RAFFLES INSTITUTION
2017 YEAR 6 PRELIMINARY EXAMINATIONS
Higher 2

ECONOMICS 9757/01

Paper 1 Case Study

29 August 2017

2 hrs 15 minutes

Additional Materials: Answer Paper

READ THESE INSTRUCTIONS FIRST

Write your name, index number and civics 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 diagrams, graphs or rough working.
Do not use paper clips, highlighters, glue or correction fluid.

Answer **all questions**.

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

Raffles Institution

Question 1: The Price of Water

Table 1: Singapore Water Prices

	Domestic Potable Water Prices (Households)				**Non- Domestic Potable Water Prices (Firms)**	
	0-40 cubic metres		**> 40 cubic metres**			
	Current	**From 1 July 2018**	**Current**	**From 1 July 2018**	**Current**	**From 1 July 2018**
Water Tariff	$1.17	$1.21	$1.40	$1.52	$1.17	$1.21
Water Conservation Tax	$0.35	$0.61	$0.63	S0.99	$0.35	$0.61
Total Price	**$1.52**	**$1.82**	**$2.03**	**$2.51**	**$1.52**	**$1.82**

Source: www.pub.gov.sg

Extract 1: Singapore Budget 2017

Water tariffs (price of water) will be going up for the first time since 2000. But Housing & Development Board (HDB) households will be getting help to offset the increases. The increase will fund the higher costs of desalination and Newater* production, as well as that of maintaining Singapore's current water infrastructure.

The total increase, including taxes, will be about 30 per cent. The Water Conservation Tax reinforces the message that water is precious. This will be raised to between 50 and 65 per cent of the tariff by 2018.

The 30 per cent increase in the total price of water is "absolutely necessary", as it is a "scarce" resource and "not cheap to produce", said Prime Minister Lee Hsien Loong. "If the water tariffs are not enough to pay for these, PUB (Public Utilities Board) would still have to build all this, and we would still have to pay for this. But instead of paying for it through the water tariff, we would have to pay for it through our taxes and I think it's fairer to pay for it through the water tariff. Those who use the water pay for the water, rather than from general taxes."

As the economy grows, the country will need more water, said Mr Lee, adding that climate change will also cause the supply of water to be less predictable. And as the population in the Malaysian state of Johor continues to grow, this means that the resource will come under pressure due to a corresponding growth in demand, he said. Singapore draws more than half of its water supply from Linggiu Reservoir in Johor.

Singapore now uses 430 million gallons of water a day, with the domestic sector (households) accounting for 45 per cent, and the non-domestic sector (firms), the rest. Water demand is expected to more than double by 2060, and every additional drop of water will have to come from more expensive water sources. In addition, the cost of water transmission has increased as Singapore lays deeper pipes in an urbanised environment.

***Footnote: Newater** is high-grade reclaimed water. It is produced from treated used water that is further purified using advanced membrane technologies and ultra-violet disinfection.*

The four National Taps are imported water, water from local catchment areas, desalination and Newater. More than half our current water consumption relies on imported and local catchment water, which rely on weather conditions. Newater is projected to meet 55 per cent of water needs and desalination up to 30 per cent by 2060.

Various Sources: Straits Times, Feb 20, 2017; CNA, Feb 21, 2017

Extract 2: Water Privatisation

Water privatisation – when private corporations buy or operate public water utilities – is often suggested as a solution to municipal budget problems and aging water systems. With privatisation, profitability dictates that a system be as efficient as possible so that it can be as profitable as possible. In the world of water distribution, this would mean that more people would receive their water in a more efficient manner and that would limit the ability of the water to be contaminated within the system.

Unfortunately, water privatisation more often backfires, leaving communities with higher rates, worse service, job losses, and more. Empirical evidence indicates that there is no significant difference in efficiency between public and private water provision.

By privatising water and sewer systems, local government officials abdicate control over a vital public resource. Private water companies are primarily accountable to their stockholders, not to the people they serve. They are unlikely to adopt the same criteria as municipalities when deciding where to extend services. They are prone to cherry-picking service areas to avoid serving low-income communities where low water use and frequent bill collection problems could hurt corporate profits. As a result of price hikes, service disconnections and inadequate investment, water privatisation often interferes with the human right to water.

In theory, competition would lead to cheaper contracts, but in practice, researchers have found that the water market is “rarely competitive.” A lack of competition can lead to excess profits and corruption in private operations.

Investor-owned utilities typically charge 59 percent more for water service than local government utilities. Food & Water Watch compiled the water rates of the 500 largest community water systems in the country and found that private, for-profit companies charged households an average of $501 a year for 60,000 gallons of water — $185 more than what local governments charged for the same amount of water. After privatisation, water rates increase at about three times the rate of inflation, with an average increase of 18 percent every other year.

In fact, public operation often saves money. A review of 18 municipalities that ended their contracts with private companies found that public operation averaged 21 percent cheaper than private operation of water and sewer services.

Source: Food and Water Watch, Aug 30, 2015

Extract 3: Trade based on Virtual Content of Water

Producing agricultural and industrial goods require lots of water – often much more water than we realize. The water that is necessary to produce a good is often referred to as its water footprint or its virtual water content. For instance, one kilogram of apples has a water footprint of 700 liters because of the water needed to grow an apple tree, as well as harvest and transport the apples.

In Peter Debaere's most recent discussion paper for the Centre for Economic Policy Research (CEPR), he suggests that countries should take advantage of the global economy to fight water scarcity, i.e. they should specialise more in producing goods depending on water availability in their regions. Water-scarce countries should buy water-intensive goods from water-abundant countries instead of producing and exporting those types of goods themselves. Import of 'virtual water' i.e. in the form of agricultural and industrial commodities can be an effective means for water-scarce countries to preserve their domestic water resources.

But his findings also indicate that water contributes significantly less to the pattern of exports than the traditional production factors such as labour and physical capital. The reason is that water is generally grossly underpriced. Water scarcity appears to affect trade patterns only in cases where absolute water shortage forces water-scarce countries to import water-intensive products, because they simply cannot be produced domestically.

The fact that water inputs are often heavily subsidised by national governments is hereby ignored. Most governments subsidise water supply on a huge scale by investing in infrastructure like dams, canals, water purification, distribution systems, desalination plants and wastewater treatment. These costs are often not charged to the water users. Besides, water scarcity is generally not translated into an additional component in the price of goods and services that are produced with the water, as happens naturally in the case of private goods. As a result, water inputs do not form a substantial component of the total price of even the most water-intensive products. Consequently, the production of and trade in goods – even though various sorts of goods require a lot of scarce water inputs – is not or hardly governed by water scarcity.

Many water problems are closely linked to international trade. Subsidised water in Uzbekistan is overused to produce cotton for export; Thailand experiences water problems due to irrigation of rice for export; Kenya depletes its water resources around Lake Naivasha to produce flowers for export to the UK and the Netherlands; Chinese rivers get heavily polluted through waste flows from factories that produce cheap commodities for the European market.

Source: Economic Research and Statistics Division, World Trade Organization 3 January 2013

Questions

a) i) With reference to Table 1, identify the type of user that will face the highest water conservation tax rate from July 2018. **[1]**

ii) Explain a possible reason for the above. **[2]**

b) Using a diagram, explain one demand factor and one supply factor that may have caused the water tariff to rise. **[3]**

c) With reference to Extract 2, to what extent do you agree with the view that privately-owned utilities make the provision of water efficient and equitable? **[8]**

d) Extract 3 states that water is generally grossly underpriced. Explain the effects on stakeholders if water were priced to reflect its true value. **[6]**

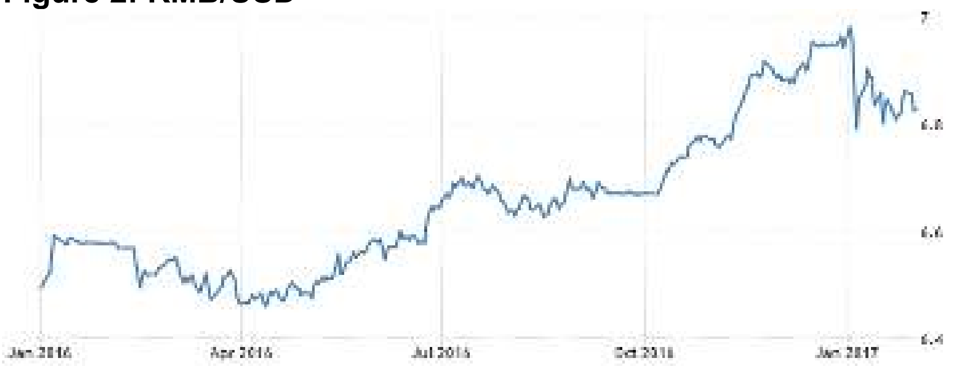
e) Discuss whether trade based on the 'virtual content of water' is more effective than the use of technology in addressing the problem of water scarcity. **[10]**

[Total 30 marks]

Question 2: Global Trade Issues

Figure 1: China's terms of trade

Figure 2: RMB/USD



Source: National Bureau of Statistics of China; OTC Interbank

Extract 4: China's exports and imports tumble amid weak demand, yuan decline

China's exports and imports for September came in well below expectations, dented by weak demand at home and abroad. In yuan terms, exports fell 5.6 percent on-year and imports rose 2.2 percent. The September trade surplus came in at 278.35 billion yuan ($41.40 billion).

The trade data came against the backdrop of a recent decline in the yuan, which over the past week has touched its lowest levels against the dollar in six years. The Chinese currency has tumbled recently against a basket of currencies of China's trade partners.

The World Trade Organization (WTO) projected global trade would register its fifth straight year of sub-3 percent growth, citing shifting exchange rates and falls in commodity prices.

The WTO is the international organization that deals with the global rules of trade between nations. It pledges to promote an 'open, non-discriminatory and equitable multilateral trading system' to promote national and international efforts to better protect and conserve environmental resources and to promote sustainable development.

Adapted from cnbc.com, 12/10/16

Extract 5: US challenges China raw material export duties

The United States challenged China's export duties on nine key metals and minerals on Wednesday, arguing they violate Beijing's commitments to the WTO and give an unfair advantage to Chinese manufacturers.

China said it respected WTO rules and that the duties had been imposed as part of efforts at environmental protection. It said that China's export duties have been imposed in the face of "daily worsening pressure on resources and the environment" and are to help with sustainable development.

U.S. Trade Representative (USTR) seeks to remove China's export duties of 5 percent to 20 percent on antimony, cobalt, copper, graphite, lead, various magnesia compounds, talc, tantalum and tin, which it said are key inputs into U.S. industries, including aerospace, autos, high-tech electronics and chemicals.

USTR said the duties impose higher costs on U.S. manufacturers, while Chinese competitors do not have to pay them, encouraging companies to locate production in China.

"These duties are China's attempt to game the system so that raw materials are cheaper for their manufacturers and more expensive for ours".

For example, he said graphite imports from China were about $24 million last year, but the mineral is not produced in the US and is a key ingredient in brake linings, an industry which supports 20,000 US jobs, and in lithium ion batteries for electric cars as well as in lubricants.

Source: Reuters.com, 14/7/16

Extract 6: China upset at high US tariffs on steel imports

China has voiced discontent at high punitive tariffs announced by the United States on Chinese steel products in the latest trade conflict.

The US Commerce Department announced that it would impose punitive tariffs ranging from 63.86 per cent to 190.71 per cent on China's steel products. Other steel-producing nations like India, Korea and Japan had not been spared of such tariffs either. The steel tariffs on China came after US imposed 52.25 percent anti-dumping duties on Chinese-made large washing machines in January.

Trump threatened during his presidential campaign to label China a currency manipulator and impose up to 45 per cent duties on Chinese imports. Chinese officials have warned there would be no winners in a trade war between the superpowers. Beijing is preparing to retaliate if Trump launches a trade war.

"Trump pledged to reverse the US trade deficit against China and attract manufacturing to flow onshore to create more jobs. The US will seek every possible chance to challenge China in trade issues," he said.

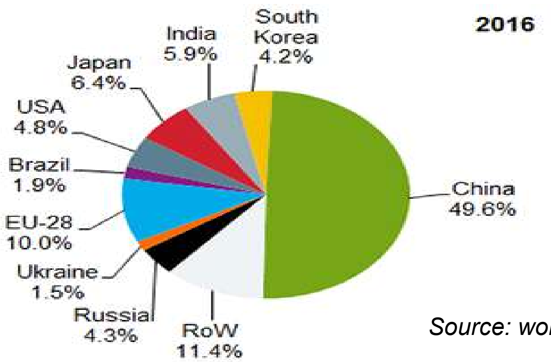
For years, China's steel products, along with other manufactured products in overcapacity sectors, have been at the centre of trade disputes as China's trading partners such as the US and the European Union claimed China was dumping their products, hurting local rivals.

China's Ministry of Commerce said that the issues in the steel sector were rooted in sluggish demand and weak global economic recovery. "Trade protectionism would hurt not only exporting countries but also US consumers and downstream industries such as manufacturers of value-added products that use steel as an input." "Moreover, 30 years of protection have distorted the US steel market", it added.

The US Department of Commerce indicated that "primary metal manufacturing" which includes steel, copper and aluminium, added about $60 billion to the economy in 2015 while downstream manufacturers that utilize steel as an input generate value-added of $990 billion, more than 16 times larger. While employment by primary metal manufacturers was 400,000, downstream manufacturers employed 6.5 million, also 16 times greater.

Source: Forbes 23/5/16, scmp.com, 4/2/17

Figure 3: Share of World steel production



Source: worldsteel.org

Table 2: Selected Economic Indicators for USA

Year	GDP (annual % change)	Labour productivity- output per hour [in non-farm business sectors (annual % change)]	Exports value (millions USD)	Imports value (millions USD)
2014	2.4	0.8	2,375,905	2,866,241
2015	2.6	0.9	2,263,907	2,764,352
2016	1.6	0.2	2,208,072	2,712,866

Source: Various

Extract 7: Issues revolving around the Chinese Yuan

China said it has never used its currency as a tool to gain an advantage in trade and was not seeking a "currency war", after U.S. President Donald Trump criticized Beijing for harming American companies and consumers with a devaluation of its yuan. The U.S Senate might pass a bill which would pressurize China on her yuan.

"We have no intention of fighting a currency war. From a long-term perspective this is not beneficial to China," said Chinese Foreign Ministry spokesman Lu Kang.

While China was widely viewed to have held down the yuan to gain a trade advantage five to 10 years ago, many economists say that in the past year, Beijing has been spending hundreds of billions of dollars in reserves to prop up the yuan's value. But the currency still fell nearly 7 percent last year, its biggest loss against the dollar since 1994.

Some economists argue that the overall U.S trade deficit is the result of the saving decisions of US households. Americans are spending more than they produce and the policies of foreign governments affect only how that deficit is divided among America's trading partners. The decision to withdraw the U.S from the Trans-Pacific Partnership (TPP), a trade pact with 11 other countries further adds to the problem.

Some critics argued that US pressure on the yuan would simply shift manufacturing to other low-cost producers such as Bangladesh or Vietnam, and the United States would still be uncompetitive.

Source: Various sources

Questions:

(a) **(i)** Define terms of trade. **[1]**

(ii) Describe the trend in China's Terms of trade over the period Jan 2016 to Jan 2017. **[1]**

(iii) Explain **two** reasons for the trend identified in a(ii). **[4]**

(b) From the perspective of WTO, assess the case for and against China's export duties on raw materials. **[6]**

(c) Trump has labelled China a currency manipulator and has pressurised China on her yuan. **[8]**

To what extent would such a move by the US government resolve the problems of growth and trade balance of the US economy?

(d) Discuss what determines whether American firms and households are more likely to win or lose, with the imposition of tariffs on imported steel by the US government. **[10]**

[Total 30 marks]

BLANK PAGE