ACJC 2019 Prelim

1.Global rice prices are expected to increase sharply by 2050 due to factors ranging from a rise in world consumption, greater use of feed rice for animal feeding, to falling crop yield levels in major rice-producing countries. With Singapore importing most of its rice from Thailand and Vietnam, concerns over long-term food security have prompted the creation of the country’s first and only rice variety – Temasek Rice – in 2018.

Explain why global rice prices are expected to increase sharply and discuss the policies that the Singapore government can adopt to keep domestic rice prices stable. [25]

2. Amidst the liberalisation process of Singapore’s retail electricity market, five licenced retailers have exited the market. There are now 13 firms supplying electricity in the residential retail market, once monopolised by Singapore Powers. *Source: The Business Times, 13 March 2019.*

(a)Explain what determines whether a firm should exit the market in the face of strong competition from other firms. [10]

(b) Discuss whether market liberalization is always the solution to misallocation of resources caused by a monopolistic firm.[15]

3. According to Zero Waste SG, a non-governmental organization, the government has introduced a few campaigns to encourage people to use less single-use plastic bags. If it is just voluntary and encouragement, there is going to be hardly any impact. The group called on the government to do more to tackle the chronic plastic over-use problem.

Source: Channel NewsAsia, March 2016

(a)Explain how rational decision-making by the government may result in their intervention in the market for single-use plastic bags. [10]

(b)Discuss whether the Singapore government should implement more policies to achieve efficient allocation of resources in the market for single-use plastic bags. [15]

4. After years of surging foreign manpower growth, the Singapore government moved to tighten the labour market in 2009 as part of its efforts to reduce reliance on low-skilled labour to encourage innovation and automation, especially among small and medium enterprises.

In 2017, the Singapore economy grew 3.5%, more than double the initial forecast.

*Source: The Business Times, 5 February 2018*

(a)Explain the factors that are likely to contribute to Singapore’s actual and potential economic growth. [10]

(b) Discuss the impact of tightening foreign labour supply on living standards in Singapore. [15]

5. A stronger domestic growth outlook, coupled with a possible Goods and Services Tax (GST) hike, may accelerate inflationary expectations and warrant the Monetary Authority of Singapore to potentially tweak its currently neutral stance to a slight appreciation. While global growth prospects are brightening, there is still considerable uncertainty about inflation due to subdued oil prices.

*Source: Channel NewsAsia, 14 February 2018*

(a)Explain the factors that the Singapore government needs to consider in deciding whether to change its monetary policy stance to a slight appreciation. [10]

(b) Discuss whether failure to achieve price stability in Singapore is more likely to be caused by domestic or international factors. [15]

6. Millions around the globe may have taken to the streets in recent years to protest against the impact of globalisation on their jobs and communities - and this backlash is likely to keep growing.

Source: BBC, 1 February 2017

In view of the macroeconomic challenges arising from rapid globalisation, discuss the various policy approaches different countries could adopt to manage these challenges. [25]

ASRJC 2019 Prelim

1.Healthcare inflation in Singapore rose 10% in 2018, 10 times more than the Singapore economy's estimated 2018 inflation rate of 1%, according to Mercer Marsh Benefits 2019 Medical Trends Around the World report. The study noted that Singapore's healthcare inflation is partially driven up by supplier-led factors such as high-cost medical equipment as well as demand factors such as its ageing population. *Source: The Straits Times, 28 Jun 2019*

(a)Explain the demand and supply factors that could have caused the rapid increase in prices of healthcare services in Singapore. [10]

(b) Discuss the policies that the Singapore government could adopt to reduce healthcare inflation. [15]

2. Discuss the extent to which government intervention is the main determinant influencing firms’ profits in a country. [25]

3. The tourism sector in Singapore receives subsidies through the Tourism Development Fund to attract visitors. In contrast, Italy imposes a tourist tax to manage the flow of tourists in cities and fund conservation efforts.

(a)Explain how the price mechanism allocates scarce resources efficiently for goods and services in a market economy. [10]

(b) Discuss the economic case for the different approaches adopted by the two governments to achieve efficiency in the market for tourism. [15]

4. April 2016 marked 18 consecutive months of negative inflation for Singapore arising from lower global crude oil prices and cheaper housing, utilities as well as transport costs. Faced with a challenging external environment, the Singapore economy will also see a slowdown of growth between 1% and 3% this year. *Source: Singapore Business Review 24 May 2016*

(a)Explain the internal and external factors that are likely to have contributed to deflation in Singapore. [10]

(b) Discuss whether fiscal policy is the most effective way to manage the Singapore economy when faced with deflation and slow economic growth. [15]

5. (a) How do economists compare the economic performance of different countries? [10]

(b) Discuss the extent to which an increase in labour productivity is the key driver to improving living standards in a country.[15]

6. Discuss the benefits and costs of globalisation to different economic agents in Singapore. [25]

CJC 2019 Prelim

1.It takes several seasons to get any harvest of quinoa, grown by Andean farmers, which has become popular among health-conscious and affluent consumers worldwide over. Despite increasing the number of land plots devoted to growing quinoa, farmers are not supplying enough.

(a)Explain how the above events would lead to a spike in quinoa prices. [10]

With other countries’ researchers developing new variants of the crop, the worry is now about maintaining a steady income level of the Andean farmers when production takes off around the world. *Source: The Washington Post*

(b) Discuss the strategies that may be undertaken by the government and farmers of the Andean nations to maintain the income level of the Andean farmers. [15]

2. The successful exploitation of new ideas is crucial to a business being able to improve its processes, bring new and improved products and services to market, increase efficiency and, most importantly, improve its profitability.

(a)Explain how innovation may affect efficiency in a market. [10]

(b) Discuss whether a firm’s decision to innovate is dependent solely on the barriers to entry in the market. [15]

3. The Singapore government strongly emphasises shared responsibility between the government and people in the healthcare market. Individuals use monies in their Medisave accounts, government subsidy, medical insurance like Medishield Life and cash to pay for treatments. In recent times, the affordability of healthcare services has come under the spotlight.

In the light of the aging population in Singapore, assess the effectiveness of policies available to the government in addressing the different sources of market failure in the healthcare market in Singapore. [25]

4. A country's social expenditure is made up of cash handouts, rebates, subsidies and social welfare in areas such as home ownership, healthcare and education to improve the standard of living of its citizens. *Source: The Straits Times, 30 April 2018*

(a) Explain the consequences of a government not achieving its macroeconomic aims. [10]

(b) Assess whether a government injection on social spending is likely to have a significant impact on the standard of living of its citizens. [15]

5. As much as one-third of the United States workforce could be out of a job by 2030 thanks to automation, according to new research from McKinsey. Meanwhile in Samoa, a small developing country, the tourism industry is badly hit with poor outlook globally.

*Source: CNBC, 29 Nov 2017 & Samoa Observer, 26 May 2017*

(a)Explain the various causes of unemployment across different countries. [10]

(b) Discuss the extent to which the nature of an economy affects a government’s

choice of macroeconomic policies in addressing unemployment. [15]

6. On 8 March 2018, Singapore and 10 other countries signed the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a free trade agreement. Minister for Trade and Industry Chan Chun Sing said, “The CPTPP will strengthen trade among countries in the Asia-Pacific, resulting in a more seamless flow of goods, services and investment."

*Source: Ministry of Trade & Industry, accessed 17 July 2019*

Discuss the impact of Singapore’s policies to promote free trade on consumers and

producers in Singapore. [25]

MI 2019 Prelim

1.In Asia, the threat of water shortage is more present than ever due to rising population, income growth, worsening climate conditions such as droughts and wear and tear in pipes from high water pressure conditions. Though Singapore’s water future looks secure thanks to NEWater and desalinated water, sustaining water supply could become an energy-intensive affair.

*Adapted from Source: CNA, accessed 26 August 2019*

Explain how the shortage of water arises and discuss whether the price mechanism is the best way to address this shortage in order to achieve the microeconomic aims. [25]

2. In 2018, the Competition and Consumer Commission of Singapore (CCCS) fined Grab and Uber over their merger. On the other hand, CCCS cleared the merger of two food court operators, Foodfare and Kopitiam as even with the merger, other strong competing operators remain in the market for the sale of cooked food.

(a) Explain the likely market structure that is consistent with the behaviour of firms in the ride-hailing industry and the market for the sale of cooked food before the merger.[10]

(b) Discuss the factors that CCCS considers when they decide on whether to allow firms to merge. [15]

3. Preventive healthcare consists of measures taken for disease prevention to ensure people do not fall ill in the first place while curative healthcare is geared towards treating patients after they have become ill. Studies show that much of ill health arises as medical conditions were undiagnosed at early stages. Increasing health screenings would alert those with problems to take early action.

(a) Explain how the market for preventive healthcare might fail to a greater extent as compared to the market for curative healthcare. [10]

(b) Instead of relying solely on influencing the demand for preventive healthcare, the Singapore government should adopt policies to target the supply of it. Discuss. [15]

4. Foreign direct investment from the USA to Singapore hit over US$77 billion in 2018.

*Source: EDB, Singapore, March 2019*

(a) Explain the factors that determine the level of foreign direct investment in a country.[10]

(b) Assess the role of foreign direct investment in raising the standard of living of a country. [15]

5 “The Singapore dollar will fare around $1.35 against the US dollar in 2018.”

*Source: Fitch Solutions, January 2018.*

(a)Explain how changes in the external value of a currency can affect the domestic price level. [10]

(b) Discuss whether an increase in the general price level will affect the domestic sector more than the external sector. [15]

6. Globalisation is under threat. Figures compiled by the Swiss Economic Institute show that globalisation peaked and began plateauing several years before the current trade wars began. The current headwinds to it – from lower cross-border capital spending to the relocating of firms back home to win votes, tariffs and the push to grow domestic firms – are not going away anytime soon. So governments and the biggest corporations have begun to prepare for a new age: the age of deglobalisation. *Source: Financial Times, August 2019*

Discuss whether Singapore is among the economies that have the most to lose from deglobalisation. [25]

SAJC 2019 Prelim

1.The food and beverage (F&B) industry in Singapore offers a wide range of cuisine and dining options. Singaporeans can choose to eat local food in a hawker centre, Western food at a casual dining restaurant or Japanese food at a fine dining restaurant. A rise in rentals and a fall in incomes are likely to affect different F&B businesses differently.

(a)Using price and income elasticities of demand, explain how each of these changes might affect the sales volume of different F&B businesses in Singapore. [10]

(b) Discuss the likely combined impact of both of these changes on the sales revenue earned by these different types of F&B businesses. [15]

2. In a highly competitive apparels industry where size matters, boutiques which offer customised tailoring services for discerning consumers nonetheless coexist with large firms which produce huge quantities of clothing for the mass market.

Discuss the factors that firms should consider when deciding whether to grow and evaluate which is the most important factor. [25]

3. Ministry of Home Affairs cited two areas of concern in Singapore: the large proportion of young drug abusers and cigarette smokers, who harm themselves and others.

Singapore has a zero tolerance approach to drug consumption - drugs are banned. Various measures including tax have been adopted to tackle the problem of cigarette smoking.

(a)With reference to the examples above, explain why government intervention is advocated in markets for demerit goods. [10]

(b) Discuss whether a total ban is the most appropriate policy for different demerit goods. [15]

4. As of 2018, Singapore’s current account surplus stood at $87.8 billion. For the Financial Year 2018, Singapore had a $2.1 billion budget surplus.

Explain the possible causes of a country’s current account surplus and budget surplus and discuss whether such surpluses are beneficial to Singapore’s economy. [25]

5. Stability in prices and low unemployment are two key macroeconomic aims of most governments.

(a)Explain the benefits of attaining the above aims. [10]

(b) In view of the possible conflict between the above aims, discuss the economic policies that a government might consider adopting to achieve them. [15]

6. In recent decades, globalisation has transformed the world, boosting economic growth and connecting developed and developing countries. However, there are signs of reverse globalisation as trade patterns are changing and capital flows and immigration are slowing down.

(a)Explain the determinants of an economy’s pattern of trade. [10]

(b) Assess the effects of globalisation on the standard of living in a developing country like China.

TJC 2019 Prelim

(a) Explain why prices of the same soft drinks are usually higher in tourist attractions than in neighbourhood grocery stores. [10]

(b) Some governments are imposing a tax on soft drinks. At the same time, tourist attractions have announced an increase in their entrance fees.

Discuss the impact of these events on consumers and producers of soft drinks. [15]

2. In April 2018, as part of an escalating trade war, China imposed tariffs (ranging from 15- 25%) on 128 US products (worth US$3 billion) including fruit, wine, seamless steel pipes, pork and recycled aluminium in retaliation to the US steel and aluminium tariffs on Chinese imports into the USA.

Discuss the potential impact of the US-China trade war on different types of firms in the US. [25]

3. Current global policies on e-cigarettes (which mimic smoking by delivering nicotine without the harmful effects of cigarette’s tar) range from outright prohibition in Singapore, to largely unregulated market access in the USA. Supporters of e-cigarettes believe they are less harmful than traditional cigarettes and help cigarette users kick the habit. Health lobbyists, meanwhile, argue that the health effects of e-cigarettes are still unclear.

(a) Explain why the Singapore government chose to ban e-cigarettes. [10]

(b) Discuss the factors that might have led to governments’ differing approaches in intervening in the market for e-cigarettes. [15]

4. (a) Explain the factors that increase the effectiveness of exchange rate centred monetary policy in managing an economy. [10]

(b) Discuss the view that exchange rate centred monetary policy should be focused primarily on achieving a low and stable rate of inflation in Singapore. [15]

5. In Budget 2017 and 2018, Finance Minister Heng Swee Keat announced increases in diesel tax, Goods and Services Tax (GST) and a new carbon tax. These measures reflect a global shift from direct to indirect taxes as a source of government revenue.

*Source: The Business Times, 23 February 2017*

Assess how a shift from direct to indirect taxes affects the microeconomic and macroeconomic goals of the Singapore government. [25]

6. Four decades of breakneck economic growth turned China into the world’s biggest carbon emitter. But the government is trying to change that without damaging the economy—and perhaps even use its green policies to become a leader in technological innovation.

*Source: Bloomberg News, 9 March 2018*

(a)Explain the factors that contribute to sustainable growth in a country. [10]

(b) Discuss how China’s pursuit of sustainable economic growth can impact its balance of payments. [15]

VJC 2019 Prelim

1.Bubble tea has spread like wildfire on mainland China. This is in part due to viral marketing, recipe innovations and a push to create modern teahouses that have become hangout spots for the millennials. At the same time, new planting and soil management practices in China have resulted in a rise in the production of tea leaves, an ingredient of bubble tea. *Adapted from Today Online, 6 October 2017*

Discuss the impact these events are likely to have on China’s consumers and tea farmers. [25]

2. (a) Explain the factors that are likely to influence firms’ decisions to merge. [10]

(b) Assess whether mergers are desirable to society. [15]

3. The Competition Commission of Singapore (CCS) finds it extremely difficult to convince parents that highly marketed ‘premium’ infant milk powder products are comparable to other brands. "Without better information, parents should be careful about relying on the claims made by infant formula companies," Dr Koh Poh Koon, Senior Minister of State for Trade and Industry said, while stressing that cheaper options are just as nutritious.

*Adapted from The New Paper, 2017*

(a)Explain the market failure associated with imperfect information in the markets for different types of infant milk powder products. [10]

(b) To what extent should the Singapore government intervene in the above markets? [15]

4. The goal of many central banks is to achieve price stability.

(a) Explain the key determinants of price stability. [10]

(b) Discuss the view that achieving price stability is the most important determinant of a country’s success in improving its standard of living. [15]

5. In 2017, Germany has the world’s biggest absolute current account surplus while America’s deficit remains the world’s biggest. Current account imbalances are however not always a cause for concern. *Source: International Monetary Fund (IMF) Report, 2018*

(a)Explain the possible causes of current account imbalances faced by countries. [10]

(b) Discuss the factors that are likely to influence macroeconomic policy decision makers in deciding if balance of trade imbalances are a cause for concern. [15]

6. The US government has accused China of engaging in unfair trade practices and has imposed tariffs on many Chinese imports like aluminium and steel. In turn, China imposed a number of retaliatory tariffs on US imports like fruit, wine, and pork.

*Source: The New York Times, 1 April 2018*

Discuss the policy measures that the Singapore government can adopt to deal with the macroeconomic problems associated with the ongoing trade war. [25]

**ACJC**

**Question 1: The UK Rail Industry**

**Table 1: UK Rail Statistics**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
| Rail fares index (January 1995 = 100) | 187.1 | 198.6 | 207.1 | 212.6 | 217.2 | 218.7 |
| Annual passenger numbers (% change) | 8.6 | 6.1 | 3.3 | 5.0 | 4.5 | 5.1 |

Source: Office of Rail and Road, accessed 20 July 2019

**Table 2: Estimates of elasticities for various modes of transport in the UK**

|  |  |
| --- | --- |
|  | **Elasticity Value** |
| Price elasticity of demand for rail | (-) 0.218 |
| Price elasticity of demand for bus | (-) 0.357 |
| Price elasticity of demand for car | (-) 0.197 |
| Cross elasticity of demand for car \*w.r.t rail | 0.196 |
| Cross elasticity of demand for car \*w.r.t bus | 0.116 |
| Cross elasticity of demand for rail \*w.r.t car | 0.053 |
| Cross elasticity of demand for bus \*w.r.t car | 0.066 |

\*w.r.t refers to ‘with respect to’

Source: [https://www.vtpi.org/tranelas.pdf](http://www.vtpi.org/tranelas.pdf)

**Table 3: Rail Ticket Prices for Southampton to Manchester (in UK pound sterling (£))**

|  |  |  |
| --- | --- | --- |
| **Type of ticket** | **Direct route** | **Indirect route** |
| Advance | 57.00 | \*n/a |
| Off-peak | 113.50 | 115.10 |
| Anytime | 124.80 | 221.50 |
| First Class Anytime | 276.30 | 305.00 |

\*n/a = not available

When buying a ticket for a rail journey, consumers often face an array of possible prices and types of rail ticket. Consumers could choose the following types of rail tickets:

1. **Indirect route** will require travellers to switch to another rail to reach the destination and the journey will usually include multiple stops.
2. **Advance tickets** have to be bought in advance (up to the day before the day of travel) and are sold in limited numbers and subject to availability. These tickets are only valid on the date/train specified.

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1. **Off-Peak tickets** can be bought anytime. However, travellers have to travel during off-peak hours (exclude peak hours in the mornings, late afternoons and late evenings on Mondays- Fridays).
2. **Anytime tickets** can be bought anytime and allow travellers to travel anytime.
3. **First Class tickets** offer additional free Wi-Fi, complimentary food and drinks, free newspapers, extra leg room and reclining seats as well as access to first class lounges at certain stations.

Source: Economic Review February 2019 Vol 36 No.3

**Extract 1: Connecting Britain**

High-Speed 2 (HS2) is a planned rail network between London, the West Midlands and the North. It will be the biggest construction project in Europe and it is expected to bring great economic benefits to the country. The construction of HS2 will be a major generator of jobs and businesses directly linked to the project. The benefits will fall across a wide range of industrial sectors from the construction sector to the civil engineering and rail industries.

Beyond the construction of the railways and stations themselves, associated development triggered by HS2 can have an important impact on the economy. There is evidence that infrastructure has a stronger positive effect on growth.

However, many who live along the proposed route are naturally opposed to the project. One major reason is obviously the prospect of years of disruptive construction work, followed by up to 28 trains an hour screaming past their homes and villages at speeds of up to 400km/h.

The Institute of Economic Affairs (IEA), predicts that costs will be greater while the economic benefits will be lower than what the government has forecasted.

The overall costs would be higher for a number of reasons, ranging from minor costs such as compensation for disruption during the construction work being paid to residents staying near construction sites, to major expenses arising from a resulting need to expand and upgrade existing stations that are going to link to the HS2. Moreover, when operating costs are added to the initial investment of HS2, the overall cost could increase substantially.

Furthermore, the overall revenue from ticket sales are unlikely to match expectations stated by the UK government.

Source: GOV.UK developer docs, accessed 20 July 2019

**Extract 2: Should Britain nationalise the rail network?**

Britain's rail network was first nationalised in 1948 and then privatised again in 1993. Now, 24 years on, the main Britain opposition Labour Party says the railways have become inefficient and expensive; it wants to see a return to public ownership.

Over the past decade, fares have risen twice as fast as salaries. Where the rail operators have been left to their own devices, choosing whether or not to invest in new trains, the result is clear: on some rush-hour train services into London, a third of passengers are forced to stand.

Under the existing rail system, Britain's railway lines are divided into regions and each region is run by train operating companies for a fixed length of time. There are currently 20 regions in England, Scotland and Wales, with 25 foreign and local train operating companies competing for the regions.

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This system allows for rail companies from around the world to bring new ideas and innovation to Britain’s railways.

One in two of the 1.7bn passenger journeys made in the UK each year will be on trains operated by foreign companies. All of those companies are ultimately owned by foreign states

– which outrages unions and others who call rail privatisation into question, as this is akin to transferring British fare payers’ cash overseas.

Source: The Guardian, 1 April 2017

**Extract 3: Rail privatisation: the UK looks for secrets of Japan’s success**

The two railways – UK and Japan, have something in common: both were once state-owned, then privatised in 1987 and 1994, respectively. There, the similarities end.

The most fundamental difference between the British and Japanese railways is how they were privatised. In Britain, the government chose to break up railway operations into three components: tracks, trains, and train operations. Today, the tracks are publicly owned by Network Rail1 while companies regularly compete to operate trains in regions such as the West Midlands, leasing their trains from another company. In Japan, however, the former Japan National Railways was split up along regional lines and then everything were sold together. An example is JR East, centred on the city of Tokyo, owns its tracks, trains and stations.

However, Britain split up its system for a reason, and that reason was competition. It was hoped that the regular fight for regions would drive down costs. The obvious downside to the Japanese model is potentially creating a local monopoly with all the risks that entails: exorbitant fares, bloated costs, lazy service and refusal to co-operate with rivals.

In Britain, whether railway privatisation was beneficial is deeply controversial. This is because under privatisation, prices have been rising, yet the train service is unreliable. On top of that, despite operators earning tidy profits, some are still seeking public subsidies to improve services. In fact, Britain’s trains are so unpopular that, according to a poll, the public supports nationalisation by a majority of 56 percent to 15 percent. Yet in Japan, the privatisation of its railways is regarded as a triumph. The bulk of Japan’s ultra-reliable railway network operates without a single yen of public subsidy. Pricing is straightforward, and apart from consumption tax hikes, JR East has never raised fares once in 31 years as a private operator.

The divergent fortunes of these two systems raises an obvious question: is private ownership really the problem with Britain’s railways? If not, can nationalisation cure their ills?

Japan’s success offers UK an appealing prospect of fixing the railways in the private sector. As such, a review has been launched that will specifically look at Japan as a model for the UK. What they will find is not just a triumph of private enterprise, but a robust system of regulation and indirect but ferocious competition. Japan’s rail success will not be easy to replicate.

Source: The Financial Times, accessed 20 July 2019

1 Network Rail is a 100 percent public-owned body that runs Britain’s railway network and owns the infrastructure, including 20,000 miles of track, 40,000 bridges and tunnels and 2,500 stations.

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**Questions**

* 1. Using supply and demand analysis, state what could have caused the changes in annual rail fares and annual passenger numbers in Table 1. [2]
  2. With reference to Table 2, comment on whether the UK government should subsidise rail transport or bus to reduce private car usage. [4]
  3. Extract 1 explains that the UK government is considering building the High-Speed 2 (HS2) rail network to improve rail connections in the country.
     1. Explain a possible opportunity cost that the government might incur in the building of HS2 rail network. [2]
     2. Discuss the factors that the government needs to consider in their decision to build the HS2 rail network. [8]
  4. Explain whether the UK rail ticketing strategies could be considered an example of price discrimination. [4]
  5. Discuss whether UK should renationalise or to adopt Japan’s model of privatisation of its rail network. [10]

[Total: 30]

**Question 2: Impact of US-China Trade War Extract 4: Harmful effects of import restrictions**

The history of steel import restrictions by the United States dates back to the 1960s. Because of their strong position in the market, US steelmakers used to have significant power to control prices. In the early 1960s, it was quite easy to pass on any increase in costs onto prices, and thus raising employee wages was not difficult. However, on the other side of the same coin, they were beginning to lose competitive advantage, lagging behind their foreign rivals in investing in continuous casting facilities and technology development. This resulted in higher domestic steel prices and a boost in imports.

Responding to calls from the domestic steel industry*,* the then President Johnson had Japan and the European Community agree to ‘voluntarily restrict’ U.S.-bound steel exports. More than half a century later, the United States has repeatedly implemented various measures to curb steel imports, including voluntary export restrictions on the part of trading partners, anti- dumping duties and the trigger price mechanism (TPM) designed to inhibit steel imports below set prices.

The US steel industry has long been protected from international competitive pressure, but remains far from being revitalized today. The latest import restrictions will do more harm than good, resulting in higher domestic prices for steel and causing a further delay in revitalisation efforts.

Moreover, steel users are no ordinary consumers but are manufacturers such as automakers. An increase in the prices of intermediate goods means higher costs for user industries, eroding their competitiveness and further reducing jobs. Some companies may move production bases to other countries to avoid higher costs of intermediate goods. The impact of such negative effects will be more serious on companies exposed to higher competition and may prompt those in the user industries to call for similar import restrictions.

Source: Research Institute of Economy, Trade and Industry, 18 May 2018

**Extract 5**: **Trump's trade war may benefit most global economies**

With the US imposing higher tariffs on Chinese goods, European producers will enjoy a competitive advantage over Chinese producers in the US market. Likewise, in the Chinese market, both European and Asian producers will have a competitive advantage over US producers.

A substantial share of US-China trade is thus likely to be diverted to Europe, Japan and other Asian economies close to the Chinese market. The European Union is likely to reap particularly large benefits, because it remains one of the largest trading partners of both the US and China, and because European producers are often US companies' closest competitors.

Ultimately, however, it seems likely that the Sino-American confrontation will shift global trade significantly. This may benefit most of the world's economies, but it will also have serious consequences for the US and China.

The losses are likely to be larger for the US than for China, because Chinese imports from the US include a larger share of agricultural commodities for which alternative suppliers are relatively easy to find. For example, China can import soya beans from Brazil instead of the

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US, at little additional cost. Moreover, Chinese countervailing measures have been more moderate; there is little prospect of a blanket 25 per cent tariff on US imports.

All in all, the Sino-US trade war may lead to some losses for China, but those losses will likely be dwarfed by the costs incurred by the US itself.

Source: Business Time, 11 October 2018

**Extract 6: Vietnam's GDP is just 11 years behind China, and growing rapidly**

In 2006, Vietnam's GDP was barely $4,000 per capita PPP (Purchasing Power Parity). Today it's close to $7,000 per capita PPP and has more than doubled at market exchange rates.

Over the last 11 years, Vietnam's economy has grown at a compound annual rate of 5.0% in per capita terms. That is far short of China's 8.2%. However, as China's growth is slowing as it reaches the top of the world's middle-income bracket, Vietnam's growth seems to be accelerating as it breaks into the lower ranks of middle-income countries.

Part of Vietnam's growth is coming from China itself. Chinese companies have begun offshoring manufacturing jobs to Vietnam to take advantage of the country's much lower wages. The last 11 years of growth in China have raised even the poorer provinces of western China up to global middle-income levels. Southeast Asia is the new frontier. Vietnam is well- placed to attract Chinese investment companies looking to diversify their manufacturing base.

Source: Forbes, 9 November 2017

**Extract 7: A remedy for Vietnam's financial troubles**

Vietnam has become one of the Pacific Rim's staunchest proponents of free trade deals. From Hanoi's perspective, free trade agreements are critical to promoting foreign investment and to finding new markets for its exports as competition in the region heats up. The country currently has a dozen free trade agreements in effect with partners near and far, including the European Union and the Eurasian Economic Union.

Vietnam’s economic growth has outpaced even that of other rapidly developing states in the region such as Thailand, Indonesia and Malaysia. Its reliance on exports and foreign investment makes its economy susceptible to external volatility. Furthermore, Vietnam's manufacturing sector relies on importing the raw materials it needs to produce the country's leading exports. Vietnam's incomplete supply chains, coupled with its lack of supporting and processing industries, have cut into producers' profit margins and limited their ability to add value. Without a long-term strategy to develop its industries and boost productivity, the country's economy will remain vulnerable.

Though Vietnam has made a name for itself as an economic success story, the country's worsening structural problems have tarnished its reputation. Vietnam's budget deficit is among the highest in Asia. The protracted imbalance stands to undermine Hanoi's many social, economic and strategic objectives unless the government finds a viable way to boost revenue in the short term, beyond raising taxes.

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Its public debt is now estimated to exceed 63 percent of GDP — and is expected to grow as the government increases borrowing to cover the budget and fuel economic growth. The country's state-owned enterprises, meanwhile, have buckled under the weight of their own inefficiency, and the government has fallen short in its efforts to strengthen the banking sector.

Together, these problems (among others) have given Vietnam a sense of urgency in its quest to partially privatise large state-owned companies. The government has already sold off shares of several companies formerly under its exclusive control, including state-owned oil and gas firm PetroVietnam.

Source: The Guardian, 30 June 2019

**Table 4: Selected economic indicators of Vietnam**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Indicators** | **2013** | **2014** | **2015** | **2016** | **2017** |
| Real GDP Growth (annual %) | 5.4 | 6.0 | 6.7 | 6.2 | 6.8 |
| Households Final consumption expenditure (constant 2010 US$) (billion) | 88.6 | 94.0 | 102.8 | 110.3 | 118.4 |
| Government final consumption expenditure (constant 2010 US$) (billion) | 8.6 | 9.2 | 9.8 | 10.5 | 11.3 |
| Gross fixed capital formation (constant 2010 US$) (billion) | 37.4 | 40.9 | 44.7 | 49.1 | 53.5 |
| Exports of goods and services (constant 2010 US$) (billion) | 125.6 | 140.1 | 157.8 | 179.7 | 209.8 |
| Imports of goods and services (constant 2010 US$) (billion) | 123.9 | 139.8 | 165.1 | 190.4 | 223.7 |
| Inflation rate (%) | 6.6 | 4.7 | 0.9 | 3.2 | 3.5 |
| Unemployment rate (%) | 1.3 | 1.3 | 1.9 | 1.9 | 1.9 |

Source: Various

**Questions**

1. Explain the economic relationship between steel and automobiles. [2]
2. Using a diagram, explain how rising wage costs in the US steel industry led to increasing steel imports. [4]
3. Consider whether the US government should continue to pursue protectionistic trade policies to save the steel industry. [8]
4. **(i)** Describe the change in Vietnam’s trade balance between 2013 and 2017. [2]

**(ii)** Using the information given, explain how free trade agreements could account for Vietnam’s economic growth. [4]

1. Discuss the policy options for the Vietnamese government to manage her budget deficit whilst sustaining her economic growth. [10]

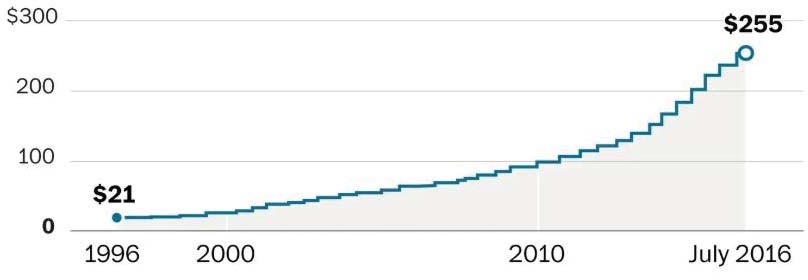
[Total: 30 Marks]

Anderson Serangoon JC

**Question 1**

**The Pharmaceutical Industry**

**Figure 1: List Price of Humalog brand Insulin (US$)**



Source**:** Truven Health Analytics, accessed 15 July 2019

**Extract 1: Why Insulin defies the normal rules of Economics and keeps getting more expensive**

Here's a basic economic principle: The price of a product usually falls over time. That's often because competitors offer alternatives, or new advances make past breakthroughs less valuable. Yet none of the typical pressures have driven down the price of insulin, a life-saving drug for diabetics.

"Insulin manufacturers charge so much for a really simple reason: because they can," said Shannon Brownlee, co-chair of the Lown Institute's Right Care Alliance, a Brookline nonprofit that advocates for affordable health care.

Here's one explanation for why life-saving drugs like insulin defy normal consumer economics: If a good is too expensive, consumers can hold off buying, but with insulin, Brownlee says, "Where is the downward pressure? Customers can't put downward pressure on it because they can't walk away. If they don't take insulin, they'll die."

According to Joseph Doyle, co-director of the Initiative for Health Systems Innovation at MIT's Sloan School of Management, a driver for insulin prices and other drug prices, is patents. He points out that patent laws allow the few dominant insulin makers to minimise competition by patenting incremental changes to their products, which makes it hard for cheaper generics to enter the market.

Talk of profit margins can seem a bit cold when lives are at stake. But drug companies wouldn't pursue lifesaving therapies if there weren't financial rewards, said Amitabh Chandra, director of health policy research at Harvard's Kennedy School of Government. The Massachusetts Biotechnology Council contends that pharmaceutical firms' ability to make large profits can actually save money in the health care system, overall. "If a drug can cure somebody and keep them out of the hospital, it will save trillions of dollars in the long run," said MassBio CEO Bob Coughlin. "And that's what we really need to focus on."

Source: Boston’s NPR News Station, 25 June 2019

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**[Turn over**

**Extract 2: What drives mergers & acquisitions in the pharmaceutical industry?**

The pharmaceutical industry probably sees more merger and acquisition (M&A) activity than any other industry, both in the number of deals and the amount of money spent on acquisitions and mergers. One example would be the merger between two giants, Pfizer and GlaxoSmithKline. A merger between these two large firms would make them the global leader in over the counter drug sales. The proposed transaction is also expected to realise substantial cost synergies, with the joint venture expected to generate substantial total annual cost savings by 2022.

The single most important driver for changes in the pharmaceutical industry is the ever-increasing cost of drug development. Most companies can no longer afford to carry out research and development (R&D) to find innovative compounds. The most-quoted study of drug development costs states that on average, the development of a new drug costs around $1.4 billion. It usually takes ten years from synthesis to approval, thus incurring $1.2 billion capital costs, which results in average total cost of $2.6 billion to develop a new drug.

The other driver for the development costs is the ever-increasing regulatory requirements. Today, a company needs to invest between $2-4 billion per year in R&D to have a meaningful portfolio of drug development programs. Putting this in perspective, in the long-term, pharmaceutical companies spend 20% of their revenue from high-margin original drugs on R&D. Thus, only companies with revenue of $10 billion or higher from original drugs can afford to have a substantial drug development program. Since it is almost impossible for small companies to have revenue of that size, mergers seems a natural option for many.

Meanwhile, payers and regulators strive to replace as many off-patent original drugs as possible with generics. Generics are copies of brand-name drugs, with the same pharmacological effects as the original. They can enter the market once the patent, which typically lasts between 15 and 20 years from the date the application is filed, has expired on the original drug.

This underscores a perennial problem for the pharmaceutical industry: what to do when successful medicines lose patent protection and revenues evaporate. Sanofi is trying to offset declining sales of its top-selling insulin, Lantus, which has lost market share following the introduction of cheaper “biosimilar” versions. Celgene is preparing for the loss of patent protection on its top cancer medicine, Revlimid, which will face generic competition from 2022 at the latest. “As firms are confronted with drugs going off patent and weak research and development pipelines, they have no choice but to do significant acquisitions” said Frank Aquila, a senior corporate lawyer at Sullivan & Cromwell.

Source: Contract Pharma, January 2018

**Extract 3: Pharmaceutical industry profits and Research and Development (R&D)**

When the challenge of affording prescription drugs is raised, pharmaceutical manufacturers often argue that steps to reduce prices will lead to less innovation in the future. This response presumably applies to policies that use the market, such as shortening periods of exclusivity and making approvals of generics more rapid, as well as regulatory tools such as price controls.

The manufacturers’ argument has validity in that expectations of lower revenues will lead to less investment in R&D. Pharmaceutical innovation has produced an enormous amount of social value. Those benefits from pharmaceutical innovation stem in great measure from patent policy and the granting of marketing exclusivity to new drug products.

The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry. This means that the cost of bringing a new drug to market is very high and the process is risky, while the cost of producing an extra unit of a product that is on the market is frequently “pennies a pill”. In addition, for many drugs, the costs of imitation are low. It is simple and low cost for a firm that did not develop the drug to produce a copy of a new drug. This means that if free competition were permitted, firms spending hundreds of millions of dollars to bring a new drug to market would be unlikely to recoup those investments, as competition would drive prices down to production costs ("pennies a pill").

It is these features of the economics of new drug development that make the establishment of intellectual property rights through the patent system and regulation of marketing exclusivity so important to promoting innovation in prescription drugs. Establishing temporary monopoly power for makers of new prescription drug products enables innovator companies to raise prices above the level of production costs and realise economic profits to compensate for the investment in pharmaceutical R&D.

The fact that patents are granted and marketing exclusivity for new drugs is established does not mean there is no competition. Competition between patented drugs that treat the same medical conditions does occur, but it is based on the clinical features of the drugs and to a more limited extent on price. This is referred to as “differentiated” product competition. One feature of such competition is that manufacturers of the products can raise prices above production costs.

Source: Various

**Questions**

1. With reference to Figure 1, describe the trend in the price of insulin. [2]
2. **(i)** Define contestability and state how the expiry of a patent will affect the contestability of the pharmaceutical industry. [2]

**(ii)** Using a diagram, explain how the expiry of a patent would lower the profits of a major insulin producer such as Humalog. [4]

1. “The pharmaceutical industry is what economists call a high fixed cost, low marginal cost industry.” Using relevant examples, explain the difference between fixed and variable costs. [4]
2. With reference to the data, discuss the factors that are likely to influence firms’ decisions on whether to merge. [8]
3. Discuss whether a government should be concerned with market dominance in the pharmaceutical industry. [10]

[Total: 30]

**Question 2:**

**Trade Issues in the United States**

**Table 1: US trade balance in millions U.S. dollars ($)**

|  |  |  |
| --- | --- | --- |
| **Year** | **Exports** | **Imports** |
| 2014 | 1,621,874 | 2,356,356 |
| 2015 | 1,503,328 | 2,248,811 |
| 2016 | 1,451,460 | 2,186,786 |
| 2017 | 1,546,474 | 2,339,884 |
| 2018 | 1,665,992 | 2,540,806 |

Source: The United States Census Bureau

**Extract 4: Understanding the decline in manufacturing employment**

The US manufacturing sector started shedding jobs in huge numbers in the early 2000s, coincident with a sharp appreciation of the dollar and a widening trade deficit. Yet, statistics seem to show the sector’s output keeping up with the rest of the growing economy. Many economists saw this as a sign that high productivity growth allowed manufacturing output to expand even as the workforce dwindled. This view points to automation, not rising consumption of imports, as the main cause of manufacturing’s job losses.

However, Vice-President and Director of Research of the Upjohn Institute, Susan Houseman, cited recent research suggesting otherwise. People have been buying more manufactured products but these products are increasingly made overseas where cost of production is lower. This shift to buying imports is further compounded by an appreciating exchange rate which makes domestic manufactured products more expensive to local buyers and also hampers the export competitiveness of these products.

The Economic Policy Institute’s research director, Josh Bivens addressed the importance of managing the exchange rate to minimise damage to the economy. “There needs to be real credibility that the US is now committed to never again allowing the dollar to just destroy the US manufacturing sector,” Bivens said. He also echoed Houseman’s call to expand vocational training programmes to improve the skills of workers in manufacturing.

But it is not all bad news for workers in the manufacturing sectors. Technology-driven innovation makes workers more productive and productivity has translated into wage gains. Automation has created winners and losers. Regardless of the rate of technological automation, the US needs to do more to help workers make transitions between jobs and occupations. The failure to give workers skills and assistance to move into new jobs or occupations not only contributes to higher structural unemployment, but also breeds resistance to innovation and automation.

Source: W.E. Upjohn Institute for Employment Research, June 2018

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**Extract 5: Trump’s tariffs: European Union gears up for trade war**

European Union officials have said they will respond "firmly" if US President Donald Trump presses ahead with his plan for steep global duties on metals. International condemnation has greeted the US President's Thursday announcement that he plans to impose a 25% tariff on steel imports and 10% on aluminium next week.

Canada, Mexico and the EU combined exported $23 billion worth of steel and aluminium to the US last year - nearly half of the $48 billion total steel and aluminium that the US imported in 2017.

European Commission head Jean-Claude Juncker promised to react firmly. The EU has drawn up a target list of 100 US goods worth $3.5 billion for its retaliatory tariffs. The list includes Bourbon whiskey, Florida orange juice, jeans, cosmetics. It could lead to many everyday items becoming more expensive for shoppers in the UK, as shops pass on increased import prices. Canada, Mexico, China, Japan and Brazil also say they are considering retaliatory steps.

Since Mr Trump's announcement, companies in the US that buy metals have already reported higher steel prices and complained that US producers do not have the ability to meet demand. Many US companies also expressed alarm, including beer brewers, which use aluminium for canned beverages. Anheuser-Busch InBev NV, the world's largest beer maker, warned that Mr Trump's plan is "going to put jobs at risk and would be against the US consumer".

Mr Trump has lamented the decline of the US steel industry, which since 2000 has seen production drop from 112 million tons to 86.5 million tons in 2016. The number of employees working in the sector has fallen over the same period from 135,000 to 83,600.

But experts say far more Americans work in industries that depend on steel products, than are employed in steel plants. Steel mills in 2015 employed about 140,000 Americans, according to census data. But

6.5 million Americans work for manufacturers who make things using steel. Critics argue that the tariffs would fail to protect American jobs and ultimately raise prices for consumers.

Source: BBC News, 2 March 2018

**Extract 6: Singapore exports show shifting trade patterns**

Singapore's exports rose at a faster pace in September from a year ago but the outlook remained murky as shipments of electronics continued to decline. The latest data also reflect the strength of the US economy and the disruptions caused by the trade war between Washington and Beijing.

According to trade agency Enterprise Singapore, exports to the US continued to soar, rising 41.5% on year in September while those to China plunged 17.8%, matching the previous month's rate of decline. Among Singapore's other major export destinations, shipments to the European Union grew 21.6% but those to South Korea, Taiwan, Japan and Hong Kong slipped.

"Since the start of the year, the US and European Union have replaced China as the key drivers for Singapore's exports,” Maybank’s Kim Eng said in a note.

Selena Ling, head of treasury research and strategy at Oversea-Chinese Banking Corp., said the US economy was in a "sweet growth spot," while there was a diversion of production and trade flows from China. To avoid tariffs imposed by the US on Chinese goods, some companies have begun shifting

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**[Turn over**

manufacturing and final assembly of goods to other countries. In a commentary published in the South China Morning Post, George Yeo, Singapore's former foreign minister, said that Southeast Asia would reap a windfall from the shift in trade and investments.

Singapore's data showed shipments of electronics declined 0.9% year on year in September, falling for the 10th consecutive month. However, the decline was offset by stronger shipments of pharmaceuticals. “Were it not for another stellar performance by the pharmaceutical industry, exports overall would have looked dreadful," said Robert Carnell, ING's chief economist and head of research for the Asia-Pacific, pointing to a 67.5% increase in pharmaceutical exports last month.

The increasing importance of the pharmaceutical sector is partly due to the Singapore government’s long- term ambition of developing innovative pharmaceuticals, which includes funds and infrastructure support. The setting up of the Biopolis, an international research and development centre for biomedical sciences in Singapore, is such an example.

Source: Nikkei Asian Review, 17 October 2018

**Questions**

1. **(i)** With reference to Table 1, summarise the trend in the US trade balance between 2014 and 2018. [2]

**(ii)** Explain one possible factor that might account for the trend. [2]

1. With reference to Extract 4:
   1. Explain why the US is concerned with its trade balance. [4]
   2. Explain the statement “Automation has created winners and losers.” [4]
2. Assess how far the concept of comparative advantage can help to explain the changes in Singapore’s patterns of trade as described in Extract 6. [8]
3. Discuss whether tariffs is the best policy the US could adopt to address her trade imbalance. [10]

[Total: 30]

Catholic JC

**Question 1**

**The Market for Pharmaceutical Drugs Extract 1: Prescription drug prices jumped more than 10% in 2015**

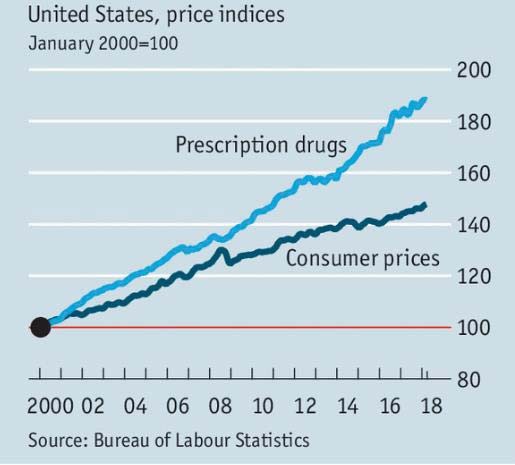
Drug prices were big news in 2015, thanks to “Pharma bro” Martin Shkreli, who drew outrage for hiking the price of a life-saving drug by 5,000%. So how much did prescription drug prices rise overall in 2015?

More than 10%, according to an analysis released on Monday by Truveris, a healthcare data company that tracks drug prices. “We’re in our third year of double-digit increases,” said the firm’s chief innovation officer, adding that the increases occurred across virtually every drug category. “Double-digit inflation is concerning.”

Truveris found that over the past year, the price of prescriptions drugs rose 14.77%. Last month, prescription drug spending hit $297.7 billion — part of the country's $3 trillion in health spending. That's a jump of more than 12%, the largest annual increase in more than a decade. Officials have predicted that annual expenditure on medications will grow 6.3% on average through 2024.

Source: Adapted from *The Washington Post*, 11 January 2016

**Figure 1: Price indices for prescription drugs and consumer prices**



Source: *The Economist*, 2018

**Extract 2: Priced out**

Many Americans think they pay over the odds for drugs—particularly for cancer drugs. Some go so far as to suggest that other countries free-ride on their generosity, and that Americans are thus subsidising drug development, which needs to be fixed by changing trade agreements.

Dr. Daniel Goldstein of the Rabin Medical Centre examined the prices of various prescription drugs in six countries (America, Australia, Britain, China, India and South Africa). He found that the highest prices were, indeed, paid by Americans whereas India paid the least. However, Dr. Goldstein recognized the need to look at prices in relation to the citizens’ level of income and calculate the affordability of these drugs. He found that America did moderately well while India and China were the least able to afford drugs.

The morals of this story seem twofold. First, just because drugs are cheaper elsewhere does not mean that people who live there can afford to pay for them, let alone pay more than they already do. Should prices be higher in China and India, sales might well be lower. Drug companies know that, and set their prices accordingly. Second, it helps when governments intervene with national purchasing arrangements, as Australia, Britain and South Africa all do. If Americans truly want lower drug prices, they should stop grumbling and become better negotiators, not blame those foreigners who are.

Source: *The Economist,* 11 June 2016

**Extract 3: What's behind the sharp rise in prescription drug prices?**

Prescription drug prices are skyrocketing in the U.S. due in large part to government regulations. These regulations allow drug manufacturers to charge monopolistic prices that are not opposed by competing market forces. Drug makers charge high prices for drugs thanks largely to “market exclusivity” regulations intended to allow them to recoup the research and development costs for new breakthrough medications. The companies can do this largely unopposed because the nation’s largest health insurers -- Medicare and Medicaid -- aren’t allowed to negotiate prices.

Those insurance programmes cover one out of every three Americans, but under federal law must pay whatever price the drug makers charge. These high prices affect consumers, even those with insurance, an economic analyst said. Insurance companies have started placing more high-dollar drugs onto higher tiers of their medication coverage, which requires a larger co-pay for each prescription. “That is hitting consumers hard,” he said, noting that the result is poorer health. The higher the cost of the medication, the poorer the adherence to the medication because people can’t afford to take their medicines.”

Upon approval of a new drug, the U.S. Food and Drug Administration (FDA) sets a period of market exclusivity that can last from 5 to 12 years, the authors said. During that period, no low-cost generic version of that drug can be sold. Exclusivity regulations are being exploited through tactics like evergreening. Evergreening refers to the drug company making a trivial change to a drug they have on-patent, and then promote that newer medicine as being superior to the earlier version, even though it has limited clinical benefits.

Source: *CBS News Online*, 24 August 2016

**Extract 4: Cost control – drug pricing policies around the world**

Despite sustained scrutiny on the cost of medicines across the globe, there is little consensus on the optimal balance between protecting industry innovation and ensuring adequate access to effective treatments.

The U.S. doesn’t directly regulate drug prices, meaning that drug companies can set whatever price they deem fit. The U.S. government regulates the market only through patents. However,

1. S. legislators are reportedly considering a new measure to stop drugmakers unfairly delaying the launch of generic substitutes to their products once their patents expire.

Furthermore, the government is seeking to curb drug companies’ marketing costs, which for

most firms, outweigh R&D costs.

Source: *Pharmaceutical Technology*, 12 February 2018

**Questions**

* 1. **(i)** Using Figure 1, compare the trend in the price of prescription drugs and consumer prices in the U.S. between 2000 and 2018. **[2]**

**(ii)** According to Extract 1, “annual expenditure on medications will grow 6.3% on

average through 2024”.

Explain **one** possible reason for this trend. **[2]**

* 1. Using a diagram, explain the source of market failure leading to high price of prescription drugs in the U.S. **[4]**
  2. Explain **two** factors that firms would consider in making decisions on the price of their drugs across different countries. **[4]**
  3. Consider the possible implications of the rising cost of prescription drugs in a developed country like the U.S. on the standard of living of its citizens. **[8]**
  4. Assess whether government regulation in the form of patents is sufficient to achieve the ‘optimal balance between protecting industry innovation and ensuring adequate access to effective treatments’.

**[10]**

**[Total: 30]**

**Question 2**

**The Economic Woes of Brazil**

**Table 1: Brazil, selected economic indicators (2011 – 2016)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Indicator / Unit** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** |
| Real GDP growth / % | 4.0 | 1.9 | 3.0 | 0.5 | -3.5 | -3.3 |
| Government budget /  % of GDP | -2.5 | -2.3 | -3.3 | -5.9 | -7.8 | -7.2 |
| Inflation rate / % | 6.6 | 5.4 | 6.2 | 6.3 | 9.0 | 8.7 |
| Exchange rate / Brazilian Real per US$ | 1.67 | 1.95 | 2.16 | 2.35 | 3.33 | 3.49 |
| Unemployment rate / % | 6.69 | 7.19 | 6.99 | 6.67 | 8.44 | 11.61 |

Source: *OECD* & *World Bank,* 2016

**Extract 5**: **Brazil's recession worst on record**

Brazil, one of the world’s top commodity exporters, has been in recession for two years. The latest figures show that the economy contracted by 3.6% in the last quarter, which also marked the deepest economic decline since records began. The country has been hard hit by a slowdown in China, the fall in commodity prices and an internal political crisis that has undermined business confidence.

The two-year slump has seen the number of unemployed rise to 12.9 million in 2016, a rate of about 12%. Brazil was once one of the fastest-growing economies in the world, the 'B' in the ‘BRICS’ group of nations, regarded by many investors as having the world's best growth potential. Its key exports - including oil, soy and metals, were in hot demand. But as growth in the biggest element of that grouping - China - began to slow, so did demand for commodities and their prices.

Another drag factor has been the fall in investors’ confidence stemming from corruption, which

has engulfed Brazilian society at the highest levels.

Source: Adapted from *BBC*, 7 March 2017

**Extract 6: Monuments to environmental waste in Brazil**

Brazil’s economic troubles continue to defy easy explanation. The degraded state of the national infrastructure and the low quality of infrastructural services translate into dismal levels of economic competitiveness and growth. Yet the crux of the matter is not merely the scarcity of money, but how resources have been used.

In a broad context of negligence and mishandling, the most silent victim is the environment — and also the one with an innate ability to inflict serious revenge. In order to maintain productive activities and to sustain the advance of the economic frontier over the best-preserved parts of the Amazon and the Centre-West regions, numerous new roads, dams and port construction projects have been proposed. Such large-scale infrastructure schemes typically dramatically affect hydro-ecological dynamics and severely affect local social groups. Roads may help people’s mobility and the transportation of goods, but they also seriously accelerate deforestation and the loss of biodiversity.

Source: *Financial Times*, 20 September 2017

**Extract 7: Brazil surprises with aggressive rate cut to rescue economy**

Brazil surprised markets with a larger-than-expected interest rate cut on Wednesday, as the worst recession in Brazilian history threatens to stretch into a third year. In a unanimous vote, the central bank has decided to cut its benchmark interest rate by 75 basis-points to 13% after two straight cuts of 25 basis-points each.

Lower interest rates should help Brazil’s economy accelerate after its worst recession on record ended in the first quarter. The sharp slowdown in inflation, which ended 2016 below the 6.5% target ceiling after starting the year at double digits, paved the way for the central bank to slash rates.

“This is an aggressive easing cycle. But political uncertainty is limiting the recovery in investments, and the fact that the labour market is very deteriorated is hindering the recovery in consumption,” said Juan Jensen, a partner with E4 consultancy. President Michel Temer, who took over the presidency last year, is expected to rely on rate cuts as a fiscal crisis limits his ability to provide other stimulus.

Source: Adapted from *Reuters*, 12 Jan 2017

**Extract 8: Brazil raises taxes, freezes spending to meet target**

Brazil’s government on Thursday increased a spending freeze and raised taxes to cover a budget gap this year, reinforcing its commitment to fiscal discipline but dealing a potential blow to fragile economic growth. The government said it will freeze an additional 5.9 billion reais ($1.9 billion) in federal spending this year.

The country’s renewed austerity effort has weighed on public investments in infrastructure and disrupted services such as passport issuance. This has been justified by President Michel Temer’s year-long administration as a necessary step to rebuild trust with investors and curb the growth of public debt.

Brazil targets a budget deficit of 139 billion reais this year before interest payments. The deficit in the 12 months through May reached 167.6 billion reais, equivalent to 2.59% of gross domestic product.

Source: *Reuters*, 20 July 2017

**Extract 9: Trade policy in the U.S. and Brazil**

Just as the U.S. looks to take a more protectionist tilt, Brazil is talking up its push towards free trade. In recent years, the U.S. has negotiated agreements with foreign steelmakers, such as Japan and South Korea, to restrict their exports or face anti-dumping tariffs. It has repeatedly accused China of unfair trade practices, and it’s likely that it will take an aggressive stance toward international trade and imports. President Trump’s team share a view that a country that imports more products than it exports is uncompetitive, with the U.S. running a trade deficit for the last 40 years.

At this weekend’s meeting of G-20 finance ministers, Brazil was one of several nations to point out the dangers of anti-globalization — a message crafted largely for listeners in the U.S. The country’s finance minister, Henrique Meirelles, said in an interview with The Wall Street Journal, “we had adopted during the last years some protectionist measures for some sectors of the economy, and the net result was not positive. At the end of the day, our products became more expensive and Brazilian exports became less competitive,” he told the newspaper. “In Brazil, we are moving towards a more open trade policy.”

“The new rhetoric towards more trade openness in Brazil is important,” he said. But, “Brazil

remains a relatively closed economy as opening up takes time.”

Source: Adapted from *CNBC*, 20 Mar 2017 and *The Atlantic*, 9 Jan 2017

**Questions**

1. **(i)** With reference to Table 1, state what happened to Brazil’s Real GDP from 2014 to

2016. **[1]**

* 1. Using Extract 5, explain **one** factor that could have led to the above trend. **[2]**

1. **(i)** With reference to Table 1, how does the value of the Brazilian Real in 2011 compare to its value in 2016? **[1]**
   1. With reference to Extract 7 and using a diagram, explain the change identified in (bi). **[4]**
2. Using the production possibilities curve diagram(s), explain how fiscal austerity would impact the Brazilian economy in both the short run and long run. **[4]**
3. Evaluate possible arguments as to why the U.S. may want to “take a more protectionist

tilt”. **[8]**

1. Discuss if interest rate policy is the best way of achieving the Brazilian government’s

goal of sustainable economic growth. **[10]**

**[Total: 30]**

Hwa Chong

**Question 1: US-China Trade war**

**Table 1: Change in Chinese Yuan per US dollar from 2013 to 2016**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2016** |
| Exchange Rate (Yuan per USD) | 6.15 | 6.16 | 6.28 | 6.64 |

Source: *Focus Economics*

**Extract 1: US fights for protectionism**

Tapping into economic discontent, President Donald Trump has argued for protectionism and asserted that decades of free trade policies were responsible for the collapse of the American manufacturing industry and its ballooning trade deficit. He has been feeding on the perception among many Americans that globalisation has brought more pain than gain. For example, globalisation has brought cheap consumer goods into the country, costing domestic jobs and depressing wages. Outsourcing of jobs to cheaper markets has also been a concern.

President Trump wants to renegotiate the North American Free Trade Agreement (NAFTA) which lowers trade barriers between the US, Canada and Mexico and rejected claims that the deal has helped the US economy create more jobs and reduce trade deficit by opening up export markets. He has also argued that since China joined the World Trade Organisation (WTO), Americans have witnessed the closure of more than 50,000 factories and the loss of tens of millions of jobs. He wants the US government to label China a “currency manipulator” and has lambasted the rapidly growing Asian economy for “unfair subsidy behaviour”.

Source: *The Guardian*, 9 November 2016

**Extract 2: Vietnam, a prime location for investors**

In recent years, Vietnam is well on its way to becoming a key destination for electrical and electronic products manufacturing for companies like Samsung and LG Electronics. Exports of smartphones and computer parts now account for more in export earnings than oil and garments. Samsung has turned Vietnam into a global manufacturing base for its products, producing almost a third of the firm’s output. Samsung has invested over US$17 billion into the country.

Compared with other developing markets in the region, Vietnam is emerging as the clear leader in low-cost manufacturing. Currently, labour costs in Vietnam are 50 percent of those in China and around 40 percent of those reported in Thailand and the Philippines. With the country’s workforce growing annually, Vietnamese workers are inexpensive, young, and, increasingly, highly skilled.

In the past few years, a growing number of businesses have relocated their operations from China to Vietnam in an attempt to escape rising costs and an increasingly complex regulatory environment. Given the recent trade war between China and the US, alongside the signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) and EU-Vietnam FTA, the country is steadily becoming more open to international trade and investment.

In terms of regulatory and financial incentives, Vietnam has become increasingly investor- friendly in recent years – the government has taken actions such as reforming its financial sector, streamlining business regulations, and improving the quality of its workforce. In addition, Vietnam has a zero percent tax on dividends remitted overseas and a low corporate tax rate of only 20 percent.

All these advantages have enabled Vietnam to become a premier “sourcing economy” in the eyes of many companies.

**Table 2: Vietnam’s top exports, 2017**

|  |  |
| --- | --- |
| **Top Exports** | **Export Value** |
| Phones | US $45.1 billion |
| Textiles | US $25.9 billion |
| Electronic goods/Computers | US $25.9 billion |

Source: *Vietnam Briefing*, 19 November 2018

**Extract 3: Trade war will hurt the US**

The US imports machinery, clothing and consumer electronics from China, with a lot of it made by US companies which profit from them. President Donald Trump's proposed measures of raising tariffs against Chinese products and declaring China a currency manipulator might end up hurting both economic giants and others. All this, without quite achieving Mr Trump's objectives of bringing back manufacturing jobs to the US or reducing its $552 billion trade deficit with China.

While even Chinese economists admit that China's economy will suffer if Mr Trump went ahead to slap tariffs on Chinese products and take other punitive trade measures against China, other economies are set to be hurt too. This is because many products exported from China to the US are assembled in China with components made in other countries as part of an international supply chain. In an interconnected world built on a complex web of supply chains and mutual economic interdependencies, China’s trade partners, particularly in east and south-east Asia are likely to be among those hit hardest by the fallout.

On the other hand, the US economy could be hurt by a trade war too. First, more expensive imports as a result of the tariffs would hurt Americans' pockets, particularly those in the low- income groups. Second, the Chinese are likely to hit back at any US action with their own punitive measures. China is also the US' third-largest export market, and one that is expanding rapidly. The Communist Party-linked Global Times warned: "A batch of Boeing orders will be replaced by Airbus. US automobile and iPhone sales in China will suffer a setback, and US soybean and maize imports will be halted." The Trump administration's moves against China could hurt American firms with investments in China and the burgeoning American exports there.

Yet, for all that trouble, Mr Trump may not see many manufacturing jobs returning to the US. In industries like textiles, where factories were lost decades ago to China, the jobs will simply move to countries where labour is less expensive, such as Bangladesh and Vietnam.

Source: *The Straits Times,* 28 January 2017 and *Financial Times*, 3 December 2018

**[Turn over**

**Questions**

1. **(i)** State what happened to the nominal exchange rate of the Chinese Yuan between 2013 and 2016. [1]
   1. With a relevant diagram, explain how intervention by the Chinese government could have led to the change identified in (a)(i). [3]
2. Explain how “currency manipulation” mentioned in Extract 1 might widen US’ trade deficit with China. [2]
3. **(i)** Using a tariff diagram, explain the impact of China’s tariff on the revenue of US exporters of soybeans to China. [3]
   1. With reference to the concepts of price elasticity of demand and price elasticity of supply, explain why the impact of the tariff on the revenue of US exporters of soybeans to China would likely be small in the short-run. [3]
4. Discuss how far the concept of comparative advantage can explain why Vietnam has increasingly become a “key destination for electrical and electronics products manufacturing” for foreign investors. [8]
5. In light of globalisation, discuss the extent to which US economy would benefit from a protectionist stance on trade. [10]

[Total: 30]

**Question 2: Internet Connectivity and Lifelong Learning Extract 4: Benefits of the Internet**

The internet is a pervasive, fundamental part of daily life that continues to deliver massive economic and social benefits around the world. Yet some 3.9 billion people – more than 52% of the world’s population – are still not online. Although much progress has been made in closing the digital divide, the challenge remains huge, complex and multidimensional. Multiple studies by The Boston Consulting Group have detailed the internet’s macroeconomic benefits to Gross Domestic Product (GDP), the broad economic and job impact of the digital economy’s rapid growth in online retail and advertising and infrastructure, and the big impact of information and communications technology (ICT) on small-business revenue growth and job creation. Most studies have verified the positive impact of greater broadband penetration on the growth in GDP. One of the first, by the World Bank, concluded that every 10 percentage point improvement in broadband penetration increases GDP by 1.3%.

Research also highlights a positive relationship between the application of digital technologies and the quality of life. Some researchers have considered internet usage including social networking sites as one type of leisure activities. The internet is also increasingly a source of high-quality educational content and online courses, which can increase the availability of formal instruction to underserved population segments. Already a fixture in developed nations, educational institutions and for-profit universities are expanding their online offerings in emerging countries, where rapid economic growth has increased the demand for skilled workers.

Source: World Economic Forum, *White Paper: Internet for All*, April 2016

**Extract 5: Singapore, Sweden top the Global Inclusive Internet Index**

Singapore and Sweden lead the world in terms of internet inclusivity, according to a recent report. The Inclusive Internet Index measures how effectively individual countries have adopted internet usage and the benefits derived from it. Device innovation, technological advances and declining prices afford increased connectivity; yet prices are still quoted as one of the key barriers to access in developing economies. Also prominent, among other reasons, is the proportion of those who do not use the internet because they do not see the need and lack knowledge of how to use it. The Singapore government will roll out a series of new courses targeted at the elderly, covering topics from the use of e-payment, chat apps and digital government services, in an expansion of the official Silver Infocomm Initiative, which has promoted IT literacy among more than 130,000 seniors.

The availability aspect primarily entails ease of access to the internet. Singapore tops the availability rankings, owing largely to initiatives taken by the government. For example, the report says that Singapore is “arguably a standard-bearer” of public-access Wi-Fi which provides free internet access in public areas and now reportedly has more than 10,000 hotspots across the city. Internet access remains unaffordable for most income groups in many developing countries. The United Nations-defined threshold for affordability is 5 percent of average national monthly income and efforts are underway to reduce it to 2 percent. By 2016, 106 countries had reached the target of offering basic fixed-broadband services at less than 5% of monthly Gross National Income (GNI) per capita. In Singapore, while fibre broadband prices have dropped drastically, there are various programmes in place to ensure that vulnerable segments of the community can enjoy the benefits of the internet.

Source: [www.edb.gov.sg,](http://www.edb.gov.sg/) 12 April 2017 and *The Straits Times*, 2 June 2018

**[Turn over**

**Table 3: Prices of fixed-broadband services of selected economies in 2016**

|  |  |  |  |
| --- | --- | --- | --- |
| **Economy** | **as % of GNI per capita** | **USD** | **PPP$** |
| United Kingdom | 0.22 | 8.10 | 7.55 |
| Norway | 0.5 | 39.17 | 32.35 |
| Singapore | 0.5 | 21.64 | 25.02 |
| United States | 0.82 | 38.10 | 38.10 |
| Sweden | 0.89 | 43.10 | 39.50 |
| China | 2.42 | 15.95 | 27.73 |

Source: *International Telecommunication Union*

**Extract 6: Higher learning institutes to train more adults**

A major revamp of how working adults are trained for the new economy is under way, with more courses, more funding and a more significant role for Singapore's institutes of higher learning (IHLs). The Ministry of Education (MOE) is pumping in $70 million towards this effort over the next three years, with IHLs expected to spend $40 million a year on the SkillsFuture Series by 2020, compared to less than $5 million now. For a start, each institute will focus on one of eight emerging areas of growth. They include data analytics, finance and entrepreneurship. The programmes will be delivered as short modules, making them easier for working adults to take. They will be subsidised up to 70 per cent for Singaporeans and permanent residents. The rest of the fee can be paid using the $500 SkillsFuture credit given to every Singaporean above the age of 25 from last year onwards.

Education Minister (Higher Education and Skills) Ong Ye Kung said funding levels for programmes with coursework components that are "purely academic" in nature will have to be relooked, while coursework that could be vocation-based could be delivered in a bite-sized format that can be accumulated and lead to graduate certifications. Some of the universities, such as Singapore Management University (SMU), are already doing this. SMU Academy, the university's lifelong learning unit, will be offering financial technology modules that can be "stacked up" towards a Master of IT in Business. The MOE noted that having such courses will give them exposure to an area of interest without having to pursue a full degree.

Although micro-credentials can be used to provide “a milestone for adult learners to aim towards and which employers can recognise”, Mr Ong cautioned that it should not become a new “arms race” to collect credentials. “IHLs should instead focus on imparting skills and knowledge needed by industry, and package them into a nice bundle that represents a meaningful upgrading of skills and knowhow,” he said. “Learners too, should focus on picking up what is necessary for their upgrading.”

Source: *The Straits Times*, 29 October 2017

**Extract 7: Education, infrastructure and fiscal sustainability vital to Singapore’s future**

While cohort sizes may be falling and money “may be tight”, Singapore is ploughing more investments into education which “has, and must, continue to be the backbone” in the Republic’s economic strategy, said Minister in Prime Minister’s Office Chan Chun Sing. Noting that it is no longer just about providing Singaporeans with 10 years of compulsory schooling but a “lifetime of continuing education”, Mr Chan also cited the need to continue investing “seriously” in infrastructure for the next generation while maintaining the country’s long-term fiscal sustainability and discipline.

Mr Chan referred to the 2018 Budget and pointed out that the Government has “not slowed down” its investment in education. “Instead, we are strengthening our investment,” he said. He stressed that beyond the formal school system, new ways must be developed to “continuously train and retrain our people for tomorrow’s economy”. Adding that going back to school for long courses “is a luxury that few can have in today’s fast-paced economy”.

From 2019, foreign students will no longer receive subsidies for most of the vocation-based master’s degrees and post-graduate diplomas offered by the autonomous universities, while the subsidies for permanent residents (PRs) will be reduced. Changes in subsidies will generate S$25 million in savings annually that will be channelled to support shorter, industry- relevant modular courses for Singaporeans and PRs at both undergraduate and post- graduate levels.

A history professor at the National University of Singapore noted that foreign students make up more than 50 per cent of the students in his class as "locals are not interested to pursue postgraduate studies. If there is a fall in the number of international students, then some faculty members might not see the need to improve the quality of lessons. This could eventually affect our standing in the global rankings," he added.

Noting that unsubsidised postgraduate courses attract many students, the MOE expects such students "will continue to take up courses at our autonomous universities if they see value in the education and training offered".

Source: *The Straits Times*, 5 March 2018

**Questions**

1. **With reference to Table 3:**
   1. Explain what could be inferred from the difference in values between prices of fixed broadband services in USD and PPP$ for Singapore. [2]
   2. Explain the difference between using GNI per capita and GDP per capita as an indicator of affordability of internet access. [2]
2. Using the information in Extract 4, explain how the internet would affect standard of living.

[4]

1. With reference to Extract 5, explain **two** economic reasons for government intervention in the market for internet access. [4]
2. ‘Changes in subsidies will generate S$25 million in savings annually that will be channelled to support shorter, industry-relevant modular courses for Singaporeans and PRs.’ (Extract 7)

Discuss the factors considered by the government in making a rational decision to proceed with the above changes in subsidies. [8]

1. Discuss the extent to which a ‘lifetime of continuing education’ is more effective than ‘10 years of compulsory schooling’ in reducing factor immobility and asymmetric information in the labour market. [10]

[Total: 30]

MI

**Question 1: Facets of the Entertainment Industries Extract 1: Film Industry – Statistics & Facts**

**Box Office Revenue**



Film entertainment is big business in the United States. It is expected that the film entertainment business will generate 35.3 billion U.S. dollars in revenue by 2019.

In 2017, 724 movies were released in North America, with the Marvel Cinematic Universe being the most successful movie franchise in the region, generating over 6.8 billion U.S. dollars of box office revenue in North America alone. Movies like “Iron Man”, “Marvel’s The Avengers”, “Spider-Man” and “The Incredible Hulk” are a few examples of franchise films.

Source: *Motion Picture Association of America (MPAA)*, 2019 and *Statista.com*, 2018

**Extract 2: How Hasbro Is Winning the Toy Game**

Hasbro, the largest toymaker in the US surprised the market on Tuesday with its second- quarter earnings in just the way that shareholders like to be surprised: Its net revenue (i.e., profits) rose 9%, well outpacing analysts' original 6% estimate.

The more obvious drivers of that growth include the release of the Avengers: Endgame movie which drove sales of the Avengers: Endgame merchandise.

There are also less obvious tailwinds, such as Hasbro’s moves to diversify sourcing away from China in the wake of the US-China trade disputes where both sides had adopted tit-for- tat retaliatory measures. Using non-Chinese sources of raw materials has helped to improve the profit margins.

Source: *The Motley Fool*, 2019

**Extract 3: Netflix’s Movie Blitz Takes Aim at Hollywood’s Heart**

Moviegoers may not know Scott Stuber, but he is fast becoming one of the most important – and disruptive – people in the film business. A former Universal Pictures vice chairman, Mr

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Stuber, 50, is Netflix’s movie chief. His mandate is to make the streaming service’s original film lineup as formidable as its television operation, which received 112 Emmy nominations this year, the most of any network.

Mr. Stuber’s cinematic onslaught is forcing old-line studios that produce movies and multiplex chains that show them to audiences to confront a panic-inducing question: Will the streaming company that prompted many people to cut their cable TV services now cause people to stop going to movie theatres? Having disrupted the television and music businesses, the internet is finally threatening the heart of Hollywood – the movie industry.

Until now, moviedom has been relatively protected from the digital forces that have reshaped the rest of media. Most films still arrive in the same way they have for decades: first in theatres, for an exclusive run of about 90 days, and then in homes. Multiplex chains (e.g., Golden Village in Singapore), have fought off efforts to shorten that period. They worry that people will be reluctant to buy tickets if they can see the same film in their living rooms just a few weeks (or days) later. Netflix mostly bypasses theatres.

Source: *The New York Times*, 2018

**Extract 4: How binge-watching is hazardous to your health**

Binge-watching, otherwise known as the act of streaming many television episodes in one sitting, is more common and doable than ever. New and buzzy series are constantly added to Netflix, Hulu, etc. You can stream the entire multi-season backlog of shows such as “Game of Thrones,” “Billions” and “Big Little Lies” on HBO or Showtime anytime you like.

Though that might sound glorious to TV fans, it’s a bit worrisome to health experts across the country. With so much content available, and so much screen time becoming the norm – replacing hours devoted to fitness, socializing and sleeping – the potential health implications of binge-watching are becoming more obvious.

The research on the health effects of binge-watching is still in its infancy, but a few studies have raised concerns. According to a 2017 study published in the Journal of Clinical Sleep Medicine, avid binge-watchers reported poor sleep quality, increased fatigue and more insomnia symptoms. Another study by Michigan State University researchers presented a link between binge-watching and poor lifestyle choices such as opting for unhealthy meals, unhealthy snacks and sedentary behaviours.

Source: *The Washington Post*, 2019

**Extract 5: French kids head back to school without their phones**

Last month, the government passed a law banning the use of mobile phones, tablets and smartphones in French primary, middle and junior high schools, which teach students up to the age of 15. The law is meant to reduce students’ screen time. It's now up to each school to decide how to enforce the ban. School principals can decide to store students' phones in lockers or allow them to keep them in their backpacks as long as they are switched off. Additionally, high schools can decide whether they want to implement the ban as well.

Jacqueline Kay-Cessou, an American mom who has been living in Paris for 25 years, said she was delighted when she learned of the ban. Her son David, 14, is entering 8th grade at the Camille Sée International School. "It's fantastic news. It's something I've wanted for years," Kay-Cessou told ABC News. "I think phones are harmful socially. Kids can't think and sit still anymore and it's highly addictive."

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**[Turn over**

But critics, including Frédérique Rolet, the Secretary General of the SNES, a national union for secondary school instructors, predict the law will be difficult to enforce.

"There are not enough supervisors and staff in French schools to make sure the law will be respected," Rolet told ABC News. David agreed that students could find ways around the ban. "Supervisors in the courtyard during breaks are not that present," David said. "Students know the corners where school staff don't go."

Source: *ABC News*, 2018

**Questions**

1. **(i)** Compare the trend in US/Canada and International box office revenue from 2013 to 2018. Hence, infer which region was the main driver for overall growth

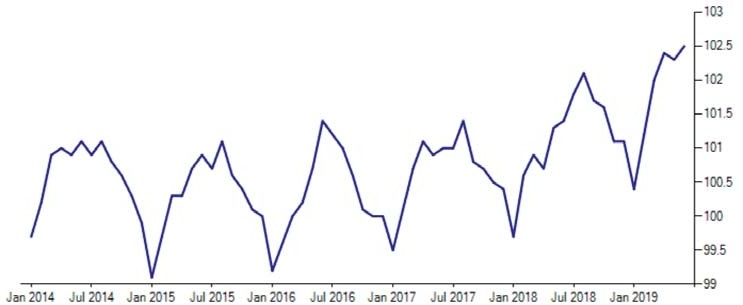
in box office revenue. [3]

**(ii)** With reference to Extract 1, account for the overall growth in box office revenue. [2]

1. Using a diagram, explain how “diversifying sourcing away from China” (Extract 2) affected Hasbro’s profits. [3]
2. Based on Extracts 2 and 3, compare the likely cross elasticity of demand values between movies and toys, and between movies and Netflix subscriptions. Justify your answer. [4]
3. Making appropriate references to the case material, assess the net impact of the growth of Netflix’s movie offerings on society. [8]
4. In light of the information provided in the case study, discuss the factors that governments should consider in deciding which mitigating policies to adopt to manage screen time. [10]

[Total: 30]

**Question 2: The Irish economy in the midst of Brexit and US trade wars Figure 1: Consumer price index, December 2016=100**



**Figure 2: Unemployment rate (SA), %**



Source: [*https://www.cso.ie/indicators*](http://www.cso.ie/indicators)*,* assessed 7 Aug 2019

**Extract 6: Previewing Ireland's economy in 2019: The stats don't lie - Ireland is doing well right now**

Ireland isn’t quite partying like it’s 2006, but the stats don’t lie – 2018 has been a bumper year by most measures. Income has risen and the economy generated nearly 1,300 extra jobs per week in the 12 months to end of September, up from less than 950 per week the previous year. The unemployment rate fell to 5.3% in November, down from 6.4% the previous year.

Only part of the increase in people’s pay packets is being eaten up by higher prices. Consumer prices are basically flat, edging up only slightly from 0.5% in November 2017, to 0.6% in the same month this year. With more people at work earning higher wages, it is hardly surprising that private consumption grew by 2.9% in the third quarter of the year compared to a year earlier.

If things are going so well, then why are so many people worried there may be a recession around the corner, a re-run of the horror-show we lived through a decade ago? If it wasn’t for external factors, the Irish economy has room to keep growing strongly for years to come. But, as we well know, Ireland is – for better or worse – more exposed to global economic developments than most other countries. This is where the rising risk of recession comes from.

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**[Turn over**

There is an old saying in economics that when the US sneezes, the rest of the world catches a cold. This is less so than in the past, partly because emerging Asia (and specifically China) has come to rival the US as the main driver of global growth. For Ireland, however, the phenomenon is as strong as ever because of the strength of its trade and investment links with the US. As long as US grows, their multinational companies will continue to operate in Ireland. But US growth will dissipate in 2019 and later years. US interest rates are expected to continue rising through the first half of 2019. The trade war with China is getting more heated, with a ratcheting up of tariffs feeding through to higher inflation, and potentially even higher interest rates. All have negative implications for growth. There is also the possibility that US will extend its tariffs to EU market.

Then there is Brexit. Ireland, which is still a member of EU, will be badly affected. Already, a weak sterling (British pound) has hit Ireland’s indigenous exporters hard. Continued uncertainty is likely constraining investment in some sectors, and it could be one of the reasons why consumer confidence has fallen off a cliff in the past six months despite the otherwise rosy economic picture. With no end in sight to the chaos across the water, fears are growing that the UK could crash out of EU without a deal. No matter what type of Brexit

– hard, soft or something in between – the island of Ireland can be expected to be hardest hit economically – more so even than Great Britain.

Source: *The Journal.ie*, 28 December 2018

**Extract 7: How the US-China trade war hits Ireland**

The new 25% tariff levels imposed by the US will hit exports of the finished electronic gear from China but crucially will also affect the imports of the semi-conductors that drive these devices. Chinese companies import €240bn of semiconductors each year from a range of countries around the globe. Ireland has a reputation for exporting such high-end chips, mainly from Intel.

Last year, over a third of the €5.4bn on semiconductors produced in Ireland, was exported to China. The value of exports was down from the previous year, as the Chinese economy slowed under the trade tit-for-tat trade dispute.

China’s growth is projected to slow from an estimated 6.6% in 2018 to 6.2% in 2019 and it is widely expected the latest 25% tariffs will have a significant impact on the overall sales of semiconductors, hitting sales of data devices, as well as devices for personal computers. For most companies, enduring a 25% rise in cost is very tough. The tariff increases will be particularly disturbing for Intel which last month cut its 2019 revenue outlook.

Source: *Irish Examiner*, 13 May 2019

**Extract 8: What is a no-deal Brexit and how will it affect Ireland?**

A no-deal Brexit means the UK would leave the EU immediately on 31 October 2019, and there would be no special agreements about how UK and EU companies could work and do trade with each other. Essentially trade with the EU would be on the basis of rules set down by the World Trade Organisation (WTO). This would end the free movement of goods between the UK and the EU, including between the UK and Ireland, and mean that tariffs, or special import taxes, would apply. Customs checks would also be immediately needed between countries.

Some 12 per cent of Irish goods exports go to the UK and they would be subjected to tariffs. Around two thirds of Irish exports to the Europe Continent go through UK and they would have to go through four new checks – leaving Ireland, entering and leaving the UK and entering Continental ports. There is growing concerns of chaos and long delays at UK ports

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in particular which could delay delivery and be a particular problem for fresh and time sensitive products.

Goods imported into Ireland would also be affected. Around 23 per cent of Irish imports come from the UK and many businesses, notably in pharmaceuticals and chemicals, would see their supply chains disrupted.

There are also issues for consumers, with two thirds of the products on Irish supermarket shelves either coming from the UK, or moving via the UK landbridge to Ireland. In the short- term, a no-deal Brexit could threaten disruption to some supplies on Irish shelves. In the longer term it could shake up the sector, leading to changes in the mix of products and higher prices. An Environmental Systems Research Institute (ESRI) study estimated that a hard Brexit could push up prices by 2 to 3 per cent, increasing the average annual shopping bills for consumers by between €892 and €1,360.

The Department of Finance calculated that a hard version of Brexit could lead to Irish GDP being 4.5 per cent lower in ten years’ time with a loss of 40,000 jobs. A no-deal Brexit, by bringing all the changes into a short timeframe, risks also ensuring that more of the costs come in the early years. In particular, if the UK crashes out, it would hit growth and threaten a significant hit to existing economic and tax forecasts for Ireland.

Source: *The Irish Times*, 30 April 2019

**Extract 9: Ireland ‘worst hit’ if US widens trade war front to EU**

Ireland will be the worst hit economy in the eurozone if the US-China trade spat broadens to envelop Europe, according to a leading economics group because the Republic exports huge amounts of pharmaceuticals and chemicals to the US.

The assessment by Capital Economics in London finds that Ireland will be in the frontline of any US-EU trade war. This is because Mr Trump may be mulling whether the threat of tariffs on pharmaceuticals made in the EU would encourage a large number of drugs plants based in Ireland, which are predominantly American-owned, to relocate manufacturing jobs back to the US. The EU and US appear to have made little progress after they decided last year to work together towards striking a new trade deal.

Source: *Irish Examiner*, 14 May 2019

**Questions**

1. **(i)** Compare the trend of Ireland’s CPI with its unemployment rate. [2]

**(ii)** Referring to Extract 6, using an AD AS diagram, explain the relationship between the 2 variables above. [4]

1. Referring to Extract 7, analyse the impact of the US-China trade war on Irish firms. [3]
2. Discuss the extent to which a tariff on imports from UK resulting from Brexit would affect Ireland’s consumers, producers and society in general. [8]
3. Despite the rosy economic outlook in Ireland, state and explain two reasons why Ireland is worried about its economic outlook in 2019 and beyond. [3]
4. Assess alternative policy options that Ireland can take to mitigate the external threats facing its economy. [10]

[Total: 30]

SAJC

**Question 1: The Telecommunications Industry in Singapore**

**Extract 1: Singtel and StarHub sharpen tech to fend off new rival’s freebies**

Telecom companies in Singapore are scurrying to fortify their positions ahead of the arrival of a new competitor. Singtel and StarHub, the city-state's two largest telecommunications players, are pushing to enhance their technological capabilities. In July, Singtel announced a partnership with Ericsson that could take Singapore's first fifth-generation (5G) pilot network live by the fourth quarter of this year.

The move is in line with the Singaporean government's Smart Nation initiative, which aims to maximize the use of data and digital technology in pursuit of a knowledge-based economy. The pilot 5G network is one of the many projects between Singtel and Ericsson. Like Singtel, StarHub is focusing on digital strategies. Earlier this year, StarHub announced plans to roll out a network and provide "internet of things" services in partnership with Nokia.

Competition is heating up as a fourth mobile network operator (MNO), Australian wireless operator TPG Telecom, prepares to enter Singapore by the end of the year. Singtel holds the top market share with slightly more than 50%, followed by StarHub at about 30%. M1 is the third player, with a share of 17.5%. TPG's entry could put pressure on rates. The newcomer has announced plans to offer unlimited voice and 3 gigabytes of free data for 24 months to senior customers. DBS said in a report that TPG is "likely to adopt" free services early on, "possibly leading to price wars between operators."

To maintain and grow their market shares, both Singtel and StarHub are also working with mobile virtual network operators (MVNOs) to meet demand for SIM-only plans. Unlike the main telcos that have invested in mobile network infrastructure, MVNOs do not own a mobile network. What they do instead is to provide mobile services to its customers by purchasing bandwidth from one of the incumbent MNO at wholesale prices and reselling it to their consumers. StarHub is working with broadband internet provider MyRepublic, while Singtel has arrangements with two operators, Zero1 and Zero Mobile.

Source: Nikkei Asian Review, 14 August 2018

**Extract 2: Are MVNOs a positive disruption to Singapore’s telecoms industry?**

Back in 2015, shopping for a mobile data plan in Singapore was a very different proposition. The cheapest SIM-only plan with 3GB of data cost $20 from Singtel, whilst power users on M1’s network had to pay $125 for 13GB. Fast forward to 2019, and those prices have fallen. However, operating a wireless network hasn’t suddenly got cheaper; in fact, with the deployment of LTE-Advanced technology and new spectrum requiring more equipment and cell sites, capital expenditure has been up for Singtel and M1 since 2015.

Downwards price pressure has been led by the emergence of mobile virtual network operators (MVNOs). Through aggressive price points and novel rate plans, MVNOs have been able to target particular niches, and have carved out a small but significant market share – the biggest, Circles.Life, claims a three to five percent market share.

Whilst consumers are benefiting from lower prices and wider plan options, shopping for cellular service has also become more confusing. Whilst the MVNOs claim to offer the exact same network experience as their host networks – in some cases, quoting drive-test results for their host network without clarifying the difference – our data shows that the end-user experience varies. As part of their price and plan differentiation, some of the MVNOs offer plans that have throttled or deprioritised data. For example, our data shows that nearly half of speed tests on

Zero 1 are throttled to speeds of less than 3 Mbps; less than 10% of total speed tests on the host network, Singtel, fell below the same threshold.

Although throttling and deprioritization are disclosed in the plans’ terms of service, inconsistent technical language can make comparing plans difficult. Rather than comparing the dollar price of a gigabyte of data, consumers have to navigate “unlimited” plans with “managed data speeds,” “deprioritisation,” or data that’s throttled to “3G” speeds -- all of which might mean different things on different network operators.

Source: Singapore Business Review, 4 April 2019

**Extract 3: Big boys muscle in on cheap mobile plans**

Singtel's three-month-old Gomo mobile plan, the incumbent telco's answer to the spate of cheap mobile plans being offered by mobile virtual network operators (MVNOs) here, will get a data roaming option on Friday. The option fixes a glaring omission in the SIM-only postpaid mobile plan, allowing it to better compete with Giga, a similar low-cost mobile sub-brand from StarHub that was launched last Thursday.

Both Giga and Gomo are the latest attempts by the established telcos to muscle in on the SIM- only segment carved out by MVNOs such as Circles.Life and MyRepublic. Targeted at millennials and digital natives, these SIM-only plans are generally cheaper than the usual mobile plans as they come without a subsidised handset. They are often contract-free and offer relatively generous data bundles.

**Table 1: Subscription Plans of Incumbent Telco’s SIM-only plans**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **StarHub’s Giga** | **Singtel’s Gomo** | **M1 SIM-only plan** |
| **Monthly fee** | $25 | $20 | $25 |
| **Data** | 25GB | 20GB | 30GB |
| **Talktime** | 1,000 mins | 200 mins | 1,000 mins |
| **SMSes** | 1,000 | 200 | 1,000 |
| **Incoming Call** | Free | Free | Free |
| **Caller ID** | Free | Free | Free |
| **Additional fees** | None | None | Registration - $10.70 SIM card - $37.45 |
| **Roaming** | 14 countries at $5 a GB for five days | 10 countries at $10 a GB for ten days | Use local data quota (capped at 10GB) in over 60 countries from  $10 a destination |
| **Other benefits** | Roll over unused data to the next month | 1-for-1 dining offers | Free data on weekends  Unlimited free calls to three M1 numbers  Unlimited Spotify music streaming |

Source: The Straits Times, 5 June 2019

**Extract 4: Telco big boys in trouble**

In the three years since mobile virtual network operators (MVNOs) entered the market, the number of telcos in Singapore has ballooned from three to 11 today — and counting. The increased competition has seen profits of the three big telcos — Singtel, StarHub and M1 — erode away.

StarHub began its S$25 million restructuring exercise in October last year, laying off 300 full- time workers in a one-off exercise to improve productivity and lower operating expenditure. Singtel is also seeking to lower its operational expenditure of S$490 million in the last financial year.

The main telcos have tried to diversify into new growth areas in the digital economy while maintaining their core business as an infrastructure and network provider. Singtel’s overseas units, such as its Optus division in Australia, have performed well and helped offset the weakness in Singapore. In fintech, Singtel has also ventured into mobile financial services, such as mobile payments solution Dash. The group has also expressed interest in applying for a new digital banking license, which will allow it to operate as a bank that can take deposits from customers.

StarHub has also made a push into cybersecurity and Pay TV, though the latter has seen shrinking revenues owing to disruption by Netflix in 2016. This shows that diversification is no silver bullet as they take time to pay off and have their own risks too, said analysts.

Source: Today Online, 6 July 2019

Questions

1. Compare the likely barriers to entry facing potential entrants to the mobile network operators (MNO) industry with those to the mobile virtual network operators (MVNO) industry.

[2]

2 (i) Identify and explain the type of market structure of the Singapore telecommunications industry.

[2]

(ii) Explain how the telecommunications companies might compete in such a market structure.

[4]

3Extract 2 states the use of “inconsistent technical language” by the mobile network virtual operator (MVNO) resulting in difficulties for consumers when comparing plans.

4 Explain how the use of “inconsistent technical language” could lead to market failure.

[4]

5 With reference to the data, assess the strategies that telecommunications companies like M1, Singtel and StarHub have adopted to address their falling profits.

[8

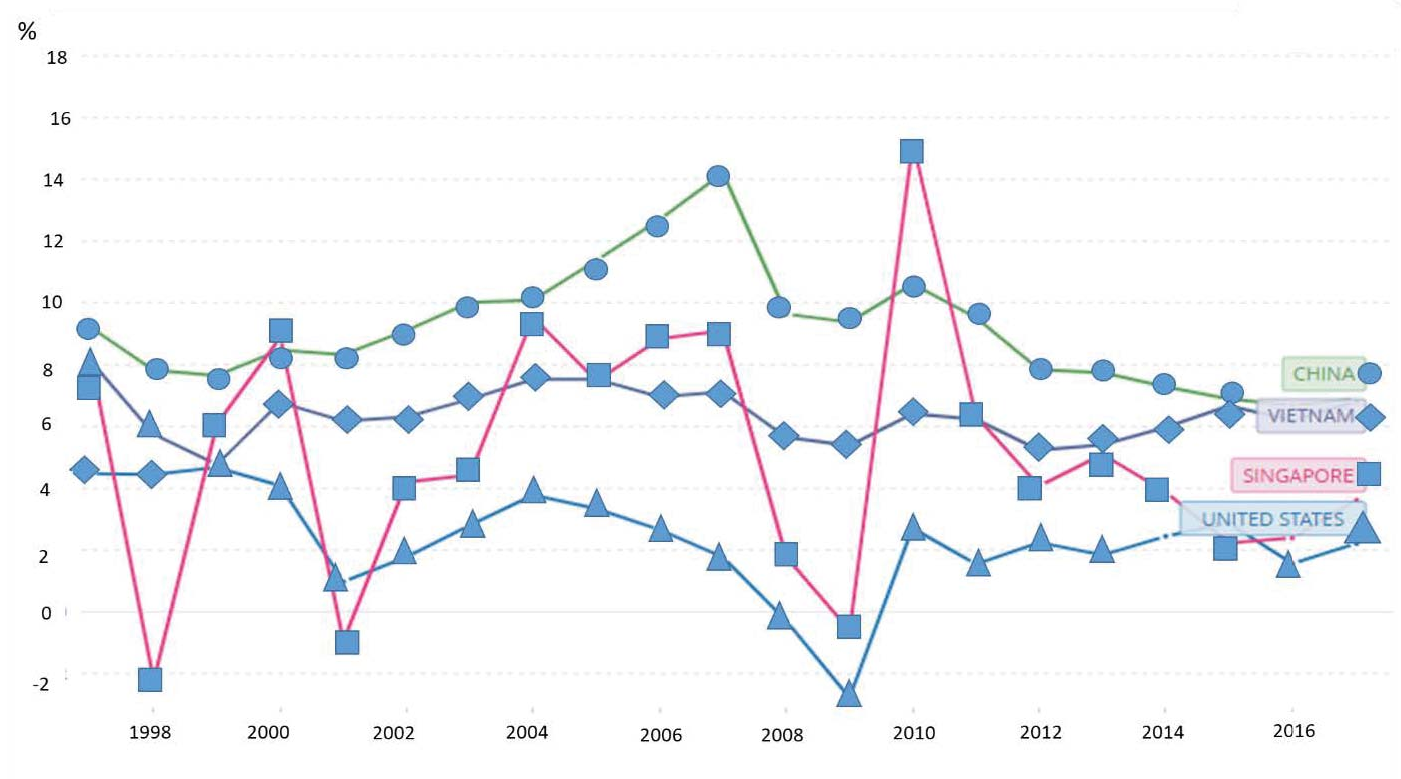
6 Evaluate the possible effects on efficiency and resource allocation of increasing competition in the telecommunications industry.

[10]

[Total: 30 marks]

**Question 2: US-China Trade War: What’s in it for Asian economies?**

**Figure 1: Growth in real gross domestic product: % change per annum**



Source: *World Bank*

**Table 2: Components of GDP in selected economies, 2017**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Consumption Expenditure**  **(% of GDP)** | **Government Consumption Expenditure**  **(% of GDP)** | **Exports of goods and services**  **(% of GDP)** | **Imports of goods and services**  **(% of GDP)** |
| **China** | 52.6 | 14.3 | 19.8 | 18.0 |
| **Singapore** | 46.5 | 10.9 | 173.3 | 149.1 |
| **US** | 82.4 | 14.0 | 12.1 | 15.0 |
| **Vietnam** | 74.5 | 6.5 | 101.6 | 98.8 |

Source: *World Bank*

**Extract 5: Jobless claims fall to the lowest in nearly 49 years**

The number of Americans filing for unemployment benefits unexpectedly fell last week, hitting near a 49-year low in a sign the job market remains strong.

Initial claims for state unemployment benefits fell by 3,000 to a seasonally adjusted level of 201,000, the Labour Department said on Thursday.

Though there have been reports of some companies either planning job cuts or laying off workers because of trade tensions between the United States and its major trade partners, they have been partially offset by increased hiring in the steel industry, where tariffs on imported steel have been imposed.

Economists, however, have warned of job losses if the trade tensions escalate.

Source: *CNBC News*, 15 September 2018

**Extract 6: Understanding US Trade Imbalances**

Labour-intensive mass production technology used to be profitable in the US, but technological improvements and rising labour productivity (and hence real wages) induce firms to adopt capital-intensive production technologies to save on labour costs. However, instead of going out of business, firms with labour-intensive technologies can move abroad where labour is still cheap, such as China and India.

Although the total US goods trade imbalance with Asia (including China) has been increasing, the Asian share (including China) of the US goods trade imbalance as a whole has been steadily declining since 1991, now standing at around 65 percent, despite China’s rise as the largest supplier of goods to the US.

In other words, the rise of China since the late 1980s—especially after joining the WTO in 2001—has not increased the total share of Asia’s contribution to the US trade imbalance; China simply substituted out other Asian economies by taking their positions.

Given this perspective, a trade war with China may not necessarily solve the US trade imbalance problem.

Source: *Federal Reserve Bank of St. Louis NBC News*, 9 October 2018

**Extract 7: US-China trade war - The countries caught in the crossfire**

China and the US are caught up in the continuing trade war, but they're not the only ones that will feel its effects. Other Asian economies are intricately linked to China's fortunes through their highly connected supply chains. And what hurts Beijing can also hurt countries further afield, like South Korea, Taiwan - or Singapore.

Singapore is a uniquely trade-dependent country - and is likely to be one of the hardest hit in the region by the trade war. If China and the US do place tariffs of up to 25% on all the products they trade, then Singapore could see up to 0.8% shaved off its economic growth figures this year - and 1.5% next year.

Many goods that are needed for final assembly in China actually come from other South East Asian countries such as Malaysia and Indonesia, and go through Singapore because they also need to have some other products added to them at times.

This is one of the reasons why Singapore has benefited immensely from globalisation and free trade - transforming itself from a tiny fishing village into one of the world's financial powerhouses. But now, much like everywhere else in this region, Singapore has found itself stuck in the middle of a fight between the world's two superpowers.

But it's not just Singapore that will be affected, as the country's Minister for Trade, Chan Chun Sing, points out. "To produce a product, chances are it would be a global production chain, and if one part of the global production chain gets disrupted or distorted, it hurts not just one specific country, but it hurts all countries," he says.

"If global confidence is shaken and impacted negatively and everybody withholds their investment, then I think we will suffer quite a serious consequence for the entire global economy, and this is the greatest uncertainty," says Mr Chan.

Source: *BBC News*, 22 August 2018

**Extract 8: Asian Countries Seen Benefiting Most From US-China Trade War**

A roaring US economy and inventory stockpiling due to the trade war with China has expanded the trade deficit. As companies redraw their supply chain maps, smaller South East Asian countries are seen benefiting more from manufacturing leaving China than the US.

As a result of the China-US trade war—or trade friction, as the Chinese prefer to call it— companies in the US have been busy stockpiling inventory out of concerns that President Trump will make good on his threats to increase tariffs on everything China exports to the US. The trade gap between the US and China is on the rise.

But that does not mean that Trump’s trade tariffs are not working. Companies that have set up shop in China to export to the world are now redrawing their supply chain maps. If they are not there to sell to the Chinese, they are more likely to move to Vietnam, Indonesia or Thailand.

A number of luxury marques, including BMW and Mercedes-Benz, already have operations in Thailand. These companies are expected to ramp up their local output to support shipments to China. Although finished vehicle and auto parts exports are a small part of its total exports, Malaysia has over 800 auto component manufacturers, as well as a similarly diversified auto- component export network. This should position it to be another beneficiary of the US-China trade war.

Gone are the days when your shirt label reads *Made in China*. It’s going to be *Made in Bangladesh, Vietnam and India* now. Vietnam is now the world’s third-largest exporter of ready- made garments and has strong trade ties with the US.

However, for a majority of the countries involved, the impact of these changes will not be felt overnight. Indeed, it is likely to take at least two to three years for the effects of the trade war to be fully realised. Multinational companies will need time to draft new global and regional strategies, find new partners, navigate different legal systems and secure the required licenses and permits for new production facilities. As a result, the negative, disruptive effects of the trade war will predominate in the short term. Even under the most optimistic scenario, the benefits for Asia’s winners in the trade war are unlikely to be seen before 2020.

Source: *Forbes*, 2 November, 2018

**Questions**

1. With reference to Figure 1,
   1. Identify the economy with the greatest variation in its growth rate. **[1]**
   2. Identify two differences in the growth rates between China and the US. **[2]**
2. With reference to Table 2 and using Extract 6, identify the balance of trade position of the US in 2017 and explain one reason for this position.

**[3**

1. Explain how unemployment benefits could help dampen the effects on an economy during an economic downturn.

**[2]**

1. Explain the usefulness of Table 2 in comparing the size of the multiplier between the US and Vietnam.

**[4]**

1. With the help of a diagram, discuss the impact of tariffs imposed by the US on Chinese goods on consumers in the US and China.

**[8]**

1. Discuss whether the trade war between the US and China is more likely to harm or benefit various South East Asian economies. [Total: 30 marks]

**[10]**

Temasek

**Question 1: More of Wire-less? – The Market for Wireless Data**

**Table 1: 500MB Mobile Data Prices (in US Dollars)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2013** | **2014** | **2015** | **2016** | **2017** |
| **Singapore** | 11.99 | 11.84 | 7.27 | 7.24 | 7.24 |
| **India** | 3.38 | 3.24 | 4.04 | 2.53 | 2.78 |
| **United States** | 65.32 | 48.94 | 38.11 | 54.44 | 21.76 |

Source: *International Telecommunication Union Database*

**Extract 1: Asia’s digital economy is booming. So why are Singtel and Co struggling?**

A rude shock came after Singtel reported its net profits had fallen 43 per cent to S$3.1 billion in the year to March – a 16-year low for the firm. Singtel chairman Simon Israel blamed the results on a “perfect storm” of intense competition and rising economic uncertainty. Telecommunication companies (Telcos) supply the internet economy’s very lifeline: connectivity and mobile data. Yet rather than riding the same wave of success, many are struggling. A large part of why the internet economy has taken off in such a big way is the falling costs of access, particularly mobile data. Market liberalisation in the Telco space started in the 2000s and has accelerated in the past few years. With more competitors flooding the market, Singapore now has 11 Telcos.

DBS analyst Sachin Mittal points out that telcos had yet to unlock the secret to monetising data that they had. “Telcos also have customer data but have not been able to draw insights from that data due to legacy storage and lack of software expertise,” he notes. Some like Vietnam’s largest telco Viettel have started to take risks. Its post and delivery services arm, Viettel Post, launched its ride-hailing service called MyGo, with the ambitious target of turning a profit by 2021. But diversification did not bring immediate dividends, Maruvada notes. “Singtel was early in identifying the need to invest in areas adjacent to traditional telecom business [carriage of voice and broadband] but it is clear that the businesses are still far from maturity or having necessary scale to drive profitability,” he says.

Source: *South China Morning Post*, 13 July 2019

**Extract 2: Verizon reintroduced unlimited data plans**

Verizon reintroduced unlimited data plans back in February 2017, after an eight-year hiatus. Currently, Verizon is offering four different unlimited data plans: Start Unlimited, Play More Unlimited, Do More Unlimited and Get More Unlimited. The cheapest of the Verizon plans is called Start Unlimited, with one line costing $70 a month. The plan costs $120 a month for two lines, $135 a month for three lines and $140 a month for four lines. It offers unlimited 4G LTE data with 480p video streaming, unlimited talk and text in the U.S., unlimited talk, text and data in Mexico and Canada and a free six-month trial for the Apple Music streaming service.

Source: *Android Authority*, 28 July 2019

**Extract 3: Why USA’s mobile data plans are the most expensive on earth**

A new study has found that US wireless consumers pay some of the highest prices for mobile data in the developed world. According to a new study from Finnish research firm Rewheel, the US mobile data market has the fifth most expensive price-per-gigabyte smartphone plans among developed nations, and was the most expensive for mobile data overall.

Critics have pointed to high prices to connect to cellular towers that impact pricing for the end user and smaller competitors. They have also argued that the US government’s Federal Communications Commission recently made these problems worse by lifting price caps on this uncompetitive sector.

Source: *Tech by Vice*, 21 Nov 2018

**Table 2: Comparison of USA mobile data plans**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Carrier** | **Unlimited data**  **monthly cost** | **Data limit** | **Hotspot**  **allowance\*** | **Bundled streaming**  **services included^** |
| Sprint Unlimited  Basic | $60 | 50GB/month | 500MB at LTE  speeds | Hulu |
| T-Mobile Essentials | $60 | 50GB/month | Unlimited 3G data  speeds only | none |

*\*hotspots allow for the use of Wi-Fi instead of mobile data at certain locations. The fastest speed available for hotspots are LTE speeds.*

*^streaming services allow consumers to tap on third party apps for TV shows, music etc. ‘Hulu’ is a movie / TV shows streaming service.*

Source: *c|net*, 4 Sep 2018

**Extract 4: Wireless@SG**

Surfing speeds on Singapore's free public Wi-Fi service Wireless@SG will be more than doubled to 5Mbps by the end of this year, as the Government sees the network as a key enabler of Singapore's Smart Nation vision.

"We must build first-class infrastructure for pervasive, seamless and high-speed connectivity to benefit citizens and businesses," Minister of State for Communications and Information Janil Puthucheary said, in announcing the upgrades in Parliament yesterday. He also added that Wireless@SG's current speed is faster than most public Wi-Fi services around the world. But because demand is increasing, there is a need to boost current speeds.

Singapore will also have the highest hotspot density in the world, calculated by the number of hotspots per inhabitant. Currently, it trails only Tokyo. Coverage expansion will target congested places such as hospitals, government buildings and community centres so more people can connect to the network without surfing slowdowns, a common bugbear. More public places such as hawker centres, train stations and retail malls will also be added to the list of Wireless@SG zones.

"But it is not the connectivity that makes us smart; it is what we do with it," said Dr Janil. "Operators can also use Wireless@SG to offer improved services such as cashless payment and location-based analytics. All this benefits consumers, businesses, and productivity."

One group of beneficiaries is low-income users. The idea is to allow Wireless@SG to complement existing efforts to bridge the digital divide between those who can afford the good and those who might not be able to.

Source: *The Straits Times*, 12 April 2016

**Extract 5: Economics of public Wi-Fi**

The basic economic objection to free public Wi-Fi is that any benefits to low income is unlikely to be realised. Free public Wi-Fi is unlikely to be strong in all areas and therefore locations with stronger Wi-Fi signals will simply bid up existing land and building prices.

Any benefit due to the free public Wi-Fi will be compensated by higher prices for local services (such as cafes and short-stay accommodation). For this reason, the target population of the free public Wi- Fi, which is presumably the lower income group, may experience no net benefit once general prices of the goods and services in any area is taken into account. The main beneficiary at the end of the day may just be the landlords in the area serviced by the free public Wi-Fi.

Source: *Journal of Telecommunications and the Digital Economy*, February 2014

**Questions**

1. **(i)** With reference to Table 1, compare the trend in mobile data prices in Singapore, India and the United States from 2013 to 2017. [2]

**(ii)** With reference to Extract 1, explain the general trend observed for Singapore in (a)(i). [4]

1. Using a diagram, explain the effect of the US government’s action in Extract 3 on the consumer expenditure for mobile data plans. [4]
2. Suppose a US consumer is choosing between two plans in Table 2.

Explain what is the opportunity cost of buying the *‘Sprint Unlimited Basic’* data plan. [2]

1. Discuss whether Viettel's diversification strategy or Verizon's pricing strategy is more effective to increase revenue for a telecommunication company. [8]
2. Discuss whether governments should follow Singapore’s example of providing free public Wi-Fi. [10]

[Total: 30]

**Question 2: The Economics of Sports**

**Figure 1: Change in export volume in Brazil (2008 to 2016)**

12.50%

7.50%

2.50%

-2.50%

-7.50%

-12.50%

Brazil's Volume of Exports (Percentage Change)

2016

2015

2014

2013

2012

2011

2010

2009

2008

Source: *The World Bank*, accessed August 2019

**Extract 6: Why is Rio de Janeiro finding it so hard to clear up its waste?**

Eight years ago, air pollution in China was the curse of the Olympics. Beijing had to spend tens of millions of dollars closing factories, banning cars and trying to engineer the weather. Now it’s Rio’s turn to host the Games and attention has turned to water and basic sanitation. Rio has the image of a rich, beautiful city, but its crowded hospitals testify to the nightmare of its sanitation for people who must live with urban pollution every day. One in three of the more than 10 million inhabitants of the greater metropolitan area live in places that have no connection to a sewerage system, and only about half of the city’s waste is treated before entering waterways and eventually the ocean.

Instead of sanitation being extended to 80 per cent of people, as promised, vast money has been spent on highly visible cable cars, beautification and facilities for tourists and athletes rather than on basic services like waste collection and sewers. Unsurprisingly there have been protests. This week, Eduardo Paes, the mayor of Rio, accepted that Guanabara Bay is not in the pristine state envisaged in 2007. But he said the city is in a far better state than 10 years ago. “For every one (Brazilian) real1 we have spent on the Games, we have invested five on ensuring a legacy for the city, through sustainable infrastructure, improved public transport and accessible facilities for our citizens,” he said.

Source: *The Guardian*, August 2016

1 The Brazilian real is the official currency of Brazil.

**Extract 7: A City Transformed**

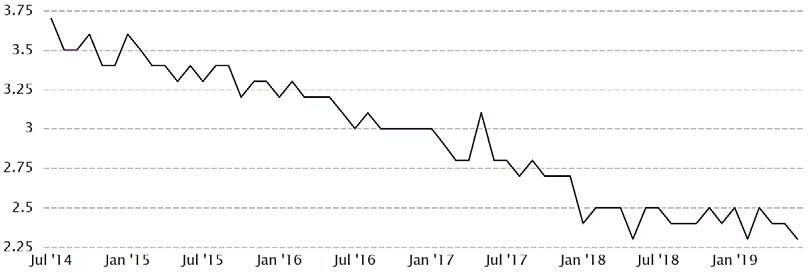
Since winning its bid for the 2016 Olympic Games seven years ago, Brazil’s Rio de Janeiro has undergone a construction boom, including new sports venues, subway connections, and more infrastructure. One of the flagship transportation efforts, Rio built a new subway extension linking popular beach areas with the neighbourhood where the Olympic Park is located. Enormous investment has been pumped into transportation infrastructure projects throughout the city, including the VLT Carioca (the Rio de Janeiro Light Rail) in the port district. The rail connects Rio’s domestic airport to a bus terminal and is aimed at revitalising the area.

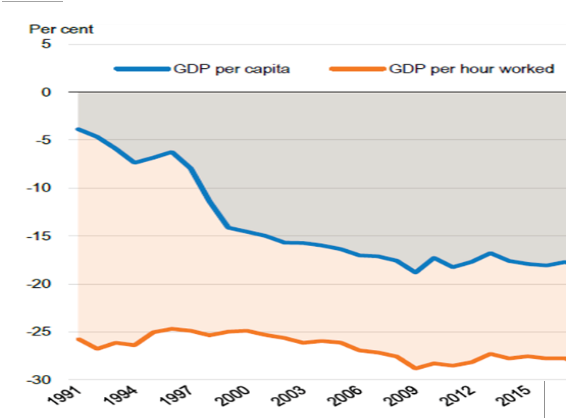
The construction of the golf course, however, has stirred controversy. Golf is not widely played in Brazil, and though there is one small public course on the northern outskirts of Rio, Brazilian officials have touted the fact that after the Olympics, the course would become the first professional-quality public course in Brazil. But it was partially built on a protected nature reserve, angering local activists.

Source: *The Wall Street Journal*, August 2016

**Figure 2: Selected economic indicators for Japan**

**Unemployment Rates**





**Gross Domestic Product**

Sources: *CEIC data*, *Organisation for Economic Co-operation and Development*

**Extract 8: Tokyo 2020 Olympics will come and quickly go, but the legacy is all-important**

The legacy of an Olympics refers to the benefits that a host city and country gains once the event is over. That can take the form of new stadiums, redeveloped urban areas and updated transport networks. The history of Olympic legacies is a mixed one, filled with cautionary tales of overspending and waste. Understandably, Tokyo is anxious to avoid a similar fate. The huge cost of staging an Olympics, and the potential economic dangers for a host city, has thrown the issue of legacy into sharp focus in recent years. That was never more evident than at last summer’s Rio Olympics.

Transport was also the most recognisable legacy of the last time Tokyo hosted the Summer Olympics, with the debut of the shinkansen (high-speed rail) nine days before the start of the 1964 Games. Japan has hosted the Winter Olympics twice since then, in Sapporo in 1972 and Nagano in 1998. The 1998 Olympics prompted Japan to extend its shinkansen service from Tokyo to Nagano, cutting the three-hour journey in half. But the tourism boost that organisers hoped would follow failed to materialise, and the purpose-built hotels struggled to attract guests. “The shinkansen arrived and they built new roads, and it made Nagano closer to Tokyo,” said Ezawa, who authored two books criticising the cost of the Nagano Olympics. “But with less traveling time, it also meant the amount of people staying in hotels here dropped. There was also a lot of damage to the natural environment in Nagano.”

Source: *The Japan Times*, January 2017

**Extract 9: Growth is coming home – How a successful World Cup will boost the British economy as Brexit looms**

Obviously, England winning the World Cup would be a brilliant achievement in isolation, putting to bed decades of jokes and generally imbuing Britain with a sense of sporting pride not seen since the 2012 Olympics. There’s another reason, however, to hope that Gareth Southgate’s boys bring back the trophy – the economy.

In the two years since Britain voted to leave the European Union, the country’s economy has undoubtedly suffered. The pound dropped sharply, pushing inflation up. In tandem with stagnant wage growth, this created a scenario where workers were seeing their take home pay decreasing. That lowered the amount they were willing to spend, denting both consumer confidence and retail sales. As sales fell, the wider economy stuttered and growth stalled.

Things could improve in the second and third quarter of the year, and amazingly, the World Cup should be at least partially the reason why. The improving economic picture is one reason that three members of the Bank of England’s Monetary Policy Committee – the body responsible for setting interest rates in the UK – voted to raise rates at its June meeting.

The argument is simple, when England play well in the World Cup, England supporters are happier and are more inclined to spend on non-essential items. Furthermore, when the World Cup in general is happening, Brits are more likely to host parties and barbecues, spending significantly more on groceries than they otherwise would do. People are, of course, more likely to go to the pub and buy drinks. Britain is generally a consumer powered economy, so when people are buying, growth accelerates.

Source: *Business Insider Singapore*, June 2018

**Questions**

1. **(i)** With reference to Figure 1, describe the trend in Brazil’s volume of exports from 2008 to 2016. [2]

**(ii)** With the aid of a diagram, explain how the general trend above could have affected the external value of the Brazilian real. [3]

1. Using Figure 2, describe how productivity in Japan has changed since 2015. [2]
2. Using a production possibility curve diagram, explain **two** benefits of hosting the Olympics to the host country. [5]
3. Assess how far the data provided suggest that hosting the 2020 Olympics will improve Japan’s employment rate. [8]
4. Discuss whether the decision made by the Bank of England’s Monetary Policy Committee (Extract 9) is appropriate for the UK economy. [10]

[Total: 30]

Tampines Meridian

**Question 1: The market for steel in China and US Extract 1: The importance of steel**

As nations around the world seek to improve their standard of living and lift populations out of poverty, it is inevitable that the demand for steel will increase. Steel is critical simply because no other material has the same unique combination of strength, formability and versatility. In addition, steel plays a critical role in virtually every phase in our lives. The rails, roads and vehicles that make up our transport systems use steel. Steel provides a strong framework and connections in the buildings where we work, learn and live. It protects and delivers our water and food supply. It is a basic component in technologies that generate and transmit energy.

Source: [www.worldsteel.org,](http://www.worldsteel.org/) 15 January 2017

**Table 1: Price of iron ore** (USD per metric tonne)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Mar 2015** | **Jun 2015** | **Sep 2015** | **Dec 2015** | **Mar 2016** | **Jun 2016** | **Sep 2016** | **Dec 2016** | **Mar 2017** |
| Price | 64 | 58 | 55 | 47 | 48 | 56 | 59 | 71 | 86 |

Source: Deloitte CIS Research Centre, 2017

**Extract 2: Changes in the iron ore and steel markets**

Prices for commodities such as crude oil, gold and copper are falling. But iron ore, a key raw material needed for steel production, is bucking the trend thanks to China, the world's largest consumer of iron ore. Prices for iron ore are near $80 per tonne, a 30 percent rise from late October. So far this month, prices are up 6 percent.

In 2017, China's economy grew at a faster pace for the first time in seven years, expanding by an inflation-adjusted 6.9 percent. That is partly thanks to higher exports. Heavy spending on infrastructure late last year provided an additional lift. This contributed to greater consumption of steel in China.

Rising prices of raw materials such as iron ore could dent profits at the world's major steel companies, which have been on the mend. Shinichi Okada, executive vice president at Japanese steelmaker JFE Holdings, expects the company's profit margin to shrink as prices for raw materials rise faster than the price of steel.

Many analysts, however, believe the Chinese economy will slow again in 2018, as debt-laden companies and individuals move to reduce their borrowing. In addition, China is pushing to curb steel production. In mid-November 2017, the government ordered steel companies to cut production in an effort to clean up the air in 28 northern cities. That also prevented a large surplus of steel and kept the price from falling.

Source: Nikkei Asian Review, 20 February 2018

**Extract 3: The steel market in the US**

The United States is the world’s largest steel importer (2017 ranking). In 2018, the US imported 30.8 million metric tonnes of steel, an 11 percent decrease from 34.5 million metric tonnes in 2017. US imports in 2017 represented about 9 percent of all steel imported globally, based on available data. The volume of US steel imports in 2017 was more than 25 percent larger than that of the world’s second-largest importer, Germany in 2017.

Source: [www.trade.gov,](http://www.trade.gov/) March 2019

**Table 2: Domestic production, apparent consumption and imports of steel in the US** (million metric tonnes**)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **2014** | **2015** | **2016** | **2017** |
| Domestic Production | 88.2 | 78.8 | 78.6 | 81.6 |
| Apparent Consumption1 | 117.0 | 104.7 | 99.7 | 106.1 |
| Imports | 40.3 | 35.4 | 30.0 | 34.5 |

1Apparent Consumption refers to domestic production plus imports minus exports

Source: [www.trade.gov,](http://www.trade.gov/) March 2019

**Extract 4: US tariffs on steel could backfire**

US President Trump has finally done it. After nearly a year of threatening to upend global trade, he has announced sweeping tariffs on steel. What this means is steel made in another country and shipped to the United States will be subject to a 25 percent tax. This is a hefty fee because Trump’s goal is to incentivise US companies to buy steel from US producers so the domestic metal industry gets stronger. Trump argues that he needs to do this to save jobs and protect national security. His Commerce Department put out two lengthy reports recently arguing that the United States needs larger steel industries to have enough metal for F-18 and F-35 fighter jets and armoured military vehicles. Economically, this is a risky move for Trump. There will be consequences, and some are likely to be unpleasant.

Firstly, the prices of many products, including cars, are likely to rise. If you drive a car or truck, it probably has some steel in it. The whole goal of Trump’s tariff is to get prices of this metal to rise domestically so it is profitable enough for US producers to make more steel and employ more people.

Secondly, the price increase of steel is likely to be passed on to consumers. There is a big debate about how hefty the price jumps are going to be. American steel producers argue that the price of a typical passenger car would rise by just $35. But the auto industry laughs at that figure, saying it will be much higher, as there are costs associated with finding new suppliers and potentially having to alter the manufacturing process, as not all metal is perfectly interchangeable.

Thirdly, China, Russia and even Canada are likely to strike back. Trump likes to talk about how China is dumping a lot of cheap steel into the United States, killing

America’s domestic metal industry. But the reality is that Canada - a close ally - sends by far the biggest volume of these metals to the United States. These are powerful nations that are likely to fight back. China, Canada and others could decide to retaliate right away by putting tariffs on some US goods coming into their countries. The most likely target is US agriculture products and airplanes. These are top US exports to other countries. A global trade war could easily unfold.

Fourthly, the economy’s goal of 3 percent growth - and some jobs - could be in jeopardy. The economy has been on an upswing lately, and some experts predicted the United States could even hit Trump's goal of 3 percent growth this year because of the tax cuts. But a trade war, even a small one, threatens growth. If other countries hit core US industries such as aerospace, that would affect growth. American consumers, the driving force of the US economy, could also get angry if prices of many items jump.

The Trump administration argues that it is doing this to save good jobs. Steel jobs have declined by the thousands in the past decade. But the jobs saved in one industry could be offset by jobs lost in other industries if prices rise and buyers reduce spending on items such as cars. Former president Barack Obama put a tariff on Chinese tyres in 2009, but it backfired, many economists say. Obama touted the 1,000 jobs saved, but the Peterson Institute says that more than 3,000 jobs were lost in other industries.

Source: Washington Post, 1 March 2018

**Questions**

1. **(i)** State the change in the price of iron ore between March 2015 and March 2017.
   1. With the aid of a diagram, explain how the change in price of iron

**[1]**

ore will change the profit of a steel producing firm. **[3]**

1. **(i)** With reference to Extract 1, explain the likely value of the price elasticity of demand for steel. **[2]**
   1. Using demand and supply analysis, discuss how the events in Extract 2 are likely to affect the total revenue for steel producers. **[8]**
2. Given the information contained in Table 2, identify whether the US is a

net exporter or net importer of steel. Justify your answer. **[2]**

1. Rising steel prices have led to car prices rising (Extract 4). Explain **two**

possible factors that determine the extent to which car prices will rise

due to rising steel prices. **[4]**

1. Extract 4 mentions that the US has implemented tariffs on imported steel.

In view of the possible impact of US steel tariffs on consumers, employees and producers, assess whether, on balance, protectionism

can ever be justified. **[10]**

**[Total: 30 marks]**

**Question 2: Deflation and unemployment in the Eurozone**

**Figure 1: Annual unemployment rate (%) in the Eurozone2 and selected member states**



France

Germany

Eurozone

14

12

10

8

6

4

2

0

2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

2The Eurozone consists of 19 countries in the European Union: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Source: Eurostat

**Extract 5: Anxiety rises over the Eurozone’s falling prices and rising unemployment**

Economists do not generally worry too much about short periods of deflation. However there have long been concerns that in the Eurozone, where growth is weak and a number of countries remain in recession, falling prices can become widespread and entrenched. Average unemployment across the Eurozone has also reached 11.5 percent. Across the Eurozone, youth unemployment is still running at just over 21 percent.

Harsh austerity measures introduced during the sovereign debt crisis, where several Eurozone countries experienced economic pain due to high government debt, persistent economic slack and the recent decline in energy prices were largely to blame for the decline in prices. Additionally, structural reforms to boost competition and regain competitiveness in the Eurozone countries also contributed to the decline in prices.

Such developments are likely to intensify the pressure on Mario Draghi, president of the European Central Bank (ECB), to press on with quantitative easing (QE). The ECB is the central bank responsible for monetary policy for the Eurozone member countries which have adopted the euro currency. Consequentially, these countries are forbidden from deploying independent monetary policies to help battle economic downturns.

But some experts have little confidence that even a large-scale intervention will do much good. While QE could buy the Eurozone time, driving down long-term interest rates, it would not solve the longer-term challenges of restoring growth.

Source: Guardian, January 2015

**Extract 6: Rise of Eurozone underemployment underlines jobs crisis**

High unemployment has scarred the Eurozone in the wake of the sovereign debt crisis and has been most acute in the bloc’s weaker, southern economies such as Spain, Greece, Portugal and also France. Still, in recent months, the average Eurozone unemployment rate has fallen steadily to an eight-year low of 9.5 percent. “The improvement in the quantity of jobs has been offset by a significant deterioration in their quality”, said Gilles Moec, European economist at Bank of America Merril Lynch.

While the combination of cheap oil, a weak euro and more aggressive fiscal and monetary policies from the European Central Bank have spurred hopes of a stronger economic recovery, growth remains too slow and confidence too fragile for companies to add jobs in substantial numbers.

More than a fifth of Europe’s part-time workers are underemployed, while the number who have given up looking for work altogether has increased. Across the Eurozone,

9.8 million part-time workers - or 22 percent - worked fewer hours than they would have liked to last year, according to Eurostat’s annual poll of the EU labour market. In Greece the proportion rose to 72 percent, and 66 percent and 57 percent in Cyprus and Spain respectively. More than two-thirds of all underemployed workers were women.

Rising part-time employment, at the expense of full time work, is generally a mark of early stage recoveries, noted Bert Colijn at ING Group. “Employers give out temporary contracts before regular contracts and that shows during a job recovery”, said Mr Colijn.

Source: Financial Times, April 2017

**Extract 7: France may scrap high unemployment benefits**

France wants to trim back jobless benefits that can reach 7,700 euros (6,631 pounds) per month for those who lose high-paying positions. Unemployment benefits, which are a type of automatic stabiliser, in France constitute on average 68 percent of a worker’s previous wages, compared with 56 percent in other nations of the Organisation for Economic Cooperation and Development (OECD) group. Employers regularly point to the unemployment benefit system, seen as among Europe's most generous, as one of the main reasons for France's chronically high joblessness.

Source: Reuters, February 2019

**Extract 8: Technological progress and its policy responses**

Should robots pay taxes? As fears about the impact of automation grow, calls for a “robot tax” are gaining momentum. Earlier this month, the European parliament considered one for the Eurozone.

Automation is not new. In the late 16th century, an English inventor developed a knitting machine known as the stocking frame. By hand, workers averaged 100 stitches per minute; with the stocking frame, they averaged 1,000. As technology improves, it reduces the amount of labour required to produce a certain number of goods. Not only did wages rise in line with productivity, firms also reported higher profit margins. A tax on robots could be bad policy. Robot taxes could dissuade firms from investing in robots, which would lower economic growth and lead to less hiring and lower wage growth.

Technological improvement has also not produced extreme unemployment yet. That’s because automation can create jobs as well as destroy them. One recent example is bank tellers: Automated Teller Machines (ATMs) began to appear in the 1970s, but the total number of tellers has actually grown since then. However what is different this time is the possibility that technology will become so sophisticated that there would not be anything left for humans to do. What if your ATM could not only give you a hundred bucks, but sell you financial services?

As machines and algorithms get smarter, they will replace a widening share of the workforce, worsening income inequality. A robot tax could raise revenue to retrain those displaced workers, or supply them with a basic income.

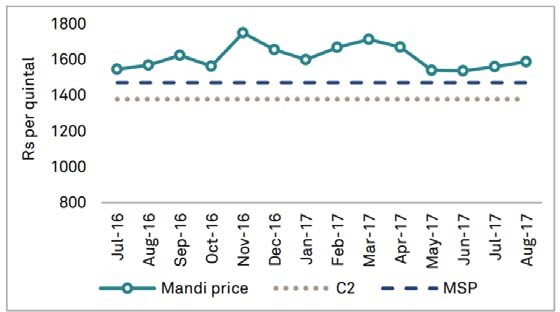
|  |  |
| --- | --- |
| Source: Reuters, March | 2017 |
| **Questions** |  |
| **(a)** With reference to Figure 1, compare the changes in unemployment rate |  |
| for the Eurozone and the selected member states. | **[2]** |
| **(b)** Use aggregate demand and supply analysis to explain the causes of |  |
| deflation in the Eurozone, as suggested in Extract 5. | **[6]** |
| **(c)** Using Extract 7, explain how automatic stabilisers work to offset |  |
| fluctuations in economic activity. | **[4]** |
| **(d)** Discuss the main difficulties faced by a government from the Eurozone |  |
| when attempting to resolve its unemployment problem. | **[8]** |
| **(e)** As fears about the impact of automation grow, calls for a “robot tax” are |  |
| gaining momentum (Extract 8). |  |
| Discuss the opportunities and challenges presented by technological progress to an economy. | **[10]** |

**[Total: 30 marks]**

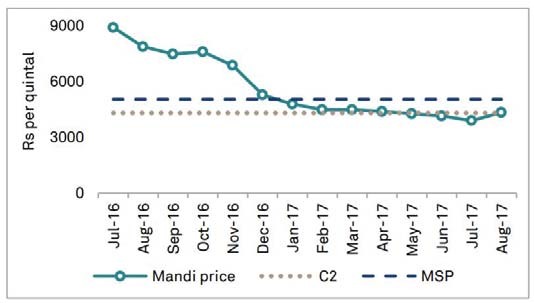
Victoria

**Question 1: Agriculture, water crisis and poverty**

**Figure 1: Price of paddy\***



**Figure 2: Price of tur\***



\* Paddy and tur are food crops.

Mandi price refers to market price. MSP is the minimum support price fixed by the government. C2 is the cost of cultivation.

Source: CRISIL, 2017

**Extract 1: Drought to hurt the Indian economy**

Due to two consecutive years of poor monsoon, water shortage in reservoirs as well lowering of the water table have created a serious challenge for the drought-affected areas in 10 Indian states. About 330 million people across 256 districts are facing the grave situation.

A study by Assocham has estimated that this drought will cost the national economy at least Rs 650,000 crore (approximately US$100 billion). With regards to the economic impact of the drought, the study said that financial resources will get diverted from development to providing aid. Furthermore, the possible migration to other places puts pressure on urban infrastructure and supplies.

The drought would also create inflationary pressures, the report added.

Source: 11 May 2016, The Times of India

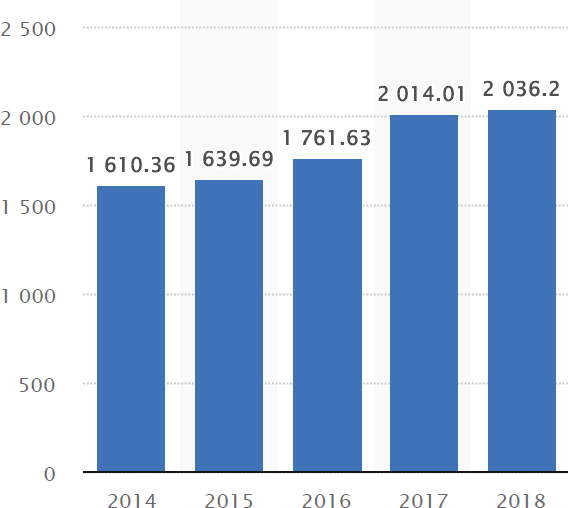
2

**Extract 2: Improving economic outlook**

In mid-April, an “above-normal” rain forecast by the India Meteorological Department was a godsend for a country reeling from its worst water crisis in four decades. Over 600 million people in India depend on agriculture for their living and nearly two-thirds of land under cultivation has no irrigation and so relies on rain. In April, the Reserve Bank of India, the country’s central bank, cut interest rates for the first time in six months; a good monsoon could raise the prospect of another cut.

Source: 25 May 2016, The Economist

**Figure 3: India: GDP per capita in current prices (in USD)**



Source: Statista

**Extract 3: Madhya Pradesh farmer protests**

In June 2017, farmers in Madhya Pradesh, India, protested by demanding higher Minimum Support Prices (MSP), as well as a complete debt waiver. Farmers there had asked the central government to deliver on its promise of adjusting MSP to be cost of production plus 50 percent profit – a price that was declared impractical by the government in 2015.

After two years of drought resulting in successive crop failures farmers were finally relieved to receive abundant rainfall and a good harvest. Yet, they are still struggling to make a profit on their produce. Overproduction of food can push farmers into distress just as much as a failed harvest. A supply glut, such as the one presently faced by pulses, chili, potato, and onion cultivators in India, generally leads to a price crash, resulting in poor returns. But it is exactly for situations such as these that the MSP policy is in place in the country – to shield farmers from market volatility.

The MSP scheme forms part of India’s agricultural price policy. It is the price at which farmers’ produce in certain crops is bought by the government during the relevant seasons. When the market prices dip to a level that is below the MSP, the government agencies step up and buy over the produce in order to protect the farmers.

3

However, the states have either failed to procure most of the produce at MSP or are really slow in the process, forcing many farmers to sell far below the set price. There could also be exploitation by commission agents*.* They have been reported to have bought the farmers’ produce at much below the MSP.

Sources: 14 June 2017, YourStory Research and 1 August 2018, Citizen Matters

**Extract 4: Water crisis in India**

India is suffering its gravest water shortage since independence due to the El Niño effect. Every day brings news of exhausted rivers and wells, destitute farmers migrating to the cities and water trains being dispatched to parched regions.

The central government has responded with many promises. In February Narendra Modi, the prime minister, pledged to double farm incomes by 2022. Other ministers speak of massive irrigation projects, and have revived an ambitious water-diversion scheme for parched regions that involves no fewer than 37 links between rivers. Most links would be via canals, some 15,000km of artificial waterways in all.

Hydrologists are sceptical of big projects, open to massive cronyism, when simpler and environmentally sounder solutions are at hand. India relies not on rivers but on underground aquifers for some two-thirds of its irrigation and for more than three-quarters of its drinking water. Despite the severity of the current drought, the real problem is not a lack of water. Per person, India has twice as much of it as water-starved northern China. But India is being hampered by mindless overuse and, in many places, a lack of sensible water-allocation policies. Pricing water properly would be much better than transporting it about at great expense.

Source: 14 May 2016, The Economist

**Extract 5: Modi's $87 billion river-linking gamble set to take off as floods hit India**

After years of foot-dragging India will begin work in around a month on a US$87 billion infrastructural scheme to connect some of the country’s biggest rivers. The mammoth plan entails linking nearly 60 rivers, which the government hopes will cut farmers’ dependence on fickle monsoon rains by bringing millions of hectares of cultivatable land under irrigation. Government officials say diverting water from bountiful rivers such as the Ganges, Godavari and Mahanadi to sparse waterways by building dams and a network of canals is the only solution to floods and droughts that plague India every year, killing hundreds of poor people and withering crops.

Not everyone is convinced the projects should be the priority, however. “Theoretically we can’t find fault with the plan,” said Ashok Gulati, a farm economist who has advised governments. “But spending billions of dollars in a country which wastes more water than it produces, it makes more sense to first focus on water conservation.”

The proposed 77-metre high (250-ft), 2-km long dam on the Ken River will submerge 9,000 hectares of mostly forest land. A big portion will come from the Panna Tiger Reserve. The forest reserve, a major tourist attraction, is home to 30 to 35 tigers and nearly 500 vultures. Authorities say they have planned for the safety of tigers and vultures.

Source: Reuters, 1 Sep 2017

4

1. Explain how the changes in prices of paddy and tur are likely to affect what farmers will produce in the agriculture year 2018. [2]
2. “A good monsoon could raise the prospect of another cut” of interest rates (Extract 2).

Explain why the Reserve Bank of India would be less concerned about cutting interest rate amidst a good monsoon. [4]

1. Explain why Figure 3 might not be useful for drawing conclusion about change

in the material living standards of a typical resident of rural India. [4]

1. Explain why a network of artificial canals that divert water from bountiful rivers

to parched regions (Extract 5) can be considered a public good. [2]

1. Discuss the effectiveness of the minimum price support scheme (MPS) to improve the livelihood of farmers in India during a good harvest. [8]
2. If you were an economic advisor to the government of India, discuss whether you would have advised it to go ahead with the US$87 billion water diversion

scheme. [10]

[Total: 30]

5

**Question 2: Green growth and sustainable development**

**Table 1: Annual growth rates in selected countries**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **% change in real Gross Domestic Product (GDP)** | | | | |
| **2012** | **2013** | **2014** | **2015** | **2016** |
| **China** | 7.9 | 7.8 | 7.3 | 6.9 | 6.7 |
| **Indonesia** | 6.0 | 5.6 | 5.0 | 4.9 | 5.0 |
| **UK** | 1.4 | 2.0 | 2.9 | 2.3 | 1.8 |

Source: World Bank

**Table 2: Selected economies’ composition of aggregate demand (2016)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Components of Aggregate Demand (as % of GDP)** | | | | |
| **Household Consumption Expenditure (C)** | **Investment Expenditure (I)** | **Government Current Expenditure (G)** | **Exports (X)** | **Imports (M)** |
| **China** | 40 | 44 | 14 | 20 | 18 |
| **UK** | 66 | 17 | 19 | 28 | 30 |

Source: World Bank

**Extract 6: China's economy cools as government curbs hit factories, property and retailers**

The world’s second-largest economy has started to show signs of fatigue, with momentum seen slackening further as Beijing’s crackdown on debt risks curbs demand. Beijing is already in the second year of a campaign to reduce high levels of debt as authorities worry that riskier lending practices, especially in the real estate sector, could endanger the economy. In addition, tighter pollution rules have hit factory output. China’s exports growth have eased last month as the war on pollution dragged on manufacturing activity and pulled average daily crude steel output down.

Data showed China’s new loans fell more than expected last month to their lowest in a year as banks tightened mortgage lending. While the People’s Bank of China kept liquidity tight through much of the year by raising short term rates, growth is still expected to easily meet the government’s full-year target of around 6.5 percent for 2017.

Source: Reuters, 14 November 2017

**Extract 7: European ban on palm oil in biofuels upsets Jakarta, KL**

Indonesia and Malaysia, which together produce nearly 90 per cent of the world's palm oil, are reeling from a decision by the European Parliament last week to ban the use of the commodity in motor fuels from 2021 to prevent deforestation and meet Europe's more ambitious climate goals.

Political leaders in both South-east Asian countries have warned that the move may lead to a trade conflict as it looks like a protective trade barrier. They also warned that the livelihood of over six million people - comprising mostly farmers with small holdings and plantation workers - could be badly affected.

6

Members of the European Parliament last Wednesday voted to amend a draft law on renewable energy that calls for reducing to zero "the contribution from biofuels and bioliquids produced from palm oil" in three years. Palm oil is widely used as cooking oil and in making products ranging from ice cream to instant noodles and soaps to lipsticks. The commodity has another use - it can be blended with fossil fuels such as diesel to produce biofuels to power up motor engines.

For Indonesia, 40 per cent of its palm oil exports to Europe are converted into biofuels. In 2018, Indonesia exported a total of 28 million tonnes of crude palm oil, valued at US$23 billion (S$30 billion), which accounts for almost 10 per cent of the country’s exports.

Analysts say banning the use of palm oil for biofuels may be easier said than done as phasing out palm oil would mean Europe would have to find an alternative, likely to be soya bean oil from the United States and South America or from domestic sources. Three million tonnes of additional supply of soya bean a year will be needed as replacement, meaning six million hectares of tropical forest in Brazil would have to be converted into soya bean plantations to meet this increase in demand.

Source: The Straits Times, 24 January 2018

**Extract 8: UK Government support needed to unlock billions in green business**

The UK could be a green business powerhouse in the next three decades. The low-carbon economy in the UK employs at least 432,000 people, with a turnover of more than £77 billion in 2015. This is larger than industries such as car-making and steelmaking, which are frequently given the spotlight when politicians discuss industry and jobs.

Growth in green business is also expected to outstrip other sectors of the economy, as international opportunities open up for low-carbon goods and services. The shift to a more efficient and lower carbon economy is well under way across the globe, with the cost of clean technologies, such as renewable energy and electric vehicles, falling rapidly, and investment growing strongly. Investments in the UK by major developing countries alone are projected to be $23 trillion by the end of the next decade, with green business’s supporters arguing that the UK is well placed to take a share of the burgeoning market. A group representing more than 30 of the UK’s green and low-carbon companies forecast that the low-carbon economy would rocket from 2 per cent of the UK’s GDP today to 13 per cent in the next three decades, boosting both manufacturing and services, but only with government support.

The UK government has pointed to increased encouragement for the use of electric vehicles, funding to build new nuclear power stations, and subsidies which will lower the costs of developing wind farms off the UK coast as evidence of its commitment to low-carbon infrastructure. Since May 2010, the UK has wind power capacity of more than 11 gigawatts, generating enough electricity for more than 7.8 million homes.

Source: The Guardian, 4 June 2017

7

Questions

Compare the change in China’s GDP levels with that of Indonesia from 2012 to 2016. [2]

Explain two factors which would affect domestic consumption in China. [4]

Explain how Indonesia’s balance of trade will be affected by Europe’s ban on palm

oil in biofuels. [2]

Using a demand and supply diagram, explain the likely impact of Europe’s ban on palm oil in biofuels on soya bean prices. [4]

Discuss the impact of the ban of palm oil in biofuels on the level of unemployment

in Europe. [8]

Discuss the effectiveness of measures adopted by the UK government as mentioned in Extract 8 to achieve sustainable growth in the UK. [10]

[Total: 30]