



RAFFLES INSTITUTION
2021 YEAR 6 PRELIMINARY EXAMINATIONS
Higher 1

ECONOMICS

8823/01

Paper 1 Case Study

31 August 2021

3 hours

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.

Use the cover sheets and tie your answer to the questions **separately**.

This document consists of 10 printed pages.



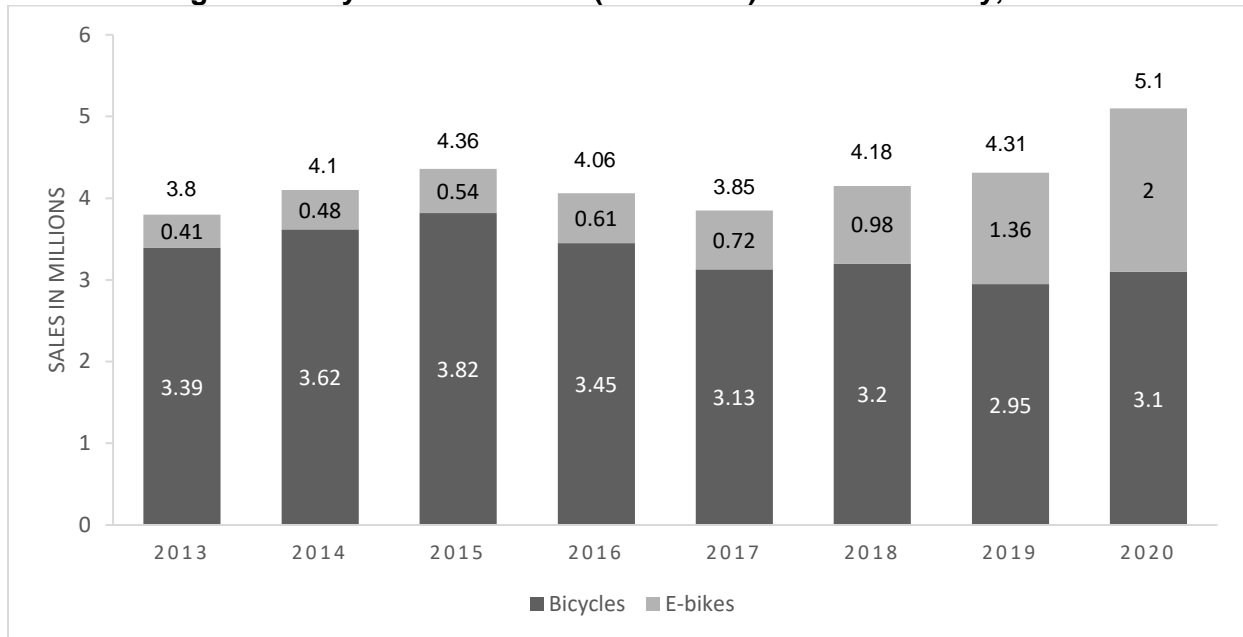
Raffles Institution

[Turn over

Answer **all** questions

Question 1: Transportation in the 21st Century

Figure 1: Bicycles and e-bikes (in millions) sold in Germany, 2013-2020



Source: <https://www.statista.com/>

Extract 1: Bike prices will go up again

The pandemic has rearranged so many parts of the US economy it is hard to keep up. But we can add one more: bikes. There is a national — international, even — bike shortage. It's been going on for months and will continue to go on for months.

Alain Guillerme, the owner of Al's Cycle Solutions. "I don't have any more bikes — period," he said. "You can see all my racks are empty. [The] problem is I don't have enough supply to make money right now."

The shortage is international and started in January, when the coronavirus shut down factories in East Asia, the center of the bike industry's supply chain. "When those countries shut down and those factories shut down, there were just no bikes being made industrywide,"

Source: *BBC, Quartz*

Extract 2: The Challenges facing the Global Bike Industry

Bikes are built from numerous parts that can be made at different factories before they're brought together in one location and assembled. Under normal circumstances, it takes about four months from the time a bike maker places its order with a factory in Asia for the finished products to arrive in the US. By last May, bike shops were already starting to sell out, and the timeline for getting new bikes had already grown longer. Factories were straining to supply the orders. Lead times grew to six months, then eight.

Companies have increased production, but there's not enough capacity to fill all the orders. Trek, a large US bike manufacturer, has nearly doubled its manufacturing capacity in the last

nine months but demand has almost tripled. In short, while there are lots and lots of bikes flowing into bike shops every day, they are selling even faster. Many shops are also running out of inventory. In the meantime, prices for pretty much everything — assembled bikes, components, replacement parts — are rising.

But will red-hot demand continue post-COVID? Industry marketing consultant Rick Vosper said some in the business are bullish, but he's not. "We think that post-COVID Americans are going to revert to their pre-COVID behavior," Vosper said. "And that means there's a huge amount of inventory in the pipeline that we don't have customers for." He said some suppliers in Asia have the same fear, so they're not investing in new factories.

Source: Various sources

Extract 3: Shimano invests millions to expand production

To meet the rapidly growing demand for e-bike and bicycle components driven by the pandemic, Shimano will invest a further JPY13 billion (€99 million) to expand production at the company's two Japanese factories located in Sakai City in Osaka Prefecture, and Shimonoseki in Yamaguchi Prefecture. To improve efficiency at both factories, the investment will be used for "cutting-edge manufacturing equipment and software". With the production increase at both domestic factories, Shimano says it intends to "increase this year's total production by 1.5 times compared to 2019."

Source: Bike Europe

Extract 4: Electric Bikes to Replace Polluting Cars - France Introduces Innovative Scrappage Scheme

Lawmakers in the French National Assembly have voted in favour of introducing a new measure that involves electric bicycles in a national car scrappage scheme. The details of the scheme remain to be specified, but it is likely that a purchase premium of up to €2,500 for electric bicycles will be granted to car owners when a polluting vehicle is scrapped.

Olivier Schneider, President of FUB, said that "for the first time, it is recognised that the solution is not to make cars greener, but simply to reduce their number". Often the purpose of bonuses is to get rid of your old car and buy a new one", he said, suggesting that the acknowledgement of a solution for households to have one less car is a turning point for the French transport sector.

Source: European Cyclists' Federation

Extract 5: More rebates for cleaner vehicles, higher surcharges for more pollutive models from 2021

Buyers of cleaner cars and taxis can get bigger rebates from next year, while those who purchase vehicles that produce more emissions can expect to pay higher surcharges, said the National Environment Agency (NEA) and the Land Transport Authority (LTA) in a joint media release.

The scheme was introduced in 2018 to encourage drivers to choose vehicles with lower emissions across five pollutants, including carbon dioxide, hydrocarbons and carbon monoxide.

Source: Channel News Asia

Extract 6: Green transport set to overtake cars in major cities by 2030

From public transport to cycling, sustainable transport is on course to overtake driving in the world's biggest cities within a decade, according to a study released on Monday (Feb 10).

Private car trips will drop by 10 per cent on average by 2030 to make up less than half of all city journeys, while public transport, walking and bicycle will all increase in popularity, the Mobility Futures study found. In Singapore, the Urban Redevelopment Agency (URA) said the latest target is to have 1,320km of cycling paths and park connectors by 2030 - nearly treble the network length today.

Source: The Straits Times

Extract 7: Climate crisis could Overwhelm Underground Railways Systems, say Experts

Terrified passengers trapped in flooded subway cars in Zhengzhou, China. Water cascading down stairways into the London Underground. A woman wading through murky, waist-deep water to reach a New York City subway platform. Subways, the equivalent of underground railway systems around the world are struggling to adapt to extreme weather brought on by climate change. Their designs, many based on the expectations of another era, are being overwhelmed, and investment in upgrades could be squeezed by a drop in ridership brought on by the Covid-19 pandemic.

Public transportation plays a critical role in reducing travel by car in big cities, reining in emissions that contribute to global warming. If commuters become spooked by images of flooded stations and start shunning subways for private cars, transportation experts say it could have major implications for urban air pollution and greenhouse gas emissions.

Protecting subways against flooding caused by extreme weather is "an enormous undertaking", said Mr Robert Puentes, chief executive of the Eno Centre for Transportation, a non-profit think-tank with a focus on improving transportation policy. "But when you compare it to the cost of doing nothing, it starts to make much more sense," he said. "The cost of doing nothing is much more expensive." Subways and rail systems help to fight sprawl and reduce the amount of energy people use and are part of climate solution.

Source: New York Times

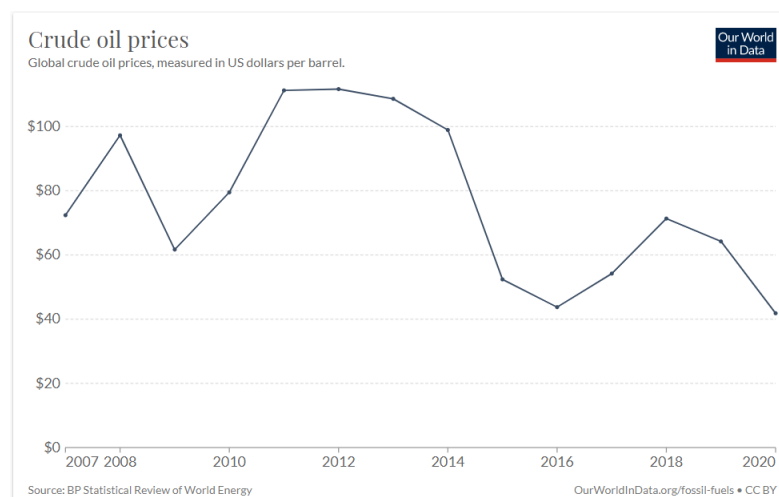
Questions

- (a) Describe the main changes in the markets for bicycle and e-bikes in Germany from 2015 to 2020 as shown in Figure 1. [3]
- (b) With the help of a diagram, use supply and demand analysis to explain how the COVID 19 pandemic has been responsible for the changes in market for bicycles in countries like the USA. [6]
- (c) With reference to Extract 2, explain the link between price elasticity of supply and the increased lead times experienced by bicycle companies. [3]
- (d) Using a production possibility curve, explain how the investment by Shimano in Osaka and Yamaguchi will impact Japan's economy. [4]
- (e) Protecting subways against flooding caused by extreme weather is "an enormous undertaking", but "the cost of doing nothing is much more expensive." [Extract 7]
- Discuss the factors that a government must consider before spending more money on subways in cities. [10]
- (f) Identify and explain the 2 main characteristics of a 'public good' and comment briefly on whether cycling paths provided by the Urban Redevelopment Agency in Singapore exhibit these characteristics. [7]
- (g) Discuss the view that a government decision to subsidise 'green vehicles' is the best policy to improve resource allocation when negative externalities exist. [12]

[Total 45 marks]

Question 2: A Tale of Two Countries

Chart 1: Crude Oil Prices



Source: Crude oil prices (ourworldindata.org)

Table 1: Labour Force Participation Rate* 2019 (modelled ILO estimate)

	Saudi Arabia	Singapore
Total	55.88%	70.51
Male	78.39%	78.31
Female	22.09%	62.07

Source: International Labour Organisation ILOSTAT database/Worldbank.org

*Labour force participation rate refers to the proportion of the working-age population that is either working or actively looking for a job. It is calculated as the labour force divided by the working age population.

Table 2: Key Economic Indicators of Saudi Arabia and Singapore

	Saudi Arabia	Singapore
GDP/capita (constant USD)	20542	59374
GDP/capita (PPP)	46962	98411
Unemployment rate (% of labour force)	6.13	3.1
Consumption expenditure (% of GDP)	63	46

Source: World bank; OECD, 2019

Extract 8: Why Gulf economies struggle to wean themselves off oil

CALL IT THE world's most important filling station. The complex of piers, artificial islands and offshore moorings on the finger of land curling into the Gulf at Ras Tanura is the biggest oil-export terminal of the world's biggest oil exporter. Tankers appear out of the haze to suck up the crude oil and refined fuels that, these days, mostly power Asian economies. For decades pumping oil and gas was all Gulf states had to do to build skyscrapers and shopping malls, schools, hospitals and provide citizens with enough benefits to keep them quiet.

Given high rates of population growth, real GDP per person in most countries of the Gulf Cooperation Council (GCC) has been flat or in decline for decades. Productivity, the underlying source of long-term growth, has been stagnant.

The biggest problem, says Steffen Hertog of the London School of Economics, is the Gulf's distorted labour market. Many Gulf states like Saudi Arabia give their citizens subsidised fuel, electricity and water, as well as loans or grants for marriage and scholarships to expensive foreign universities. It spends more than most comparable countries on education, yet achieves results that are markedly inferior. There is no individual income tax scheme in Saudi Arabia.

For Mr Hertog, Gulf countries face "a unique development trap" with a mix of expensive but low-skilled national workers, cheap (but not cheap enough) imported labourers, and protected domestic markets.

One possible policy is to increase the number of Saudis in jobs by squeezing out foreign workers. This could be done through a number of economic measures like raising the cost of hiring foreigners and excluding them from a list of jobs. But getting Saudi men to be productive requires them to undergo extensive on-the-job training. Their work ethic is often poor.

However, Mr Zamil, one of many business owners, has discovered, to his delight, that Saudi women make better workers: "more disciplined, more punctual and higher-quality work," he says. He has put up a wall in his air-conditioner factory to make a separate space for women and has moved it several times as their numbers have grown. (The legal system has strict laws surrounding women and prohibits women working together with men.)

Source: The Economist June 2018

Extract 9: Budget 2021 is a far-sighted but firmly grounded fiscal strategy

Considering the ongoing fight against the pandemic, an expansionary budget this year was to be expected. We did not expect to see a repeat of last year's S\$64.9 billion budget deficit (13.9 per cent of gross domestic product). However, the many uncertainties still present from the global coronavirus resurgence meant that a premature withdrawal of fiscal support was unlikely. At a deficit of S\$11 billion, Budget 2021 is still an expansionary one and shows the government is still ready to extend near-term financial support, albeit in a targeted and reduced manner.

A key feature of the Budget is the S\$11 billion Covid-19 resilience package, which will be fully funded by past reserves. Of the S\$11 billion, S\$9.3 billion will be drawn from the unused reserves drawn in FY2020, while an additional S\$1.7 billion will be further drawn in FY2021.

Hiking corporate or personal income taxes or even the Goods and Services Tax (GST) now to fund the budget deficit is probably out of the question, following a record recession year.

The hike in GST from 7 per cent to 9 per cent was supposed to come between 2021 and 2025 in the original timeframe. The unforeseen Covid pandemic has prevented any early implementation.

Yet Deputy Prime Minister Heng Swee Keat signalled his preference to raise the GST "sooner rather than later", given that the ageing population means a growing need to fund rising recurrent needs, particularly in healthcare for the ageing population. Moreover, it is untenable for a fiscally prudent government to contemplate running persistent budget deficits outside of crisis periods.

Source: Business Times, Feb 2021

Extract 10: Inclusive growth, building resilience part of ‘refreshed economic strategy’ to recover from Covid-19 crisis

With estimates showing that Singapore’s GDP grew by 0.7 per cent in 2019, the Government now forecasts that the economy will grow only within the range of 0.5 to 2.5 per cent in 2020.

As a small, open economy heavily dependent on external demand, Singapore’s national output is subject to the vagaries of the global economy. One reason to think we are less likely to see a strong recovery this time around is that the US-China trade war is affecting the Singapore economy by disrupting global supply chains.

To pave the way for Singapore’s economy to emerge from the Covid-19 crisis stronger and more resilient to future shocks, Deputy Prime Minister Heng Swee Keat unveiled a “refreshed economic strategy” centred on innovation, inclusivity and sustainability.

To achieve this, the Government will launch a new five-year research, innovation and enterprise plan that will build on earlier investments and enhance research to support areas of national priority. The Government has always placed emphasis on building up enterprise research, with over S\$19 billion committed under the Research, Innovation and Enterprise 2020 plan. Strengthening the eco-system to encourage new start-ups and growing the venture capital industry are all necessary moves in fostering innovation.

It aims to create better jobs for workers and provide stronger support if they fall and seeks to make the economy more resilient to future shocks. The aim is not just to grow a vibrant, innovative economy, but an inclusive one, where growth uplifts all Singaporeans, Mr Heng said.

“With Covid-19 revealing vulnerabilities in our labour market, we need to better understand its structure, and upgrade jobs and skills across all segments of society,” he said. The government will thus continue investing in helping every worker, at every age, continue to improve their skills or pick up new ones, so that they can always get good jobs.

These efforts, however, will take time to bear fruit. Yet, Singapore has been able to achieve domestic social and political consensus to reinvent itself to ride on opportunities thrown up by the global economy, and find new ways of overcoming our constraints.

And as the world grapples with climate change, Mr Heng noted that environmental sustainability is an important aspect of Singapore’s economic resilience for a low-carbon and resource-constrained future.

The Government will thus continue to invest in research into energy and resource efficiency technologies, and encourage adoption of these technologies through various incentives.

Source: Today Online, Oct 2020/Channel News Asia, Jan 2020

Questions

- (a) (i) Describe the trend in crude oil prices between 2012 and 2020. [2]
- (ii) Explain how the balance of trade of the Gulf states may be affected by the above trend. [2]
- (iii) Using an AD-AS diagram, explain how the trend in oil prices is likely to affect the inflation rate of an oil-importing country such as Singapore. [3]
- (b) (i) Account for the difference in the total labour force participation rate between Saudi Arabia and Singapore. [4]
- (ii) Explain the link between productivity and long-term growth, and comment on whether an increase in female labour force participation can solve the problems of stagnant productivity and weak long-term growth in Saudi Arabia. [6]
- (c) To what extent do the data in Tables 1 and 2 allow you to conclude that Singapore has a higher standard of living than Saudi Arabia? [8]
- (d) Explain how an expansionary fiscal budget can help stimulate the Singapore economy, and comment on the difficulties the government is likely to face in ensuring the most desirable outcome. [8]
- (e) Discuss the challenges that Saudi Arabia and Singapore are likely to face in trying to achieve inclusive and sustainable growth. [12]

[Total 45 marks]

Copyright acknowledgements:

Question 1	Figure 1	© https://www.statista.com
	Extract 1	© https://www.bbc.com/future/bspoke/made-on-earth/the-great-bicycle-boom-of-2020.html ; https://qz.com/1999046/why-its-so-hard-to-get-a-new-bike-right-now/
	Extract 2	©marketplace.org, April 2021; bicycleretailer.com June 2021
	Extract 3	©Bike Europe July 2021
	Extract 4	©European Cyclists' Federation, April 2021
	Extract 5	©Channel News Asia, June 2021
	Extract 6	©The Straits Times
Question 2	Extract 7	©New York Times, August 2020
	Chart 1	© ourworldindata.org
	Table 1	©International Labour Organisation ILOSTAT database/Worldbank.org
	Table 2	©World Bank; OECD, 2019
	Extract 8	©The Economist, June 2018
	Extract 9	©Business Times, Feb 2021
	Extract 10	©Today Online, Oct 2020/Channel News Asia, Jan 2020