 **JURONG PIONEER JUNIOR COLLEGE**  
**JC2 Preliminary Examination 2022**

**ECONOMICS**  
**Higher 2**

Paper 1

Additional materials: Answer Paper

**9757/01**

12 September 2022

2 hours 15 minutes

**READ THESE INSTRUCTIONS FIRST**

Write your Centre number, index number and name on all the work you hand in.

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

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

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

Answer **all** questions.

At the end of the examination, your answers for Question 1 and Question 2 separately.

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

If there are part questions you did not attempt, please write the question number and part in The margins before you submit your answers. (i.e. if did not complete 2b, indicate 2b in the margin of the answer script that you submit for question 2.)

You are advised to spend several minutes reading the question and planning your answers before you begin writing.

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

This document consists of 8 printed pages and 2 blank pages.

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Answer all questions.

### Question 1: COVID-19 and hand sanitisers

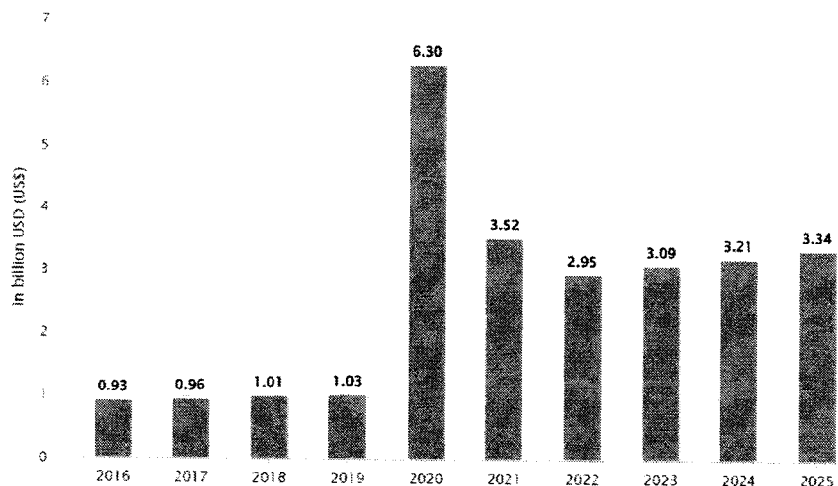
The Center for Disease Control and Prevention (CDC) has recommended using alcohol-based hand sanitisers for hand hygiene during the COVID-19 pandemic as alcohol is well-known to be able to kill most germs. Hand sanitisers have emerged as an alternative to soap and water to break the chain of infection, making them one of the important protocols for reducing the burden on healthcare.

#### Extract 1: Price spike in hand sanitiser

Due to the sudden spike in the cases of COVID-19, there has been a rapid surge in the demand for hand sanitisers as people are now becoming increasingly aware of the importance of hand hygiene across countries such as the US, Italy, Spain, UK and others. As the virus is spreading rapidly, people across the globe have started to panic buy hand sanitisers as preventative measures. Owing to the sudden increase in the demand for hand sanitisers, most retailers have run out of stock and prices are rising. Furthermore, most of the manufacturing companies are struggling to manufacture quickly to meet consumers' demand and are faced with higher prices of raw materials such as isopropanol due to insufficient stock. As a result, there has been a spike in hand sanitiser prices.

Source: *Fortune Business Insights 2019*

**Figure 1: Global Sales of Hand Sanitiser**



\*2021 onwards: Forecasted trend

Source: *Statista, 2021*

#### Extract 2: EU, UK antitrust regulator monitor price increases

The COVID-19 crisis has resulted in huge demand for a range of consumer and other products, including face masks and hand sanitisers. For companies manufacturing or reselling these products, this has provided an opportunity to raise prices. Sometimes the increases have been dramatic and put in place overnight. Governments have made it clear that they will not hesitate to put in place statutory price regulation if necessary.

Other measures have also been put in place to help smooth the increased production and import of goods which are needed to combat the effects of COVID-19 outbreak. Some examples of

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measures are exemption from import duties and speeding up the authorisation process of certain disinfectant products.

In France, the wholesale and retail prices of hand sanitiser have been capped by law to prevent prices from soaring too high, and the Advertising Standards Authority has banned several ads which were found misleading and scaremongering to curb the panic buying of hand sanitisers. Some of these false and misleading advertisements have made claims that hand sanitisers could prevent and cure COVID-19. The bottom line is that people are just unaware that washing your hands regularly with soap and water for 30 seconds is more effective than using alcohol-based hand sanitiser.

Source: *Adapted from Financial Time, 4 March 2020 & Cosmeticeurope.eu, 2020*

### **Extract 3: Entry of new players and initiatives by existing players to boost market growth**

The global alcohol-based hand sanitiser market is fragmented in nature due to the presence of local as well as global vendors. 3M, GOJO industries and P&G are the leading players with the Top 5 companies sharing more than 44% of the global market in 2019 among themselves. The competition among these key players is intense. The market concentration in developed countries such as the US and other European countries is high, while it is still in the nascent stage in developing economies such as China and India because of the entry of many international brands and the growth in hand sanitisation awareness.

The market is witnessing the entry of several new vendors due to the increased demand during COVID-19. Key players are competing on several factors, including price, innovation, quality, product type, and brand. Therefore, attaining sustainability, expanding into other geographies, and reviving domestic demand are essential factors for the vendors. The companies can boost profits by practising efficient production techniques that minimise production costs and mitigate associated risks. Some companies are heavily shifting toward the use of natural ingredients and raw materials in hand sanitisers due to change in consumers' taste and preference.

Source: *Research and Markets, 14 May 2021*

### **Extract 4: How GOJO is keeping pace with changing landscape**

The hand sanitiser market is witnessing the entry of several new vendors due to the increased demand during COVID-19. A whole set of new firms from paints to apparel and lifestyle majors, brewers, distillers and fragrance makers have stepped into the market.

Despite a plethora of new products entering the market, Purell which is manufactured by GOJO remains the market leader, thanks to its focus on formulation without compromise. Dermatologically tested, its scientifically advanced formulation has been proven to maintain skin health, whilst killing 99.99% of the most common germs that may be harmful, including coronavirus with a contact time of just 30 seconds.

In view of higher hygiene expectations from public health authorities and customers, GOJO is making substantial investments to increase its capacity and meet current and future demand.

During COVID-19, GOJO has been able to shorten supply lines and increase production to historic levels, by running its facilities 24/7; working with existing suppliers to dramatically increase raw materials and packaging; and forging creative partnerships with new companies to source additional components such as bottles, pumps, and caps.

GOJO also put in production lines that have digital printing capability and vision and quality checks throughout. This also enabled them to customise their products to meet consumers' needs and to ensure quality.

Source: *National Health Executive, 27th Jan 2021*

**Question:**

- (a) With reference to Figure 1, compare the global sales of hand sanitisers from 2016 to 2020 with the forecasted global sales of hand sanitisers from 2021 to 2025. [2]
- (b) Using a diagram, explain how advertisement by the hand sanitisers manufacturing firms could lead to overconsumption of hand sanitisers. [4]
- (c) Explain whether the extent of the change in price of hand sanitisers is mainly due to demand factors. [6]
- (d) Discuss whether price control is the most appropriate policy to tackle the price change in the hand sanitiser market in Europe. [8]
- (e) Using the evidence in the data, discuss how the market structure of the hand sanitiser industry will affect the ability of firms in this industry to make supernormal profits in the long run when faced with rising level of competition. [10]

[Total: 30]

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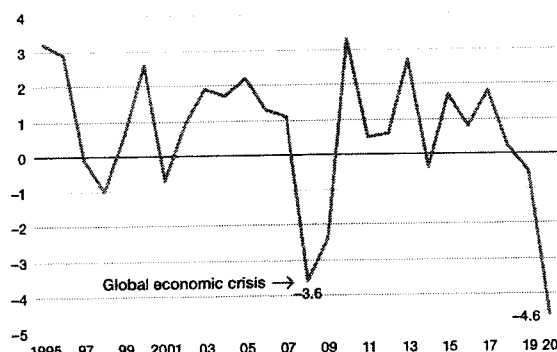
## Question 2: Japan's Economic Challenges

In 2020 Japan was the number 3 economy in the world in terms of GDP (current US\$), the number 4 in total exports, the number 5 in total imports, the number 25 economy in terms of GDP per capita (current US\$). The country is a high-tech powerhouse economy in Asia, where the expenditures on research and development (R&D) equated to 3.59% of the country's GDP. Exports are an important growth driver, where the external demand accounted for 15.53% of its total GDP. Due to the COVID-19 pandemic, the economy tumbled in 2020, with the public sector debt reaching unprecedented highs.

### Extract 5: Japan suffers steepest GDP decline of 4.6% in 2020

On April 18, the Japanese government announced that Japan's GDP for fiscal 2020 decreased year on year by 4.6%, in the second consecutive annual decline. The decrease, which was even steeper than the 3.6% drop that followed the 2008 global economic crisis, was the largest decline since statistics on GDP were first kept in fiscal 1956. Since April 2020, when the first state of emergency for COVID-19 was declared, people have been repeatedly urged to refrain from unnecessary excursions and avoid crowded or confined spaces. As a result, personal consumption, which sustains domestic demand, fell sharply by 6.0%. Overseas demand also plummeted by 10.4%, due to the global spread of infections.

**Figure 2: Japan's GDP growth rate**



Source: [www.nippon.com](http://www.nippon.com), 28 May 2021

### Extract 6: Deflation fears creep back in Japan as pandemic hits prices

National factory activity slumped, data showed on Friday, increasing worries the coronavirus pandemic could tip Japan back into deflation. The darkening outlook in the world's third-largest economy is already heightening calls for bigger spending, even after parliament approved an extra budget to fund a \$1.1 trillion stimulus package to cushion the blow from the pandemic. "The government will work with the central bank to ensure Japan absolutely does not slip back into deflation," Economy Minister Yasutoshi Nishimura told a news conference on Friday.

While the drop was largely due to slumping energy costs following the collapse in the crude oil price, it has consolidated expectations that Japan will see consumer prices fall in coming months as the economy feels a sharper hit from the pandemic.

Japan suffered nearly two decades of deflation - or sustained periods of price declines - until 2013, when Prime Minister Shinzo Abe's "Abenomics" stimulus policies helped revive parts of the economy out of the doldrums. Abe has touted an end to deflation as among key successes of his policies. But the coronavirus pandemic has taken a heavy economic toll and stoked fears of a return to falling prices.

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Source: *Adapted from reuters.com, 20 May 2020*

### **Extract 7: Japan faces demographic change, another economic challenge**

Japan is now the world's oldest major economy. A more elderly and reduced population—which means relatively more retirees, a smaller labour force, and a shrinking labour-based tax pool—also points to the challenge of financing social security frameworks. As the population ages, public expenditure on health care, long-term care, and pensions naturally rises. But in an ageing population, in which the active, taxpaying labour force is in decline, financing this rise in public spending can be problematic. Japan's challenges are particularly severe and the country's public debt as a share of GDP is already the highest in the world.

An older and smaller population also has implications for productivity and long-term economic growth. First, younger workers benefit from better health, higher processing speed and ability to adjust to rapid technological changes, and greater entrepreneurship, leading to more innovation. A deficit of dynamic, fresh-thinking young people due to ageing population might make companies less nimble and less open to new ideas, hence reducing productivity. Second, aging is likely to increase the relative demand for services such as healthcare, causing a sectoral shift toward the more labour-intensive and less productive service sector. Third, the size or density of the population may also have an impact on productivity, for example productivity falls with smaller size and density of a working population.

Countries can, and do, try to compensate for population ageing. Old people work longer, and more parents go to work instead of staying home with the children. Countries also invest in automation; it's no accident that Japan has pushed hard to be a leader in the field of robotics and digitalisation. But unless robots get much better, there's probably a limit to how much these measures can fight the greying tide. Japan has also been ramping up immigration and taking in young working-age immigrants.

Source: *Adapted from Bloomberg, 21 October 2020 and www.imf.org, March 2020*

### **Extract 8: Japan's demographic shift opens door to reforms**

Over the same 40-year span, Japan's current population of 127 million will shrink by over a quarter—a population loss equivalent to the entire population of Malaysia or Peru. This accelerated speed of aging and shrinking of its population places Japan at the leading edge of global demographic change, posing economic and other challenges for the country. Women's labor force participation has increased significantly in recent years, but in coming years the shrinking and ageing of the population will mean fewer and older workers—depressing both growth and productivity. A recent IMF estimates that Japan's economic growth will decline by 0.8 percentage points on average each year over the next 40 years due to demographics alone. As a result of these growing challenges, Japan needs to strengthen the mutually-reinforcing policies of "Abenomics"—including monetary easing, flexible fiscal policy, and structural reforms (particularly labor market reforms). This comprehensive set of policies is needed to boost economic growth, lift inflation to meet the Bank of Japan's inflation target, and stabilise public debt. Priorities include:

- For monetary policy: Maintain the accommodative monetary policy stance, including by keeping Bank of Japan's short- and long-term interest rate targets, to support growth and inflation.
- For fiscal policy: Maintain supportive near-term stimulus while ensuring fiscal sustainability.

Importantly, policy reforms that are "structural" in nature are essential to navigate Japan's demographic headwinds. Labour-market reforms are the top priority as they can deliver the most gains in terms of growth and supporting higher inflation. Increasing training and career opportunities for workers without lifetime employment, who are mostly women, will help raise labour productivity and wages. In addition, reforms to boost the labour force by adding more women, older workers and foreign workers are needed. For example, increasing child-care

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availability will support women's participation in the labour force, while abolishing firms' right to set a mandatory retirement age will support older workers.

In addition, product and service sector deregulation, reforms to small- and medium-sized enterprises, and corporate governance reforms are important to lift productivity and investment. Reforms to further liberalise trade and promote foreign direct investment will further support investment and growth.

Source: Adapted from IMF Country Focus, 10 February 2020

### Extract 9: Japan's 'Suganomics' will target quick wins, not grand visions

Japan's new Prime Minister, Yoshihide Suga, has said he will continue his predecessor Shinzo Abe's pro-growth "Abenomics" strategy aimed at pulling Japan out of deflation with heavy monetary and fiscal stimulus coupled with structural reforms. But unlike Abe, Suga's plans for structural reforms will focus more on spurring competition. Removing protections in industry will be one such objective, even if that riles some parts of corporate Japan. Introducing competition among mobile phone carriers could be a very symbolic policy for Suga because he loves competition. If successful, Suga could pursue bolder reforms such as liberalising the heavily protected medical sector, consolidating weak regional banks and breaking barriers that hamper competition among small- and mid-sized firms.

Suga, who seems more supportive of immigration than his predecessor, may lift annual net migration that would help offset some of the drag from a shrinking working age population. He may also be able to push through more aggressive hikes to the minimum wage once the economy has recovered from the pandemic. This would not only reduce income inequality, but aid growth by lifting productivity and consumer purchasing power, though there may be substantial job losses.

Source: Adapted from cncb.com, 17 September 2020 and reuters.com, 18 September 2020

**Table 1: Japan economic data**

	Unemployment (%)	Annual Inflation (% change)	Public sector debt (% of GDP)	Population aged 65 and above (% of total population)
2016	3.1	-0.1	236.4	26.6
2017	2.8	0.5	234.5	27.1
2018	2.4	1.0	236.6	27.6
2019	2.4	0.5	238	28.0
2020	2.8	-0.1	266.2	28.4

**Table 2: Selected indicators of Japan, 2018-2020**

	Gini coefficient	Life expectancy (years)	Carbon emission (metric tonnes per capita)
2018	0.334	84.2	8.8
2019	0.330	84.3	8.5
2020	0.329	85.0	8.4

Source: The World Bank and Statista, accessed on 18 July 2022



**Questions**

- (a) Explain how the change in population aged 65 and above (as a % of total population) in Japan between 2016 and 2020 is likely to affect Japan's public sector debt. [4]
- (b) Comment on the change in Japan's living standards from 2018 to 2020. [4]
- (c) Using AD/AS analysis, explain the likely causes of Japan's deflation in 2020. [4]
- (d) Assess the likely impact of ageing population on Japan's economy. [8]
- (e) Extracts 8 and 9 mention policies to increase efficiency, remove barriers to competition and trade in product markets.


Discuss the view that such supply-side policies is the best way to address the economic challenges faced by the Japanese economy. [10]

[Total: 30]

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 **JURONG PIONEER JUNIOR COLLEGE**  
**JC2 Preliminary Examination 2022**

**ECONOMICS**  
**Higher 2**

Paper 2

Additional materials: Writing Paper

**9757/02**

**19 September 2022**

**2 hours 15 minutes**

**READ THESE INSTRUCTIONS FIRST**

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

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

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

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

Answer **three** questions in total, of which **one** must be from **Section A**, **one** from **Section B** and **one** from **either** Section A or Section B.

Answer each question on a fresh sheet of paper.

At the end of the examination, fasten your answers to each question **SEPARATELY**

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

If there are part questions you did not attempt, please write the question number and part in the margins before you submit your answers. (*e.g. if you did not complete 2b, indicate 2b in the margin of the answer script that you submit for question 2.*)

You are advised to spend several minutes reading the question and planning your answers before you begin writing.

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

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Answer **three** questions in total.**Section A****One or two** of your three chosen questions must be from this section.

- 1 A shortage of land, labour and materials are the main causes of the Singapore's housing shortage and the surge in housing prices. COVID-19 is considered to have made the housing crisis worse, as buyers and renters looked for more space during lockdowns. Historically low global interest rate has fuelled this phenomenon.
  - (a) Using supply and demand curves, explain how a shortage of materials and historically low global interest rate have resulted in the surge in Singapore's housing prices. [10]
  - (b) Discuss the policies that might be used by the Singapore government to reduce housing prices. [15]
  
- 2 Generally, pharmaceutical companies operate in markets with high concentration ratio. A recent newspaper article commented on the fact that a pharmaceutical company charged customers in the United States (US) US\$800 per treatment whilst it charged customers in Egypt US\$80 for the same treatment.
  - (a) Explain why the company might follow the above pricing strategy and what conditions are necessary to allow the policy to be successful. [10]
  - (b) Discuss whether oligopolistic industries always operate against the interests of society. [15]
  
- 3 From end-2021, pre-packaged sugar sweetened beverages (SSB) with a high sugar or saturated fat content will be required to display a nutrition label with grades ranging from A to D, with D being the unhealthiest. Retailers will also be banned from advertising D-grade drinks on all media platforms.
  - (a) Explain how the pursuit of self-interest by consumers leads to an inefficient outcome in the SSB market. [10]
  - (b) Discuss the factors that the government should consider when implementing policies to achieve a more efficient allocation of resources in the SSB market. [15]

**Section B**

**One or two** of your three chosen questions must be from this section.

- 4** Singapore attracted about \$17.2 billion in fixed asset investments in 2020, despite weathering its worst recession as a result of the Covid-19 pandemic.
- (a) Using the circular flow of income, explain how an increase in investment expenditure can lead to a bigger change in national income. [10]
- (b) Discuss whether the level of investment is the key determinant in influencing the living standards in Singapore. [15]
- 5** Singapore's economic growth is forecasted to grow at a slower rate of 3.7% in 2021 while inflation rate is expected to increase from 2.7% to 4%. This is due to a moderate recovery in trade-related sectors amid rising global commodities prices and supply chain shocks. As a result, central banks have tightened their monetary policies to curb strong inflationary pressure.
- (a) Explain one demand and one supply factor which lead to economy experiencing high inflation and low economic growth. [10]
- (b) Discuss the extent to which monetary policy alone is effective to achieve price stability and economic growth in Singapore. [15]
- 6** Globalisation has made our world more interconnected than ever before and presented a wealth of opportunities. Yet, globalisation has also presented an uneven distribution of its benefits and costs.
- (a) Explain the factors that have fuelled globalisation. [10]
- (b) To what extent has globalisation presented an uneven distribution of its benefits and costs amongst countries? [15]

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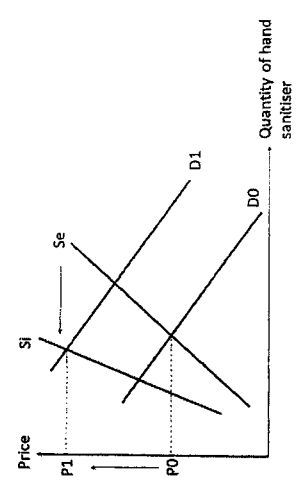
2022 JPJC JC2 Prelim Exam H2 P1

Question 1: COVID-19 and hand sanitisers Suggested Answers

<p>(a) With reference to Figure 1, compare the global sales of hand sanitisers from 2016 to 2020 with the forecast global sales of hand sanitisers from 2021 to 2025. [2] The global sales of hand sanitisers from 2016 to 2020 rises while the forecast global sales of hand sanitisers fell. There was a sharp increase in the global sales of hand sanitisers in 2020 while the largest fall in forecast global sales of hand sanitisers happen in 2022.</p>	<p>(b) Using a diagram, explain how advertisement by the hand sanitisers manufacturing firms could lead to overconsumption of hand sanitisers. [4] Extract 2 states that the advertisement by the hand sanitisers manufacturing firms has mislead consumers by overstating the private benefits of consuming hand sanitisers such as it being able to cure Covid-19 virus. As such, consumers have imperfect information where their perceived marginal private benefit (MPBp) is higher than the actual marginal private benefit (MPBa).</p> <div data-bbox="654 1635 925 2038" data-label="Figure"> </div> <p>Figure 1: overconsumption of hand sanitiser</p> <p>As shown in figure 1, the MPBp would be higher than MPBa due to the existence of imperfect information. Consumers would consume at Qp where MPBp = MPC, however, the socially optimum level of output would be at Qs where MPC=MPBa. Therefore consumers are overconsuming hand sanitisers.</p>
<p>(c) Explain whether the extent of the change in price of hand sanitisers is mainly due to demand factors. [6] From Extract 1, price of hand sanitisers has surged due to both demand and supply factors. COVID-19 virus has led to a large group of consumers to change taste and preference in favour of consuming hand sanitisers to prevent COVID-19 virus. As a result, demand would increase significantly from D0 to D1 causing a rise in price of hand sanitiser. However, the surge in price of hand sanitisers is also due to supply factors. Due to the shortage of raw materials, it has caused the cost of producing hand sanitisers to increase, resulting in a fall in</p>	

level of profits, assuming ceteris paribus assumption. As such, the profit maximising producers would have less incentives to produce, causing a fall in supply, resulting in a leftward shift of supply from  $S_e$  to  $S_j$ , resulting in a rise in price of hand sanitisers.

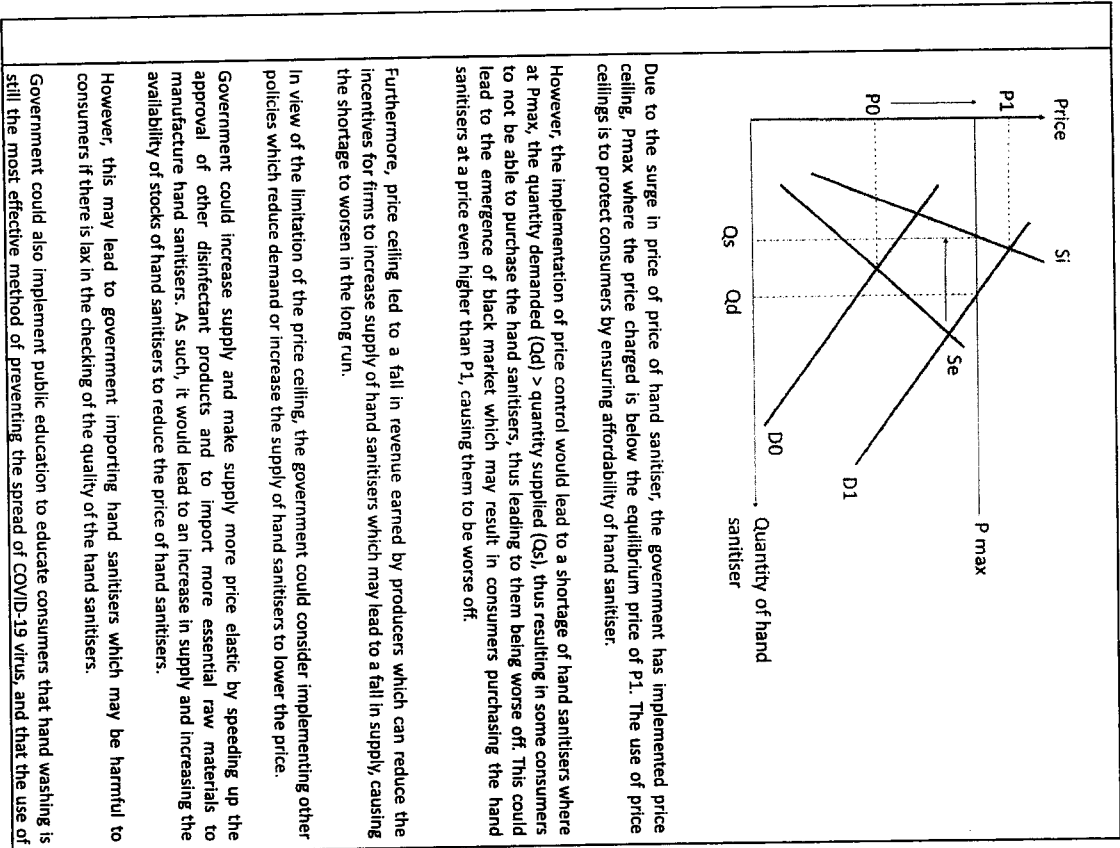
Secondly, producers are less responsive to the change in demand due to availability of low stocks of hand sanitisers. Supply of hand sanitiser becomes more price inelastic ( $S_j$ ), with a rise in demand, it would lead to a significant increase in price of hand sanitisers.



Although a rise in demand and fall in supply has mutually reinforced the rise in price of hand sanitiser, the main factor which lead to a significant rise is the price inelastic supply.

(d) Discuss whether price control is the most appropriate policy to tackle the price change in the hand sanitiser market in Europe. [8]

Due to the surge in price of hand sanitisers in Europe, the government had implemented price ceiling to ensure affordability of the hand sanitisers. However, due to the limitation and trade-offs of price ceiling, other policies may be more appropriate at tackling the surge in price.



Due to the surge in price of hand sanitiser, the government has implemented price ceiling,  $P_{max}$  where the price charged is below the equilibrium price of  $P_1$ . The use of price ceilings is to protect consumers by ensuring affordability of hand sanitiser.

However, the implementation of price control would lead to a shortage of hand sanitisers where at  $P_{max}$ , the quantity demanded ( $Q_d$ ) > quantity supplied ( $Q_s$ ), thus resulting in some consumers to not be able to purchase the hand sanitisers, thus leading to them being worse off. This could lead to the emergence of black market which may result in consumers purchasing the hand sanitisers at a price even higher than  $P_1$ , causing them to be worse off.

Furthermore, price ceiling led to a fall in revenue earned by producers which can reduce the incentives for firms to increase supply of hand sanitisers which may lead to a fall in supply, causing the shortage to worsen in the long run.

In view of the limitation of the price ceiling, the government could consider implementing other policies which reduce demand or increase the supply of hand sanitisers to lower the price.

Government could increase supply and make supply more price elastic by speeding up the approval of other disinfectant products and to import more essential raw materials to manufacture hand sanitisers. As such, it would lead to an increase in supply and increasing the availability of stocks of hand sanitisers to reduce the price of hand sanitisers.

However, this may lead to government importing hand sanitisers which may be harmful to consumers if there is lax in the checking of the quality of the hand sanitisers.

Government could also implement public education to educate consumers that hand washing is still the most effective method of preventing the spread of COVID-19 virus, and that the use of

<p>hand sanitisers not as effective as hand washing. As such, this would lead to consumers reducing the demand for hand sanitisers, causing the price to fall.</p> <p>However, the effectiveness may be limited due to the heightened fear of COVID-19 virus as such consumers may not be receptive to public education.</p> <p>Price ceiling is only appropriate in the short term as to prevent hand sanitisers prices from surging exponentially. However, it does not tackle the root cause of the surge in price and at the same time it would worsen the shortage of hand sanitisers in the long term.</p> <p>As such, the more appropriate policies which government should rely more on is to increase the supply of raw materials and hand sanitisers as well as to educate the public to minimise hoarding of hand sanitisers which would be more effective at tackling the root cause of the surge in price.</p>	<p>(e) Using the evidence in the data, discuss how the market structure of the hand sanitiser industry will affect the ability of firms in this industry to make supernormal profits in the long run when faced with rising level of competition.</p>	<p>Since the largest 5 companies share more than 44% of the global market in 2019 among themselves, the hand sanitiser industry is an oligopoly. The rising level of competition will affect the existing firms' supernormal profits in the long-run, however, existing firms can protect their supernormal profits by implementing appropriate strategies. When considering the strategies to adopt, firms have to take into account the market structure that they firms operate in, weigh the costs and benefits of the strategies.</p> <p>Due to high barriers to entry and extensive economies of scale, firms in the hand sanitiser industry can make supernormal profits in the long run. However, with the entry of new firms, their supernormal profits are affected as there is a fall in their market share which causes their AR to fall and become more demand price elastic. At the same time, average costs will rise. This is because the lower market share will mean that the firm's output will fall, and this would mean lower EOS for the firms. Depending on the extent of the fall in AR and rise in AC, existing firms will now have lower supernormal profits and in the worst case, fall to subnormal profit level and may have to exit the market in the long run. However, existing firms can overcome this by implementing the appropriate strategies. These include price and non-price strategies.</p> <p>If the firms in the hand sanitisers market operate in a non-collusive or competitive model, existing firms can do predatory pricing where they undercut each other's prices with the aim of driving the new entrants out of the industry so their supernormal profits can be protected in the long run. They can do so as they enjoy extensive EOS and are able to price their products at a very low price. However, in the short run, firms may have to suffer losses, and only firms with the larger resources are likely to survive. Furthermore, the new entrants may also be large firms since they are able to over the high barriers to entry and enter the market. Thus, this strategy may not be effective or sustainable.</p>
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Firms can also aim to be more price competitive by lowering their cost of production. Again, with reference to Extract 4, existing firms such as POGO has engaged in technology to improve on their production method through digital printing. They have also secured their sources of raw materials, and this helps POGO to cope with any volatile changes in the cost of productions as the costs of raw materials tend to change quite quickly in Covid- times with the frequent lockdowns and disruptions to the supply chains. With a lower COP, existing firms like POGO can shift their AC and MC downwards substantially and price their product more competitively.

Existing firms can do research and development to improve on the quality of their product to suit consumers changing taste or preferences and to improve on their productions process when faced rising level competition.

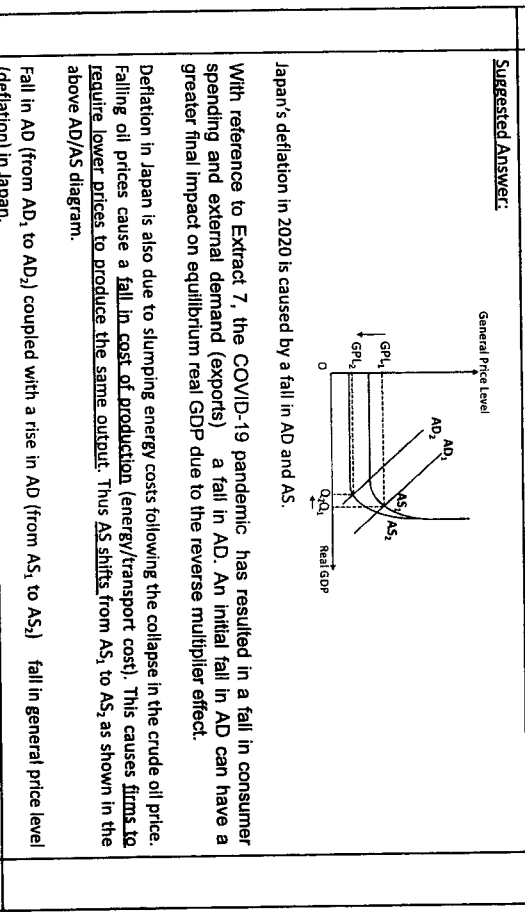
As evident in Extract 3 and 4, consumers are increasing more aware and mindful of what goes into the hand sanitisers and prefer natural ingredient to be used instead of artificial ones. Hence, firms should improve on their formula and advertise to consumers on their new formula like what GOJO did when their new formula has been proven to have minimal negative effect on consumers' skin while at the same time, effective in killing the common germs found in just 30 seconds. This will increase the demand for their product and thereby increase their total revenue. Assuming that the expected rise in revenue is more than cost of R&D, existing firms can then maintain or protect their profits. Additionally, this can also make their hand sanitisers more demand price inelastic which make it less vulnerable to new competition in the long run.

Existing firms can do so to a large extent since they are large firms and has accumulated supernormal profits over the years. However, such drastic changes to the production process incurs very high initial start-up costs and require long-term planning as changes to the production process cannot be made overnight. The larger the firm, the more complex the process and more costly it will be. In addition, as their competitors are also oligopolists, this means that the competitors may implement similar strategies, hence making the non-pricing strategies irrelevant after a while. Thus, firms should continually come out with new non-pricing strategies if they want to maintain their supernormal profits in the long run.

In conclusion, due to the nature of the market that the hand sanitiser firms operate in, they would find it more difficult to engaging in pricing competitions and should focus more on non-pricing competition in the long run when faced with rising competitions. However, whether existing firms can maintain or increase their profits depends on whether they can react fast and appropriately to the new competition using a combination of pricing and non-pricing competitions.

As non- pricing strategies are generally high cost and riskier in nature with no guarantee of success, firms will need to conduct a thorough cost-benefit analysis to ensure that the expected rise in total revenue outweighs the rise in cost of implementing the non- pricing strategies.

<p>(a)</p>	<p>Explain how the change in population aged 65 and above (as a % of total population) in Japan between 2016 and 2020 is likely to affect Japan's public sector debt.</p> <p><b>Suggested Answer:</b> Population aged 65 and above (as a % of total population) in Japan increases between 2016 and 2020. This implies that Japan faces an ageing population. There will be a rise in government expenditure (G) on healthcare and long-term care (Extract 9). In addition, there will a fall in personal income tax revenue (T) due to a shrinking labour force when retirees exit the workforce (Extract 9). In addition, ageing population may be spending lesser, resulting in sales tax revenue (T) to fall.</p> <p>With a rise in G and fall in T, Japan government suffers from a budget deficit when <math>G &gt; T</math>. The government borrows to finance its budget deficit, hence incurring a rising public sector debt as shown in Table 1.</p>	<p>[4]</p>
<p>(b)</p>	<p>Comment on the change in Japan's living standards from 2018 to 2020.</p> <p><b>Suggested Answer:</b> Define standard of living and highlight that it compasses material aspect and non-material aspect. <b>A fall in material aspect of living standards.</b> <b>Data: Fall in real GDP, fall in personal consumption and rise in unemployment rate</b>  <ul style="list-style-type: none"> <li>Figure 2 shows that there is a fall in Japan's real GDP from 2018 – 2020. A fall in real GDP a reduction output level. Assume that population size remains the same, there is a fall in real GDP per capita Japanese consumers have less goods and services available for consumption (mentioned in Extract 5, line 6-7, personal consumption fell significantly) reduction in material aspect of SOL.</li> <li>A fall in output level a fall in demand for labour a rise unemployment rate as shown in Table 1. A fall in demand for labour a fall in wages a fall in purchasing power Japanese consumers purchase less goods and services fall in material aspect of SOL.</li> </ul> <b>Data shows a rise in non-material aspect of living standards.</b>  <b>Data: Life expectancy and Carbon emission (Table 2)</b>  A higher life expectancy could reflect a higher living standard in Japan as it suggests that the citizens of Japan has better nutritional intake of food, greater access to better healthcare services, and also a better living environment.  A fall in carbon emission is related to the fall in real GDP during the period 2018 – 2020. As mentioned earlier, a fall in real GDP means a fall in output produced in Japan less carbon emission and pollutants emitted by firms better air quality improvement in non-material aspect of living standards.  <b>Conclusion</b>  Non-material aspect of SOL is likely to have improved while the material aspect of SOL could have fallen. The selected indicators are useful but not sufficient to assess the change in Japan's SOL from 2018 – 2020.</p>	<p>[4]</p>

<p>(c) Using AD/AS analysis, explain the likely causes of Japan's deflation in 2020.</p>	<p><b>Suggested Answer:</b></p> 	<p>[4]</p>
<p>(d) Assess the likely impact of ageing population on Japan's economy.</p> <p><b>Suggested Answer:</b> An ageing population implies that there is an increasing number of older people (retirees) and decreasing number of working people. This arises due to a decreasing birth rate and increasing life expectancy. As stated in Extract 7, Japan is now the world's oldest major economy with a more elderly and reduced population size and a smaller labour force. A smaller labour force will mean that a smaller tax pool and may lead to a falling or slower growth in tax revenue receipt for the government. And with an ageing population, there will be an increase in demand for healthcare, long term care and pension payment for retirees. Facing a possible decreasing tax revenue receipt and an increase in health expenditures, it may worsen Japan's budget deficit and debt problem if it resorts to borrowing. This may affect investors' confidence in the Japanese economy resulting in a fall in investment. A fall in investment may lead to a fall in aggregate demand (AD) and the real output and hence actual economic growth of Japan. In the long run, with a fall in investment, it will affect the productivity and hence the productive capacity of Japan and affecting potential economic growth. This will affect Japan's ability to achieve a sustained economic growth in the future.</p>	<p>[8]</p>	

<p>(e) Extracts 8 and 9 mention policies to increase efficiency, remove barriers to competition and trade in product markets. Discuss the view that such supply-side policies is the best way to address the economic challenges faced by the Japanese economy.</p> <p><b>Suggested Answer:</b> The economic challenges faced by the Japanese economy are slow economic growth and deflation caused by ageing population, Covid-19 pandemic and rising public sector debt. Such supply-side policies to increase efficiency, remove barriers to competition and trade in product markets include deregulation, liberalise trade and promote foreign direct investment (Extract 8), as well as removing protection to spur competition (Extract 9). Such policies will increase competition amongst local firms, as well as with foreign firms in the world market and in the domestic economy from the inflow of FDI. This motivates profit-maximising firms to adopt cost-efficient methods of production, increasing efficiency in the economy. This translates to falling real GDP, achieving actual growth. In addition, such supply-side policies will increase the productive</p>	<p>In addition, a shrinking tax pool and falling or lower tax revenue growth will impose a significant constraint on government's ability to provide more merit and public goods such as investment in education and R&amp;D and infrastructure which will undermine the future economic growth of Japan and hence its future standard of living. Any constraints on investment in education, it will affect the skills of the work force and productivity of the workers and their ability to earn a higher income and hence their future standard of living. And any constraints of spending on R&amp;D and infrastructure will also undermine Japan's overall productivity and productive capacity and its lead in technology. This will affect Japan's competitiveness and economic growth. However, the negative impact of ageing in Japan may be mitigated if the government is able to adopt appropriate. For example, to resolve the problem of a shrinking labour force size, the Japanese government has adopted supply side policies such as extending the retirement age of workers, encouraging more women to join the labour force, and allowing in more immigrants. If these policies are implemented successfully, it will not only prevent the fall in productivity and productive capacity of the economy due to the falling labour size, it may even increase its productivity and productive capacity if it is able to attract the higher skilled immigrants, increasing the quality and quantity of its factors of production. In addition, with Japan continual investment in technology and automation and replacing workers with robots, it may even increase its productivity and productive capacity. An increase in investment will boost the economic growth in the short run and potential growth in the long run. This will enable Japan to achieve a sustained economic growth. The ageing population of Japan will definitely have an impact on Japan's economy. However, the negative impact of ageing may be mitigated if the Japanese government is able to adopt the appropriate policies. And the extent of the negative impact of an ageing population would depend on the effectiveness of the policies adopted.</p>	<p>[10]</p>
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capacity of the economy with a rise in technology and innovation, increasing AS in the long run. This causes a rise in potential output, achieving potential growth.

However, there are limitations to such supply-side policies. In view of greater competition among firms, some firms may consider streamlining the production process which results in making some workers redundant, hence increasing unemployment. Furthermore, local firms may not be able to compete with the bigger and more efficient foreign firms, resulting in losses made and shut-down of local firms causing higher unemployment.

Other policies are used to address the ageing population and slow economic growth. Japan government has implemented supply-side policies that include increasing training and career opportunities (Extract 8). This will in turn raise labour productivity as workers are equipped with relevant skills and are able to produce more output per man hour labour. This leads to a fall in unit cost of production and rise in productive capacity from the increase in quality of labour. Japan also invests in automation, robotics and digitalisation (Extract 7). Such technology also causes a fall in unit cost of production and rise in productive capacity. All these increase AS, increasing potential output, hence achieving potential growth in Japan.

However, such supply-side policies are long-term policies that take time to implement and may not be effective in achieving actual growth in the short run. The effectiveness of training and career opportunities also depends a lot on the mindset of the employees to go for retraining as well as their ability to learn new skills. Such policies are also costly, which will further worsen Japan's public sector debt, causing a fall in future SOI when taxes are raised to repay debt burden. The rise in such spending will also incur opportunity cost in terms of forgone spending in other areas of the economy, such as healthcare for the ageing population. In addition, the increase in AS from both market-oriented and interventionist supply-side policies will cause GPL to fall, worsening deflation in Japan.

As evident in Extract 10, Japan's "Abenomics" comprised of heavy monetary and fiscal stimulus besides the structural reforms. Expansionary monetary policy involves the fall in interest rate that causes a fall in cost of borrowing. Consumers will borrow more to consume big-ticket items and firms will borrow to invest due to the rise in profits assuming same rate of returns. In addition, the fall in interest rate results in a fall in opportunity cost of consumption in terms of forgone interest earned from savings. These increase consumption expenditure (C) and investment expenditure (I) in Japan, causing aggregate demand (AD) to rise. Expansionary fiscal policy involves the rise in government expenditure (G) and a fall in tax rate. The fall in personal income tax rate increases disposable income and purchasing power of consumers, hence increasing C. The fall in corporate tax rate increases after-tax profits and ability of firms to invest, hence increasing I.

Assuming Japan's economy operates near full employment, the rise in AD, due to the rise in C, I and G, causes a multiple rise in real GDP, achieving actual growth in the short run. There is also rising competition for increasingly scarce resources, resulting in a rise in GPL (mild demand-pull inflation), addressing deflation in Japan.

Nevertheless, such demand-side policies are constrained by the confidence level of consumers and firms. Given the slow economic growth and high public sector debt in Japan, consumer and business confidence may be low due to expectation of future fall in income and profit. Hence the fall in interest rate or tax rate may not lead to a rise in C and I, limiting the rise in actual growth. In

addition, Japan Central Bank may face liquidity trap such that interest rates can no longer be reduced further, rendering expansionary monetary policy ineffective. Expansionary fiscal policy will also worsen the budget deficit and public sector debt of Japan, and the rise in demand for loanable funds by the government will cause a rise in interest rate that may eventually crowd out private investment and consumption.

In conclusion, such supply-side policies is not the best way to address the economic challenges faced by the Japanese economy. Such supply-side policies do not tackle the root cause of ageing population and demand-led deflation. Hence other supply-side policies, such as skills training and innovation, are needed to mitigate the impact of ageing population and achieve potential growth in the long run.

Demand-side policies are also needed to increase AD to achieve actual growth in the short run and tackle the root cause of demand-led deflation in Japan. In addition, trade policies (FTAs) and exchange rate policy (weakening of yen) can also be used to alleviate the root cause of Covid-19 pandemic on net exports (X-M).

2022 JPJC JC2 Prelim Exam H2 P2 Suggested Answers

Question 1

A shortage of land, labour and materials are the main causes of the Singapore's housing shortage and the surge in housing prices. COVID-19 is considered to have made the housing crisis worse, as buyers and renters looked for more space during lockdowns. Historically low global interest rate has fuelled this phenomenon.

- (a) Using supply and demand curves, explain how a shortage of materials and historically low global interest rate have resulted in the surge in Singapore's housing prices. [10]
- (b) Discuss the policies that might be used by the Singapore government to reduce housing prices. [15]

(a) Using supply and demand curves, explain how a shortage of materials and historically low interest rate have resulted in the surge in Singapore's housing prices. [10]

The equilibrium price of housing in Singapore is determined by the demand and supply of housing in the market. A shortage of materials and historically low global interest rate have resulted in the surge in Singapore's housing prices.

Due to global supply chain disruptions during the Covid-19 pandemic, there is a shortage of materials such as bricks and concrete, causing an upward pressure on prices of such materials. As Singapore imports such materials used in housing production, there will be a rise in cost of production. This reduces profit and incentives of profit-maximising housing producers to produce, causing a fall in supply of housing.

With the supply curve shifting leftwards, assuming demand for housing unchanged, the equilibrium price of housing will rise.

Demand for housing is likely to be price inelastic ( $PED < 1$ ) due to the lack of substitutes available and the nature of the good being a necessity. Thus, the quantity demanded will decrease less than proportionately to a rise in price of housing, making the demand for housing price inelastic. When supply decreases, there will be a leftward shift in supply curve along a price inelastic demand curve, the price of housing will surge.

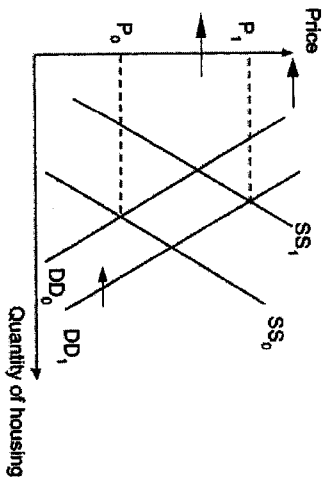
With falling global interest rate, Singapore as an interest rate taker also reduced the interest rate for different kinds of loans. Low interest rate indicates low cost of borrowing, making it cheaper to buy big ticket items like housing. Buyers of housing who are financing their loans with the commercial banks will want to lock in their loans at a lower interest rates. Thus, the demand for housing will rise when interest rate has fallen. With the demand curve shifting rightwards, assuming supply of housing unchanged, the equilibrium price of housing will rise.

In the short run, supply is likely to be price inelastic ( $PES < 1$ ) as developers cannot increase quantity supplied on short notice given that developer will need time to acquire the land, get clearance from authorities for the building and construct the houses. It takes a long time to build houses. Thus, the quantity supplied will increase less than proportionately to a rise in price of housing, making the supply of housing price inelastic. When demand increases, there will

be a rightward shift in demand curve along a price inelastic supply curve, the price of housing will surge.

With the fall in supply due to shortage of materials and rise in demand due to low global interest rate, the change in equilibrium price is certain whereas the change in equilibrium quantity is uncertain and depends on the extent of the change in demand and supply.

It does not matter whether the rise in demand or the fall in supply is more dominating, as both will cause a mutually-reinforcing increase in the equilibrium price of housing.



(b) Discuss the policies that might be used by the Singapore government to reduce housing prices. [15]

To reduce housing price, the Singapore government can implement policies to reduce the demand and increase the supply. The effectiveness of the policies depends on their ability to tackle the root causes of the rise in housing prices, the extent of unintended consequences and the time needed for the policies to work.

Additional Buyer's Stamp Duty (ABSD) is a duty imposed on buyers who are making purchase of a second and subsequent housing. It can curb speculator demand as it deters potential investors from buying additional housing. By increasing ABSD, buyers have to pay more duties to government, reducing the affordability of the housing, reducing demand for housing and reducing the housing prices. Given the price inelastic supply of housing, with a fall in demand, the fall in housing prices can be significant.

However, raising ABSD may deter foreign investors to Singapore. This may result in a fall in AD. Via reverse multiplier effect, it may result in a large fall in real GDP and increase in cyclical unemployment as firms reduce demand for labour. At the same time, AS may fall in the long run with less transfer of knowledge and reduced productivity and capital accumulation from less FDIs. Thus, the unintended consequence of an increased ABSD could be a reduced actual and potential economic growth, impeding sustained economic growth in Singapore.

Tightening of LTV limits makes it more difficult to obtain housing loans from commercial banks as buyers of housing can only take a loan of a lower percentage of their property market value. This

reduces the buyers' ability to purchase housing, causing demand and equilibrium price of housing to fall. Such a policy can reduce the demand of both public and private housing as long as the loans are obtained from commercial banks. It is an effective policy in times of falling interest rates as the lure of cheaper loans can be reduced when government defines the maximum home loan.

However, such a policy has limited effectiveness if there are many buyers with huge amassed cash reserves which can be put down as a deposit for a house. Such buyers do not need to apply for huge amount of loans and will not be affected by LTV limits.

HDB can launch more new flats with its Build-To-Order exercises to increase supply of public housing. At the same time, Urban Redevelopment Authority, which acts as agent for the State in carrying out land sales, could put up more land for private housing. With an increase in supply of housing, equilibrium prices can be reduced. Given the price inelastic demand for housing, with a rise in supply, the fall in housing prices can be significant.

However, it takes time to construct houses. Thus, such a policy can only work in the long run. In the meantime, cooling measures on the demand side has to be implemented to reel in the surge in housing prices. In addition, by allocating more land for housing has unintended consequences in the form of rising opportunity costs for other aspects of the economy. More land for housing would imply less land for commercial or industrial purpose. The opportunity costs could be in terms of economic growth lost.

With both the demand and supply side policies in place, the equilibrium price of housing can be reduced. To effectively reduce Singapore's housing prices, the policies have to target the root cause well. However, as the causes are multi-faceted as shown in the preamble, both demand and supply side policies are needed. In addition, the demand side policies (ABSD and LTV limits) tend to work only in the short term, supply-side policies of increasing supply of housing is needed as a long term policy to complement them.

### Question 2

Generally, pharmaceutical companies operate in markets with high concentration ratio. A recent newspaper article commented on the fact that a pharmaceutical company charged customers in the United States (US) US\$800 per treatment whilst it charged customers in Egypt US\$60 for the same treatment.

- a. Explain why the company might follow the above pricing strategy and what conditions are necessary to allow the policy to be successful. [10]
- b. Discuss whether oligopolistic industries always operate against the interests of society. [15]

(a) Explain why the company might follow the above pricing strategy and what conditions are necessary to allow the policy to be successful. [10]

Price discrimination is the practice of charging different prices for the same product or services for reasons not due to cost differences. To practice price discrimination effectively, a firm must satisfy the following conditions: 1. Control of market supply 2. Markets must be separated 3. Different price elasticity of demand in the separate markets. When these 3 conditions are fulfilled, firm can implement price discrimination to increase their total revenue so as to further maximise their profits.

Firstly, the firm must be able to control the market supply of the good such that when it charges a higher price in one market, there will not be any competitors who can undersell the good at a lower price. Next, the markets for the good must be separated (with little cost) so that those paying lower prices cannot resell to those paying higher prices. Thirdly, the price elasticity of demand for the good must be different in the separate markets so that total profits can be increased by charging different prices in the different markets.

A higher price will be charged in the market with less elastic demand while a lower price will be charged in the market with more elastic demand. Given a less elastic demand, a higher price will lead to a less than proportionate fall in the quantity demanded and thus total revenue will increase. On the other hand, given a more elastic demand, a lower price will lead to a more than proportionate increase in the quantity demanded and thus total revenue will rise as well. Hence, charging different prices in the different markets will result in higher total revenue for the firm. The monopolist is in a better position to practice price discrimination by virtue of the fact that it is the only supplier of the product or services and is likely to meet the conditions necessary for the effective price discrimination.

The most common form of price discrimination is third degree price discrimination. This occurs when the monopolist charges different prices for the same commodity in different markets not due

to differences in cost but rather due to differences in price elasticity of demand. This can be illustrated by the example of a tourist attraction producers such as Garden by the Bay.

In this case, it is observed that the ticket prices for adults and senior citizen are different with the adult paying a much higher price. In this case, both the adult and the students are enjoying the same products with no difference in the experience. There is no difference in the cost of producing the services to the adult or the senior citizen. Hence, this fulfils the definition of price discrimination.

Garden by the Bay producers are able to conduct price discrimination as the 3 conditions for price discrimination are also satisfied.

Garden by the Bay is a unique tourist attraction, and the firm is a monopolist in this aspect. Hence, the firm has full control over the market supply. They are able to prevent reselling as checks could be conducted to ensure that only senior citizens can use the lower price tickets. Thus, the markets can be separated. Furthermore, as the working adults have a higher income level and as such, the ticket prices take up a lower proportion of their income as compared to the senior citizens who may have retired. Thus, the price demand of elasticity for Garden by the Bay is more price inelastic for the adults than the senior citizens.

Hence Garden by the Bay can charge higher price for the working adults and lower price for senior citizens. Through raising the price for working adult, quantity demanded falls less than proportionate and hence total revenue rises due to the higher prices will be more than the total revenue lost due to the fall in quantity demanded, causing overall total revenue to rise. Lowering price for senior citizen increases quantity demanded more than proportionate and will raise overall total revenue.

Thus, through price discrimination, the firm can increase its total revenue and profits if it can satisfy the 3 conditions needed for price discrimination to be successful.

**(b) Discuss whether oligopolistic industries always operate against the interests of society. [15]**

Oligopoly is a market structure characterised by a small number of dominant firms whose behaviour is inter-dependent. These few firms share a large proportion of the industry between them. In some industries, the product is homogeneous (e.g. metals, chemicals, petrol) whilst in others, it can be differentiated (e.g. cars, airlines, soft drinks). The degree to which oligopoly power has developed in any industry is indicated by measuring the industry's concentration ratio. As an example, a 4-firm concentration ratio of 76% would mean that the 4 largest firms control 76% of the market share.

Due to market power, the oligopolist have a downward sloping AR and the MR is below the AR. Hence, oligopolist can profit maximise by restricting output to set a higher price using the profit maximising condition,  $MC=MR$ . This means that  $P>MC$  in an oligopoly market and allocative efficiency is not achieved and there is a fall in consumer surplus. Allocative efficiency occurs when the price of the product is equal to its marginal costs and to be allocative efficient mean that the the firm is producing the "right" amount of goods that will maximise the society's welfare. Also, consumers would be paying a higher price while consuming at a lower quantity. Furthermore, oligopolists is able to conduct price discrimination and this can erode consumer surplus further.

Oligopolists can also earn supernormal profits even in the long run due to the high barriers of entry. Thus, income is seen as being redistributed from the consumers (the many) to the oligopolists (the few). Hence, oligopoly industries may operate against the interest of consumers in terms of high price, low output and equity.

However, oligopoly industries can also benefits consumers through lower prices. Being large firms, oligopolists are able to produce on a larger scale and hence reap the benefits of economies of scale. This will help to lower its average cost of production, resulting in a lower AC and MC. If the fall in AC and MC is significant, it will lead to a fall in price and a rise in output even when the oligopolist produce at the profit maximizing condition.

Price discrimination that is based on differences in income level (i.e. resulting in different PED values) can be desirable as it enables the lower-income consumers to buy a product that they would otherwise be unable to afford if it were to be sold at a single price. Eg. Movie theatres and places-of-interest charging senior citizens and children lower entrance fees than working adults which enabled them to enjoy the same benefits.

Due to mutual interdependence, firms in an oligopoly tend to rely more on non-pricing competition to increase total revenue and to make the demand for their product more price inelastic. They are also able to make supernormal profits in the long run due to strong barriers to entry. Thus, oligopolies have a greater incentive and ability to carry out R&D and produce innovation of new products and processes due to competition. In the drive for bigger market share, innovation, new products, and product refinement make up the main forms of non-price competition among firms. This leads to dynamic efficiency.

In the long run, technological change can occur. It is this innovation, which has driven so much economic growth. Oligopoly is likely to lead to greater innovation than monopoly as oligopolists face competition from existing rivals and cannot afford to relax as much as monopolists. Oligopolists would be expected to retain much of their profit from their innovation. Thus, oligopolist does not act against the interest of society. However, due to mutual interdependence, oligopolists may collude in order to reduce the unpredictability of rivals' reactions to changes in price. Collusion is a formal or informal agreement among oligopolists on what prices to charge and how to divide the market. This will be greatly against the interest of society as it is now essentially acting as a monopoly now.

But firms in the collusion have great incentive to cheat secretly on any collusive agreement to increase its profits above its share of the joint profit and in many countries, collusion are illegal. Thus, this may not be observed very frequently.

In conclusion, the oligopoly industries have merits and demerits to the interest of the society. Whether it act against the interest of society or not will be very much dependent on the level of government monitoring and intervention to prevent collusion. If the market power of the firms in the oligopoly are keep in check, it should bring about more benefits to the society as a whole in the long run.

**JPJC Prelim Exam 2022 H2 P2**

**Question 3**

From end-2021, pre-packaged sugar sweetened beverages (SSB) with a high sugar or saturated fat content will be required to display a nutrition label with grades ranging from A to D, with D being the unhealthiest. Retailers will also be banned from advertising D-grade drinks on all media platforms.

- Explain how the pursuit of self-interest by consumers lead to an inefficient outcome in the SSB market. [10]
- Discuss the factors that the government should consider when implementing policies to achieve more efficient allocation of resources in the SSB market. [15]

a) Explain how the pursuit of self-interest by consumers lead to an inefficient outcome in the SSB market. [10]

The presence of negative externalities in the consumption of SSB can lead to an inefficient allocation of resources.

Negative externalities are spill over costs on third parties who are not directly involved in the production and consumption of the good, and they are not being accounted for.

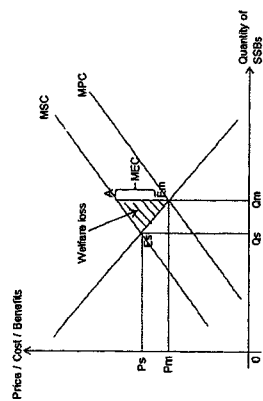


Figure 1

In the consumption of SSBs, a consumer will only consider the marginal private cost (MPC) which is the additional cost incurred for an additional unit of consumption of SSBs and the marginal private benefits (MPB) which is the additional satisfaction derived from and an additional unit of consumption. The consumer will consume up to the quantity where the  $MPC = MPB$  at  $Q_m$  as shown in Figure 1. But the over consumption of SSBs generate negative externalities which will affect the health of the consumer causing health problems such as diabetes, fatty liver disease, weigh gain and affecting his / her productivity at work. This will affect 3<sup>rd</sup> parties such as firms which will suffer a fall in revenue and profits due to the loss of output from absenteeism.

Due to the presence of negative externalities, it leads to the divergence between the MPC and marginal social cost (MSC). Assume that there are no positive externalities, MPB is equal to marginal social benefit (MSB). The socially optimum quantity of consumption of SSBs should be at  $Q_s$  where  $MSB = MSC$ . Since  $Q_m$  is more than  $Q_s$ , there is an overconsumption of SSBs. Between  $Q_s$  and  $Q_m$ , the social cost of an additional unit of consumption of SSB is higher than the social benefit, resulting in welfare loss to society as shown in the shaded area.

Hence, due to the presence of negative externalities, there is an inefficient allocation of resources in the SSBs market.

On the other hand, an inefficient outcome in the SSB market can be due to the presence of imperfect information on the consumption of SSBs.

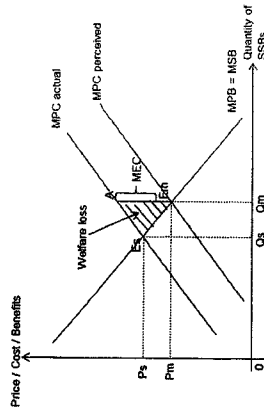


Figure 2

Due to imperfect information, consumers may not be fully aware of the risk to their health due to the over consumption of SSBs. Consumers may not be fully aware of the additional medical costs due to diabetes, fatty liver disease that result from an overconsumption of SSBs. The consumer has thus undervalued the marginal private costs of consumption of SSBs. This leads to the divergence between the perceived MPC ( $MPC_{perceived}$ ) and actual MPC ( $MPC_{actual}$ ). In the pursuit of self-interest, consumers will consume SSBs up to the quantity where their  $MPC_{perceived}$  is equal to MPB which is  $Q_m$  as show in Figure 2. However, the optimum consumption quantity should be at  $Q_s$ . Since,  $Q_m$  is greater than  $Q_s$ , there is an overconsumption of SSBs equal to the distance of  $Q_s$  and  $Q_m$ .

Hence, due to imperfect information, consumers has overconsumed in the market for SSBs, resulting in an inefficient allocation of resources in the SSB market.

In conclusion, due to the presence of negative externalities and imperfection information, it results in an over consumption and hence an inefficient outcome in the SSBs market.

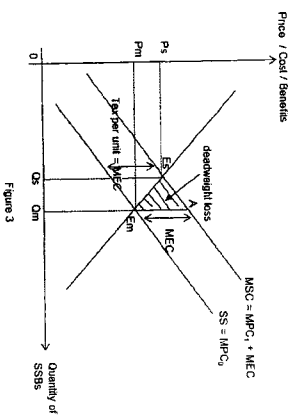
**b) Discuss the factors that the government should consider when implementing policies to achieve more efficient allocation of resources in the SSB market. [15]**

The over consumption of SSBs would result in health problems which will increase the government expenditure in medical costs and affect the productivity and growth of the economy. As such, it is necessary that the government implement policies to achieve a more efficient allocation of resources in the SSBs market. (S) And in implementing the necessary policies, the government will have to take into consideration factors such as the root cause of the inefficient allocation of resources, the benefits, costs and constraints of each policy. (T) It is only when the benefit of a policy exceeds the cost of the implementation of the policy would the policy be implemented.

To achieve a more efficient allocation of resources in the SSBs market due to the presence of negative externalities, the government may consider adopting a policy of indirect taxation on the consumption of SSBs.

The government may impose an indirect tax equal to the marginal external costs (MEC) at the socially optimal level of output on the SSBs producers at  $Q_s$  as shown in Figure 3. The tax would increase the cost of production of SSBs and the producers may pass on the higher cost of production to consumers in the form of higher prices of SSBs. An increase in the prices of SSBs would lead to a fall in quantity demanded for SSBs and hence the consumption of SSBs would fall from  $Q_m$  to the socially optimal level  $Q_s$ . There would be a fall in the production of SSBs and this can be illustrated with a leftward shift of the MPC curve to coincide with the MSC curve as shown in Figure 3. Hence, a more efficient allocation of resources for the SSBs market can be achieved.

One of the benefits of an indirect tax is that consumers are being forced to internalise the external costs by paying a higher price in the consumption of SSBs. And it also generate a source of tax revenue for the government which can be used to subsidise any campaigns to promote a healthy living style.



However, the government may face the constraints of determining the correct amount of taxation to be imposed. This is because the external costs cannot be easily quantified due to imperfect information. This would result in the government under or over imposing a tax on SSBs consumption which may not result in an efficient allocation of resources. On the other hand, SSBs consumption may be addictive or habitual in nature, and demand for SSBs may be price inelastic which may constraint the effectiveness of such a policy.

Hence, the government may have to consider other policies to achieve an efficient allocation of resources for the SSBs market.

On the other hand, if the root cause of over consumption of SSBs is due to imperfect information, the government may consider implementing a policy of public education to reduce the gap of information failure. This can be in the form of directly informing the public about the harmful effects of over consumption of SSBs via health campaigns and talks via the mass media. It can also take the form of mandatory revelation of sugar content in pre-packaged drinks. And to make it easier for consumers to understand and hence increase its effectiveness, the Singapore government has implemented a mandatory Nutri-Grade mark for all pre-packaged drinks by end of 2022 and it will be extended to all freshly prepared drinks such as freshly squeezed fruit juices, brewed drinks such as coffee and tea, and bubble teas by end of 2023.

The benefit of public education is the ability to fill the gap of imperfect information by creating an awareness of the negative impact on the health and the actual costs of over consumption of SSBs and hence reducing the demand for SSBs. But the effectiveness of public education is constrained by its non-mandatory nature on the part of consumers and the difficulties of changing the taste and preference of consumers. As such, public education may resolve the root cause of over consumption of SSBs due to imperfect information, its success is difficult to be measured and it is more likely to be a long term policy as it takes time to educate and influence and bring about a change in attitude of consumers towards SSBs consumption.

Hence, depending on the root cause of over consumption of SSBs, the government may consider the adoption of different policies to achieve a more efficient allocation of resources in the market for SSBs.

To reduce the over consumption of SSBs, the government can also introduce rules and regulation to curb the over consumption for SSBs. For example, the government may ban the advertising of SSBs with high sugar content over the media and the banning the sales of drinks with high sugar content in schools.

This policy would directly reduce the demand for SSBs, causing the demand to fall to the socially optimal level of consumption at  $Q_s$ . This could be illustrated with a leftward shift of the MPB curve from  $MPB_0$  to  $MPB_1$ , as shown in Figure 3.

The benefit of direct regulation is it is straightforward and easy to understand and the ability to reduce demand and achieve results quickly. It will be effective if there is a significant inefficient allocation of resources that needs to be resolved rapidly. However, the effectiveness of such a policy may be constrained by the government's ability to enforce the rules and regulations. Penalty would have to be harsh for non-compliance and government may incur additional costs in monitoring and ensuring compliance of the rules and regulations.

Hence, the government will have to consider about the effectiveness of the policy and the costs incurred.

To implement any policies to achieve a more efficient allocation of resources in the market for SSBs, the government will have to consider factors such as the root cause of the inefficiency in resource allocation, the benefits, costs, limitations and constraints of each policy. And given the different causes and the benefits and constraints of each policy, the government may have to implement a mixture of policies. For example, a taxation policy may be necessary to force the consumers to internalize the external costs of over consumption of SSBs but at the same time for



consumption due to imperfect information, the government may want to embark on a policy of educating the consumers about the harmful effect of over consumption of SSBs.

The government will also have to consider about the opportunity cost of a falling demand for SSBs affecting the revenue and profits of the SSBs industry which will in turn affect the employment of workers in the SSBs industry. A fall in demand for SSBs may result in the retrenchment of the SSBs workers and an increase in unemployment. Hence, other than curtailing the consumption of SSBs, government may also have to consider providing incentives for the SSBs firms to develop more healthier beverages.

**Question 4:**  
**Singapore attracted about \$17.2 billion in fixed asset investments in 2020, despite weathering its worst recession as a result of the Covid-19 pandemic.**

**(a) Using the circular flow of income, explain how an increase in investment expenditure can lead to a bigger change in national income.** [10]

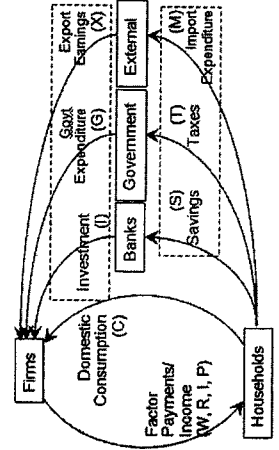
**(b) Discuss whether the level of investment is the key determinant in influencing the living standards in Singapore.** [15]

**(a) Using the circular flow of income, explain how an increase in investment expenditure can lead to a bigger change in national income.** [10]

Investments is a component of aggregate demand (AD) and is the expenditure on the production of goods not meant for current consumption. It can be in the form of fixed capital formation (such as better technology machines and plants) and aims to increase future production capabilities. With an initial increase in investment, it will lead to a bigger change in the equilibrium level of national income.

The circular flow of income is a representation of how money is circulated in an economy as income and expenditure and it involves all 4 sectors of the economy, namely, households, firms, government, and the foreigners. Firms purchase factors of production from households to produce goods and services. Thus, there is a flow of factor services from households to firms, and flow of goods and services from firms to households. As such, with reference to the figure below, the money received by these firms will in turn be paid to the households as factor income in the form of wages, rent, interest and profit. And in turn, with the income of households, they will pay for consumption expenditure to firms when they consume goods and services produced by them. The rest of the income of households will be given to the financial intermediaries such as banks, the government, and the foreigners in the form of savings, taxes and import expenditure respectively. These are known as withdrawals

On the other hand, besides receiving payments from the households for the goods and services they produced, firms also receive payments from the government, the foreigners, and other firms in the form of government expenditure, export earnings and investment expenditure. These expenditures, other than that by the households, are known as injections. When the total injections are equal to total withdrawals (J=W), the level of national income (NY) is said to be in equilibrium.



Due to an increase in investment, it will lead to  $J \rightarrow W$ . This causes the equilibrium income to increase and consumers have more to spend on consumption, save, tax and imports. Hence this process will repeat until  $W = J$ .

Assuming that the economy is at below full employment, an increase in investments of \$1000 million for example, will lead to a bigger change in national income. Initially, there will be an increase in national income by \$1000 million. This increase in national income in period 1 is enjoyed by firms who are involved in the manufacturing of these investments' goods and a payout equivalent of \$1000m is given to households due to increased hiring of workers. Assuming its MPC is 0.6, out of this increase in income of \$1000million, households will spend part of it, which is \$600million, on consumption and the rest of \$400million will go to saving, taxes and imports. This increase in consumption will encourage firms to produce more in period 2, thus generating more factor income of \$600million for the households. Like in period 2, out of this further increase in income of \$600million, households will spend part of it, which is \$360million, on consumption in period 3. The remaining will go to savings, taxes and imports. Thus, this process of increase in consumption and increase in output and income will continue until there is no more additional spending on consumption and hence income. And the whole process by then would have increased the national income by a total of \$2500 m that is 2.5 times the initial increase in investment given that  $K = 1/1 - mpc$ . This is the multiplier process.

**(b) Discuss whether the level of investment is the key determinant in influencing the living standards in Singapore. [15]**

Standard of living (SOL) is a qualitative measure of how well a population in a country live. It is complex and diverse concept, determined by a wide range of factors comprising income per capita of the population as well as other non-income factors such as housing conditions, health conditions, educational attainment, ownership of consumer durables, income distribution and quality of environment. An increase in investment is key to influencing the improvement of living standards in Singapore because it brings about an increase in economic growth and this will improve both material and non-material SOL. However, an excessive increase in investment can bring about pollution & income inequality. In addition, whether it brings about an improvement in SOL also depends on other determinants such the implementation of government policies and the extent of trade Singapore is experiencing due its small and open nature.

An increase in I can improve both material and non-material SOL. As stated in the preamble, Singapore attracted about \$17.2 billion in investments in 2020. This increase in investments (I) will lead to an increase in AD, increasing the real GDP via the multiplier effect as mentioned in part (a). At the same time, it can also increase the quantity and quality of capital acquisitions, and this will lead to an increase in productive capacity, increasing LRAS and potential growth. The increase in AD and LRAS will lead to an increase the real GDP per capita income of the population, assuming that real GDP growth rate exceeds population growth rate, this can improve SOL from higher consumption due to households' purchasing power.

Higher per capita income enables the population to enjoy more and better consumption goods and services, own assets such as housing, and consume services such as healthcare and education which enhance quality of life, leading to higher SOL. This will boost confidence and optimism in the economy, which encourages further investment and job growth. Households can expect better job prospects and rising wages to support improvements in standards of living.

However, due to the nature of being small and open, Singapore has a small multiplier size due to high MPS due to compulsory savings and high MPM due to high import dependence. With a small

multiplier size, the increase in real GDP due to an increase in investment will be limited hence the impact on living standards will also be limited.

Excessive investments can also cause environmental degradation due to greater resource use and the generation of more pollution, waste and destruction of natural environment. More production of goods and services requires more natural and agricultural resources, which cause deforestation and faster depletion of resources. Rising carbon emissions and other forms of gas emissions from more production and consumption causes many negative effects from climate change.

Assuming that the investments are on innovation, research and development, and renewable energy, this can help improve the quality of the environment, and this can improve the non-material SOL. However, with more emphasis on technology, talents and higher skills to drive economic growth through higher investment, there will be undesirable distributive effects, where the higher-income households and higher-skilled labour who own wealth, assets and higher education earn much more while those with low skills are left behind in poverty and lack of purchasing power leading to worsening living standards in Singapore.

However, investment is not the key determinant as government spending on public and merit good is able to influence the SOL. The govt can implement policies to increase both material and non-material SOL. Fiscal policies such as government spending on improving infrastructure such road system, and on areas which improve quality of life such as healthcare, education and uplifting the support for households in low income and poverty groups. The government can also spend more on improving the quality of environment in the long run, such as funding research and investment for renewable energy and emissions-reduction. These government spending can improve both material and non-material living standards of Singapore. This is also made easier as Singapore has a healthy budget balance to support the government spending.

Trade is also another key determinant for Singapore to improve living standards given Singapore's high reliance on trade where her exports and imports are each more than 200% of GD. With an increase in exports, this will lead to an increase in AD via the multiplier effect causing real GDP to increase, and this will improve the material standard of living of Singapore. With an increase in imports, it can also improve the non-material living standards of Singaporeans as they are now able to enjoy a variety of goods and services with higher quality.

In conclusion, the level of investment will likely lead to a rise in the living standards of a country due to higher real national income per capita increasing the material SOL. If the investment is on new technologies, this will lead to greater non-material SOL with better environment. On the whole, productivity of the country is also likely to increase.

Overall, the role of government is the most important to ensure that a higher SOL. For example, the government can increase the government expenditure on infrastructure projects, implement appropriate policies to deal with and minimize the impact on pollution and funding of the spending without burdening the future generations. With the right policies in place, a rise in government spending will likely the key determinant as it has the ability to control the level of investment in Singapore and has a direct impact on both material and non-material aspect of the standard of living based on discussion earlier.

**Question 5:**

Singapore's economic growth is forecasted to grow at a slower rate of 3.7% in 2021 while inflation rate is expected to increase from 2.7% to 4%. This is due to a moderate recovery in trade-related sectors amid rising global commodities prices and supply chain shocks. As a result, central banks have tightened their monetary policies to curb strong inflationary pressure.

(a) Explain one demand and one supply factor which lead to economy experiencing high inflation and low economic growth. [10]  
 (b) Discuss the extent to which monetary policy alone is effective to achieve price stability and economic growth in Singapore. [15]

a) Explain one demand and one supply factor which lead to economy experiencing high inflation and low economic growth. [10]

Economic growth is defined as the increase in the real value of goods and services produced as measured by the annual percentage change in real Gross Domestic Product (GDP). As Singapore is forecasted to grow at a slower rate, it means that real GDP will be increasing at a decreasing rate. Economic growth can be seen to be either actual or potential economic growth. Inflation is a sustained increase in the cost of living or the general price level leading to a fall in the purchasing power of money. The two types of inflation are cost-push and demand-pull inflation.

Supply chain shocks is brought about by the congestions at the ports around the world leading to higher freight charges and contributed to a rise in prices of imported consumers and intermediate goods. Global food commodities prices has risen due to a weather-related disruptions and manpower shortages in key food-producing countries which lead to a fall in supply of global food commodities.

With a rise in imported raw materials and manpower shortages, it has led to a rise in unit cost of production, assuming that productivity remains unchanged. As a result, producers' profit margin would fall resulting in a fall in short run aggregate supply curve (SRAS).

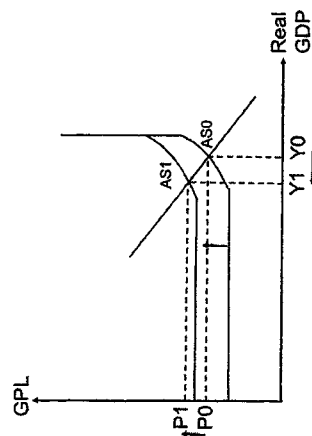


Figure 1: Effects of supply chain shocks on economy.

As shown in figure 1, the AS curve would shift up and to the left from AS0 to AS1, as a result, it leads to a rise in GPL from P0 to P1 and a real GDP to fall from Y0 to Y1. Economy experienced inflation and fall in economic growth.

International trade plunged in 2020 but has recovered moderately in 2021. This has led to countries experienced a rise demand for export, causing a rise in export revenue, this would led to a rise in aggregate demand (AD) via the multiplier effect, causing a rise in real GDP.

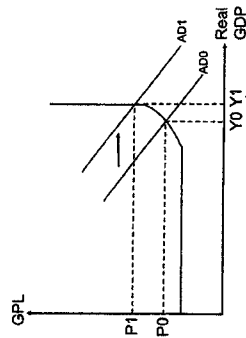
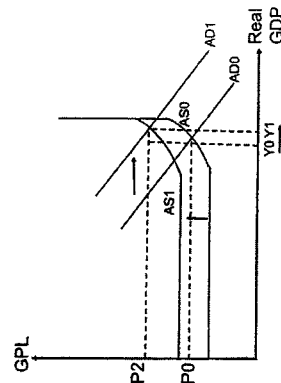


Figure 2: Effects of moderate recovery in trade-related services on economy

The rise in AD from AD0 to AD1 would lead to a rise in GPL from P0 to P1 and a rise in real GDP from Y0 to Y1.

In view of the rise in AD and fall in AS, both will mutually reinforced a rise in GPL, causing the inflation rate to rise from 2.4% to 4%. The rise in AD and fall in AS bring about a different impact on national income. However, the rise in AD from AD0 to AD1 is larger than the fall in AS from AS0 to AS1, causing real GDP to increase by a smaller extent from Y0 to Y1 while GPL increase significantly from P0 to P1.



In conclusion, the moderate recovery in trade related sector amid the global supply shock cause the economic growth to slowdown while inflation rate to increase.

b) Discuss the extent to which monetary policy alone is effective to achieve price stability and economic growth in Singapore. [15]

Singapore is an open and small economy which has lack of natural resources. As such, she is highly susceptible to imported inflation, thus monetary policy plays a significant role in maintaining internal price stability so as to achieve sustained economic growth. However, monetary policy alone is not sufficient, the government needs to supplement it with other policies such as supply-side so as to achieve the macroeconomic aims.

The supply chain shock as mentioned in part (a) would impact Singapore's economy significantly as Singapore is highly dependent on imported consumer and intermediate products. Imports of goods and services in Singapore was reported at 153% in 2021.

As such, with Monetary Authority of Singapore tightening the exchange rate policy, it would lead to price of imports to be relatively cheaper in terms of SGD, leading to SRAS to increase, resulting in a fall in GDP and increase real GDP, dampening the imported inflation and achieving economic growth.

Furthermore, the tightening of SGD would also cause P<sub>x</sub> to be more expensive in terms of foreign currency, assuming that PED<sub>m</sub>>1 and PED<sub>x</sub>>1, appreciation of SGD would cause net exports to fall, resulting in a fall in AD, causing GDP to fall, causing demand-pull inflation to reduce. When inflation rate is low and stable, businesses are better able to plan and decide on investment. With a rise in investment expenditure, it would lead to rise in quantity and quality of capital in the economy. Net inflows of foreign direct investment takes up 21.6% of Singapore real GDP in 2020. With the economy experiencing both actual and potential economic growth, it will enable the economy to achieve sustained economic growth and internal price stability in the long term.

However, the implementation of exchange rate would lead to price of exports to be higher in terms of foreign currency which would in turn cause export to lose competitiveness in terms of prices. As such, this may cause a fall in net export which in turn worsen Singapore's BOT, especially when external trade has just recently recovered. Furthermore, the source of inflation in Singapore is also from other sources such as tightness in the labour market in some industries as well as a shortage of labour.

Government could implement supply-side policies on retraining the workers and encouraging firms to conduct research and development so as to yield greater productivity gains in the export sector and labour market which will reduce unit cost of production. This will help to compensate the rise in cost of production of the firms due to supply chain shock and concurrently the economy would experienced economic growth and price stability.

Workers and professional can use on Skill Future Credit and/or Workfare Training Support (WTS) scheme to get subsidy for courses to upgrade their skills which will increase the labour productivity. Firms can use on digital acceleration and Artificial and Intelligence and Data Analytic Grant to invest in digital solutions. This will increase the labour and capital productivity, which will cause Singapore productive capacity to increase and reduce cost of production per unit. At the same time, it will compensate the effect of appreciation of SGD on export sector, ensuring that exports remain competitive in terms of price and non price. This would enable Singapore achieve sustained economic growth and stable internal prices.

However, the difficulties are that workers may have imperfect information as to which courses they should take or are not receptive to go for upgrading of skills. Furthermore, some of the more traditional firms may not have the expertise and willingness to adopt and invest in R&D. So, the policy will not be effective to spur economic growth in the long run.

In conclusion, since the high inflation rate is mainly cause by external supply shock, the implementation of monetary policy would be able to effective tackle the rise in inflation rate.

However, monetary policy in Singapore is not sufficient to achieve both economic growth and low inflation rate due to exchange rate policy only prevent external sources of inflation and it may lead to negative impact on the export sector especially that trade sector has just recovered moderately. Therefore the government would need to supplement it with supply-side policies to mitigate the negative effects of monetary policy in order to achieve economic growth and low inflation.

**Question 6**

**Globalisation has made our world more interconnected than ever before and presented a wealth of opportunities. Yet, globalisation has also presented an uneven distribution of its benefits and costs.**

- (a) Explain the factors that have fuelled globalisation. [10]
- (b) To what extent has globalisation presented an uneven distribution of its benefits and costs amongst countries? [15]

(a) Explain the factors that have fuelled globalisation. [10]  
 Globalisation refers to the increasing integration of economies around the world through greater flows of trade, capital flows and movement of labour across international borders.

One main factor that fuelled globalisation is trade liberalisation and the promotion of free trade based on the Theory of Comparative Advantage. The theory of comparative advantage states that economies can mutually benefit from specialisation and exchange of goods they have a lower opportunity cost in producing. For example, between Thailand and Singapore, Thailand's vast amount of arable land and large number of rice farmers meant that it has resources that are more suited for the cultivation of rice over Singapore. In the cultivation of rice, Thailand has a lower opportunity cost as compared to Singapore as Singapore does not have the similar factor endowments that are suitable for rice cultivation. On the other hand, Singapore would have a lower opportunity cost in their production and manufacturing of electronic goods because of its skillful labour force and level of technological adoption. If Thailand devotes its resources to the cultivation of rice and Singapore devotes its resource to the production of electronic goods, both countries would be more efficient in their production. With subsequent exchange, that is, Thailand to export rice and import electronic goods, while Singapore would import rice and export electronic goods, both countries could exploit their differences in relative opportunity cost and consume a combination of goods outside what they possibly could if they produce both goods on their own (consume beyond their PPC).

The greater amount as well as variety of goods available for consumption among other potential gains from free trade have led to increasing liberalisation of trade and capital markets, facilitated by governments moving towards policies such as Free Trade Agreements (FTAs) to reduce trade barriers (removing import tariff and quotas). These led to greater economic integration amongst economies and the trend of globalisation.

The revolutionary break-through in information and communication technology (ICT) have also provided the drive for global integration by facilitating trade.

Development in communication technology has facilitated the transmission of information over geographical borders quickly and efficiently. This allows transnational firms to coordinate their operations worldwide via different avenues such as video conferences & emails. The implication is that firms such as Toyota and Apple Inc. are able to set up plants worldwide by tapping on the

comparative advantages in production of different types of goods in different countries to improve their productivity and efficiency. These firms are also able to outsource part of the production process yet maintain control over them with the ease of communication. This "slicing up of the value chain" results in increased flow of intermediate goods as well as capital amongst the economies leading to higher degree of globalisation.

Last but not least, developments in transport technology have caused transportation cost and time for goods and people to shrink tremendously increasing mobility of goods and factors of production. These have enhanced economies trade network and aid in the increase in trade volume. For example, sea transport has become more efficient with new technology such as (automated cargo handling and faster vessels). Better navigation system also enhanced the safety and efficiency of sea transport. The reduction in time for sea transport and cargo handling has helped to transport goods and documents for firms faster.

Not only has these technologies enhance the benefits of trade, they are essential enablers of trade, without which, there would not be as much integration amongst world economies.

**(b) To what extent has globalisation presented an uneven distribution of its benefits and costs amongst countries?**  
[15]

Globalisation does indeed bring about an uneven distribution of benefits and costs between countries. The extent depends on the following few factors.

1. Factor immobility: Geographical, occupational.
2. Unfair trade practices
3. Nature of economy
4. Lack of laws/enforcements/Less established banking sector/corporate governance

Globalisation presents an uneven distribution of its benefits and costs amongst countries due mainly to differences in factor immobility among countries.

Countries that face greater factor immobility within the domestic economy will face greater rising opportunity cost which limit the extent of specialisation and thus reduces the full benefits of specialisation and exchange. This came about when a country which specialises in the production of a good will eventually be forced to utilise resources which are less suited to the production of the good. For example, as Singapore specialises in the production of pharmaceutical products, it will be forced to use labour that lacks the relevant skills and knowledge needed.

In addition, Globalisation hastened the speed at which countries (like SG) move up the value-added chain, shedding jobs in sunset industries (low value added manufacturing industries) but creating jobs in sunrise industries (high value added, technological based industries.) Employees in the sunset industries may find themselves without a job and because their skill sets are not suitable for the sunrise industries (occupational mobility), in this aspect, there could be structural unemployment and widening income gaps when the lower skilled workers are displaced and this problem is exacerbated by the influx of foreign labour.

Hence, globalisation does indeed presents an uneven distribution of its benefits and costs amongst countries due mainly to differences in the degree of increasing factor immobility.

The extent this is true depends on the ability of the government to respond to such challenges by putting in place policies to meet factor immobility. For example, the Singapore government has

adopted Skills Future as a policy to improve the skills of workers to keep them relevant in the changing economy. Thus with effective policies, countries would be able to enjoy a greater extent of benefits from globalisation.

While globalisation and free trade allow countries to have access to international markets, some countries are more exposed to unfair trade practices like dumping. The problem is more pertinent if there are no proper regulations in place to protect the domestic industries.

Dumping refers to the sale of a good overseas (exports) below its cost of production or at prices which are lower in foreign countries than in domestic markets. FTA would introduce foreign competition (imports) to domestic market. These imports could be heavily subsidised by the foreign countries or government such that the prices could be lower than those of the domestic products. This is perceived to be dumping into the domestic market.

A reason for dumping could be to force out domestic firms so as to consolidate monopoly power. Once monopoly power is established, the foreign firms could charge higher prices to reap supernormal profits. Hence, while consumers could enjoy lower prices in the short run, the consumer welfare could be eroded in the long run.

Furthermore, foreign competition could jeopardise the development of home industries before the industries could realise its potential. These infant industries could have the potential to be more efficient compared to the foreign firms. The hampering of the development of these industries could precipitate long run welfare loss. Production of commodities, especially strategic goods, makes a country overly dependent on other countries.

Hence industries which experienced dumping by other countries may suffer more from free trade and globalisation and thus globalisation brings about an uneven distribution of benefits and costs to different countries.

The extent of costs faced by these industries is also dependent on the differing types of government policies that are put in place

For instance, some countries like China have put in place anti-dumping measures on synthetic rubber from the US and EU as dumping has caused substantial damage to its domestic industry.

While there are gains to be realised from specialisation, for countries that embark on diversification programme to promote self-sufficiency and independence in the provision of strategic goods are more likely to mitigate some costs of globalization than others.

With globalisation and the increasing openness to trade, more open economies like Singapore could be more vulnerable to external shocks. Increase openness and trade. Singapore was one of the first to be hit during the global financial crisis in 2009 where we experience a fall exports which reduces aggregate demand and cause a fall in real national income by a multiplied amount which worsen actual growth and increasing unemployment. In addition, a fall in net exports worsen current account and hence BOP position.

The extent of the costs (worsening actual growth, increasing unemployment and worsening BOP) could differ from country to country as it depends on the significance of the net exports to the country's GDP. Countries like China which have large domestic markets and have consumption-led growth may not be as negatively affected by an external crisis as compared to countries like Singapore. Hence, the distribution of costs and benefits could be uneven.

The extent of imported inflation also depends on how reliant a country is on imported raw materials. Greater reliance breeds greater susceptibility and hence such countries are more prone to suffer from volatile prices externally.

Countries may benefit differently from globalisation as there could be differences in the way policies are enacted and enforced.

With globalisation there could be increase capital mobility. If FDI are footloose (unrestricted in locations and could move out easily, this is dependent on the government regulations in place) and withdraw capital in times of negative outlook, which worsen long term capital flow and capital and financial account, ceteris paribus, worsen BOP. Hence, if there are lack of laws to govern the flow of short term capital (hot money) and long term capital (FDI), it could be destabilising to an economy. Since capital investment is likely to be more scarce in developing countries than in developed ones, returns to investment in many developing countries are likely to be higher at home than abroad. Hence, developing countries could be more severely affected by outflows of capital.

In addition, with increasing FDI and offshoring practices by foreign firms, developing countries could suffer from rampant pollution (since factories and heavy industries are often relocated to developing countries as cost of production is much lower than the home country). Hence, without proper laws and regulations, the pollution problem could be more severe.

This persistence and severity of the problem is highly dependent on the relative effectiveness and appropriate enforcement of government policies.

While globalisation does present an uneven distribution of its benefits and costs, the most significant reason behind the uneven distribution of benefits and costs could be the relative effectiveness and enforcement of various policies implemented by countries to address the costs of globalization.

Nevertheless, net benefits from globalisation ultimately depends on the global economy. If the outlook is poor, it may increase anti-trade sentiments amongst countries as governments turn towards protectionist measures to boost domestic economy given that the external driver of growth through exports is less useful. Countries that can diversify their pool of trading partners and maintain greater trade flows will be able to fully benefit from international trade. But more often than not, even with the most effective government policies and proper enforcement, there are external conditions that are not within a government's control and it depends significantly on the agility of the economy and workforce to adapt.