary innovation will add several million new barrels of oil per day to the global market. However, shale oil is expensive to extract, so lower prices will mean that US producers will find their business models unsustainable over the mid to long term.

Source: *Bloomberg*, 10 October 2014 & *Financial Times*, 17 December 2014

Figure 1: Changes in Saudi Arabia oil production and world oil prices



Source: www.economywatch.com, 14 January 2015

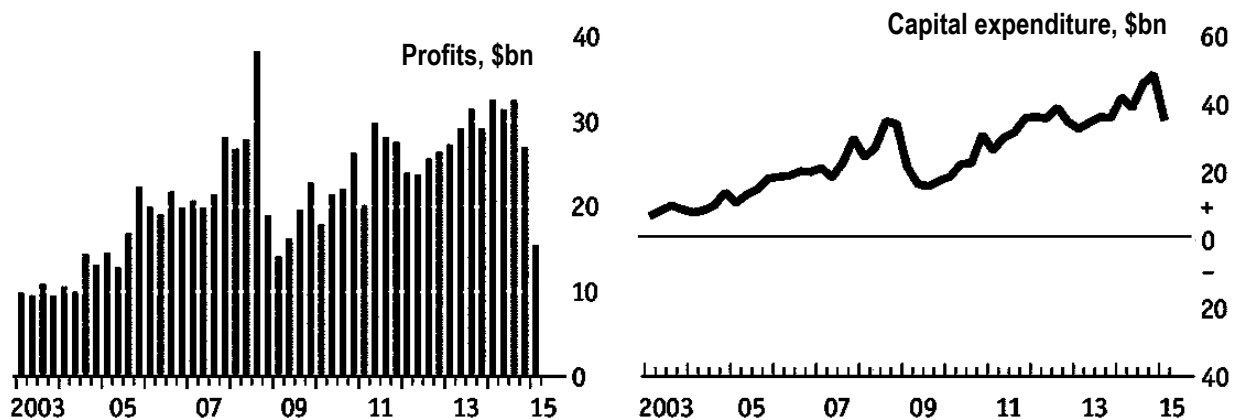
Extract 2: Ruble tumbles to record as oil slump hinders Russia's recovery

The ruble slumped to an all-time low as oil's retreat choked revenue of the world's largest energy exporter and restricted Russia's ability to lift its economy out of a recession. The currency weakened as much as 4.1 percent against the dollar, surpassing the previous record it touched at the peak of Russia's financial-market turmoil in December 2014.

The currency is close to its "fundamental levels," said the Governor of the Russian Central Bank. "We will intervene only if we see risks to financial stability. There aren't such risks now." The selloff was part of a broader rout gripping emerging markets, which pushed over 20 exchange rates to its lowest on record on Wednesday and sent stocks and bonds tumbling.

Source: *Bloomberg*, 20 January 2016

Figure 2: Profits and capital investment of US shale production firms



Source: Adapted from *The Economist*, 12 July 2015

Extract 3: In a bind – will falling oil prices curb America's shale boom?

The shale energy boom across America is the envy of the business world. Abundant oil and gas have been extracted from underground rocks by blasting them with a mixture of water, chemicals and sand—"fracking", in the jargon.

Yet now that oil prices have fallen by almost 40% in six months, these firms' mettle is being tested. Oil price slumps usually lead to cuts in energy firms' investments. But much of the burden of adjustment will fall on America's shale industry.

In the very near term, the industry's economics are good at almost any price. Wells that are producing oil or gas are extraordinarily profitable, because most of the costs are sunk. Taking a sample of eight big independent firms, average operating costs in 2013 were \$10-20 per barrel of oil produced—so no shale firm will curtail current production. But the output of shale wells declines rapidly, so within a couple of years this oil will stop flowing.

However, it is far less clear if, at \$70 a barrel, the industry can profitably invest in new wells to maintain or boost production. Wood Mackenzie, a research consultancy, estimates that the "break-even price" of American projects is clustered around \$65-70. At \$60, investment could drop by as much as half and production growth grind to a halt.

Source: *The Economist*, 6 Dec 2014

Extract 4: The economics of shale gas development

With the surge in fracking and horizontal drilling, oil and gas production in the US has increased dramatically during the last decade. The substantial increase in natural gas production over the past several years induced clear benefits to consumers. The increased supply lowers home heating costs during the winter and natural gas has become an increasingly important fuel for electricity generation which generates far-reaching economic benefits. In addition to its use in home heating and electricity generation, an important use of natural gas is as an input into various industrial production processes. As an example, natural gas production will increase fertiliser production, since gas is the primary feedstock for this process. All else equal, this increase will lower the price of fertiliser, which will have beneficial effects on agricultural production, lowering costs and prices.

While the US benefits from greater energy independence, debate rages on about whether these worldwide reserves can be tapped safely, and whether environmental damage from fracking natural gas, such as negative water resource implications that generates large wastewater streams, will outweigh the gains from using a fuel that is cleaner than oil or coal, but remains a fossil fuel nonetheless.

Meanwhile oil exporting countries like Russia, the Middle East and OPEC are expected to lose in political terms. Net oil importers such as India, Senegal and Zambia could benefit from oil price reductions induced by fracking due to economic growth effects and reductions in the cost of importing energy.

Source: *Discussion Paper, The Economics of Shale Gas Development, Mason, Muehlenbachs, and Olmstead*, revised February 2015

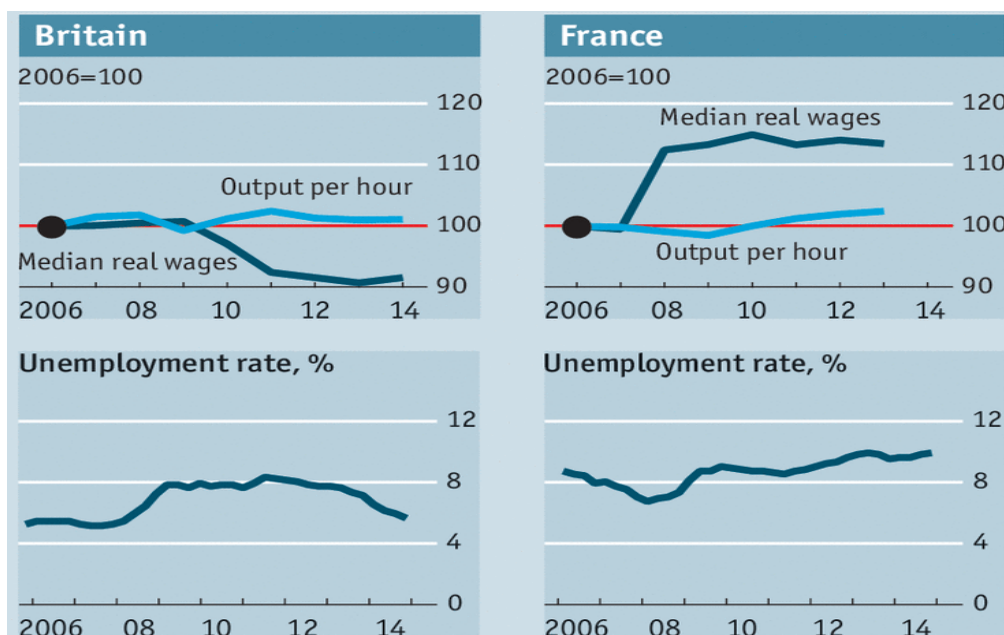
Questions

- (a) (i) Identify the relationship between Saudi Arabia oil production and world oil price in Figure 1. [1]
- (ii) With reference to the data and using demand and supply analysis, suggest a possible reason for the above relationship. [2]
- (b) Saudi Arabia, one of the biggest oil producers, has 'cut prices for its customers'. Using Extract 1, explain the economic rationale for Saudi Arabia's action. [4]
- (c) With reference to Extract 2 and using a relevant diagram, explain why the Russian ruble has tumbled to record low in 2016. [3]
- (d) (i) Explain the relationship between profits and capital expenditure of the US shale production firms shown in Figure 2. [2]
- (ii) Discuss the short run and long run factors that are likely to influence a shale firm's decision as to whether it should 'invest in new wells'. [8]
- (e) Discuss the impact of the shale revolution on US consumers and other economies. [10]

[Total: 30]

Question 2 The Global Economy Pre and Post Crisis: Heading for another recession?

Figure 3: Labour and unemployment statistics



Source: *The Economist*, 2 May 2015

Extract 5: The economics of low wages

In most places, the recession that followed the 2009 financial crisis had dire effects on wages. In America, workers have been demonstrating for higher pay and stronger union rights in the profitable but poorly paying food industry. Britain's Labour Party has plans to punish "predatory" capitalists that exploit the low-paid. In Japan Shinzo Abe has sworn to lift salaries.

Across rich countries, household consumption ranges from 55% (France) to 68% (America) of GDP. While it makes sense for an individual boss to hold down pay, low pay across the economy as a whole threatens to put a lid on the growth that one would otherwise expect after a recession.

Meanwhile, scholars seek to explain this decline in the labour share. One is that the income from capital has been increasing more than the income from labour. Another is that, in many industries, capital goods have become a lot cheaper and/or better. Bosses can choose whether to spend money on machinery or people, and declines in the price of the capital goods required for a given amount of output reduce demand for labour.

Globalisation can also reduce the demand for less skilled toward more skilled labour, driving income inequality between them. Competition from imports alter the profit opportunities facing firms. Firms respond by shifting resources toward industries in which profitability has risen and away from those in which it has fallen. And the decline of trade unions reduces labour's bargaining power. In addition, rapid technology change seems to have led to relative price declines in skill-intensive industries as well.

Source: Adapted from *The Economist*, 2 May 2015 & www.imf.org, accessed July 2016

Table 1: Economic data of selected countries, 2014

	GDP growth (%)	Consumer Price Index (base year: 2000)	Unemployment rate	Current Account (\$US billion)	Budget Balance (% of GDP) [2015 estimates]	Gini Coefficient [2010-2014 estimates]	Pollution Index (PM10 ug/m3)
Singapore	3.3	99.9	3.2	53	-0.5	0.4	32
China	7.3	119	4.1	277	-2.6	0.5	98
United States	2.4	101.6	7.2	-389	-2.4	0.45	18
India	7.2	111	3.8	-27	-4.6	0.5	109
Brazil	0.1	106.3	4.8	-104	-0.6	0.5	40

Source: *World Bank Data*, www.tradingeconomics.com, *IMF* website

Extract 6: Global economy faces low growth

The world economy appears to be suffering a slowdown in growth that will stretch through 2016, according to a report by the Organisation for Economic Cooperation & Development (OECD).

Despite a secular stagnation that is associated with higher health and pension costs of an ageing population that impedes other investment and improved productivity in western countries, stimulus efforts appear to have had an impact with the US economy showing signs of recovery of late. That has seen the Federal Reserve, US' central bank, scale back its key stimulus measure of increasing money supply. However in its latest policy decision, the Federal Reserve said it would look at multiple factors before approving any rise in its interest rates. It has previously hinted at doing so once jobless rate fell to 6.5%.

The OECD said in its interim economic forecast that the prospect of higher interest rates in the US and UK had exposed the vulnerability of emerging market economies to higher borrowing costs. It urged the US Federal Reserve to maintain its course for higher interest rates, but called on its officials to signal that the pace of increases will be slow, allowing those countries that have borrowed heavily in dollars to adjust to the jump in costs. Brazil is expected to be one of the hardest hit by the slowdown in China and by its exposure to higher borrowing costs following a US interest rate rise.

The World Bank has cut its forecasts for growth across emerging economies, warning that they face a double whammy from rising US interest rates and lower commodity prices in the oil and energy markets. The World Bank said that emerging economies should prepare themselves for a future beyond cheap money and the commodities boom by investing in infrastructure. "We believe that countries that invest in people's education and health, improve the business environment, and create jobs through upgrades in infrastructure will emerge much stronger in the years ahead," it said. "These kinds of investments will help hundreds of millions of people lift themselves out of poverty."

Source: Adapted from *The Guardian*, 16 September 2015 & www.bbc.com, March 2014

Extract 7: The economics of infrastructure development

The development of highways, ports, bridges, public transport, railways, telecommunications, fisheries, harbours and irrigation are important for an economy's rapid development. These constitute essential economic infrastructure whose development is vital as the efficiency of investment is determined by the state of infrastructure.

Nevertheless the economics of infrastructure development, especially the methods of financing, priorities and returns to investment require serious evaluation. Infrastructure investments are large, could put a strain on balance of payments, and their economic returns take a long period of time. However beneficial investments in infrastructure are, if they lead to large fiscal deficits these would lead to inflationary pressures. Furthermore, there is a large import content in many infrastructure investment projects. In many cases it is even difficult to determine precise benefits of infrastructure investment. One current misconception is that all infrastructure investments are beneficial to the country's economic and social development. Several large infrastructure projects can only be described as White Elephants, while others will bring in only small benefits.

Future infrastructure designs will need to be anticipatory and proactive to be truly sustainable. One examples of this type of next-generation monitoring is in Songdo, South Korea where everything from traffic flow to household waste is highly responsive and networked. These smart-grid networks will become increasingly responsive to allocating electricity in response to demand, or public transport systems that respond to congestion by allocating buses where people are congregating or changing lights automatically based on traffic patterns.

Source: www.sundaytimes.lk, 27 July 2014 & www.bbc.com, 23 November 2013

Questions

- (a) (i) What is meant by real wages? [1]
- (ii) Based on Figure 3, compare the changes in output per hour and median real wages for Britain and France between 2009 and 2014. [2]
- (iii) With reference to the data, explain a factor that could have contributed to the change in UK's real wages after 2009. [2]
- (b) (i) Explain why a rise in a country's wages is not evidence of a narrowing income gap in the country. [2]
- (ii) Extract 5 suggests that low pay across an economy as a whole threatens to put a lid on its growth. Using economic analysis and a relevant diagram, explain and comment whether this threat is valid. [6]
- (c) Explain why maintaining a rise in the US interest rate is good news for the US but bad news for countries like Brazil. [4]
- (d) (i) Analyse how infrastructure investment by emerging economies will 'put a strain' on their balance of payments (extract 7). [3]
- (ii) Extract 6 states that "these kinds of investments will help hundreds of millions of people lift themselves out of poverty".

Based on the data and your own relevant knowledge, assess whether a country should then focus on infrastructure investment to achieve growth or pursue other economic goals as its priority. [10]

[Total: 30]

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