	NANYANG JUNIOR COLLEGE
	2022 JC2 Preliminary Examination H2 ECONOMICS

Paper No: 9757/01

31st August 2022
Wednesday

Time : 0800 – 1015 hrs
Duration : 2 hours 15 mins

INSTRUCTIONS TO CANDIDATES

Do not turn over this paper until you are told to do so.

Write your name, class and the name of your Economics tutor in the space provided on the answer booklet.

You are required to answer ALL questions.

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

Write your answers on the answer booklet provided. If you use more than one answer booklet, slot the additional booklets into the first booklet.

Please start each case study on a fresh page.

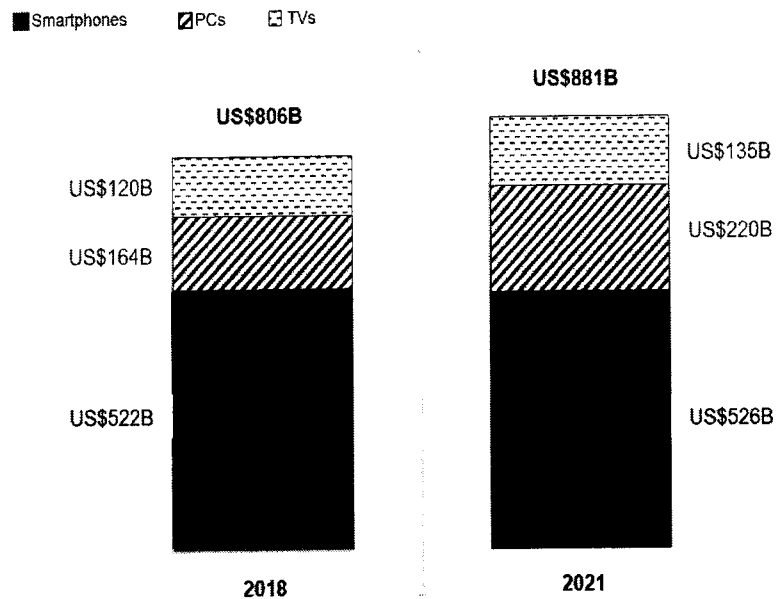
You are advised to spend several minutes reading through the questions and data before you begin writing your answers.

There are **8** printed pages including this cover page.

Answer all questions

Question 1: Zoom to the Future

Figure 1: Revenue of selected consumer electronics for 2018 and 2021



Source: Deloitte Insights, 2021

Extract 1: PC sales have surged for at-home workers and learners during the pandemic

With millions of workers and students forced to stay home owing to the COVID-19 pandemic, sales of mobile devices and personal computers shot to their highest level in six years.

“The obvious drivers for last year’s growth centered around work from home and remote learning needs, but the strength of the consumer market should not be overlooked,” IDC vice president Ryan Reith said in a statement. “We continue to see gaming PCs and monitor sales at all-time highs, and Chrome-based devices are expanding beyond education into the consumer market. In retrospect, the pandemic not only fueled PC market demand but also created opportunities that resulted in a market expansion.”

The pandemic, which has so far killed almost 2 million people worldwide, prompted lockdowns and school closings around the world starting last January. That prompted a wave of PC buying, from the most expensive laptops to the least expensive Chromebooks. At the same time, widespread quarantines are slowing the mobile revolution. Instead of trying to do everything from our phones, we’re back at our desks.

Source: Fortune, 12 January 2021

Table 1: Market Share of Video Conferencing Platforms

	2020	2021
Zoom	26.4%	48.7%
Google Meet	8.1%	23.1%
Microsoft Teams	9.7%	14.5%
Skype*	32.4%	6.6%
Slack	17.7%	3.6%
GoToMeetings	3.6%	1.1%

*Skype was acquired by Microsoft Corporation in 2011.

Source: *diginomica*, 25 August 2021

Extract 2: How Microsoft let Skype lose out to Zoom

Zoom Video Communications Inc., maker of the ubiquitous video conferencing tool that made a global pandemic less isolating, just reported another quarter of explosive growth. While its business may not continue to soar quite so much, Zoom is well positioned, appears to have a loyal fan base and continues to innovate. It has also achieved a rare corporate feat: It created a product popular enough to become a common verb. To “Zoom” now means to “chat by video” — in the same way that to “Google” is to search the web. Yet not so long ago, another product’s name stood for video conferencing: Skype. Launched in 2003, Skype has been available nine years longer than Zoom and is owned by tech titan Microsoft Corp., yet Zoom has effectively left it in its dust.

In 2011, when Microsoft acquired Skype for \$8.5 billion (it’s third-biggest acquisition after LinkedIn and Nokia), Zoom had just launched and Skype already had 100 million users. By 2015, it had 300 million users. But Skype’s technology isn’t well-suited to mobile devices. When Microsoft set about to address that problem, it gave users further headaches by redesigning Skype frequently and haphazardly while integrating messaging and video functions of its video conferencing tool. Eventually, when Microsoft-owned LinkedIn said in September 2020 that it would add a video conferencing feature to direct messages, allowing users to kick off calls through Microsoft Teams, Skype was left out.

The absence of Skype in the implementation exemplifies the video conferencing service’s diminishing presence in a year when competitors became more prominent than ever, as the coronavirus pandemic forced people to connect online. Skype did get a boost from the virus. In March Microsoft said that Skype had 40 million daily active users, up 70 percent from the previous month. But even at Microsoft, it’s not the star. In April the company said Teams had amassed 75 million daily active users. Whereas Zoom, which has overcome many security concerns about its platform, says its total “daily meeting participants” grew during the pandemic from 10 million to about 350 million.

More recently, Skype has lagged behind its competitors. The Skype iPhone app failed to make it to the top 200 apps ranked on Apple’s App Store in August and September, according to data from app-analytics company AppAnnie, while Zoom for iPhone never left the top 20 and Google Meet was generally in the top 100. Now that Zoom is a leader, Microsoft is faced with some tough choices, to discontinue Skype and concentrate on improving the features for Teams, or to redesign Skype.

Adapted from CNBC, 10 October 2020, and Bloomberg, 4 June 2021

Extract 3: Singapore to have new electronic waste disposal system

According to Singapore's National Environment Agency, around 60,000 tonnes of electronic and electrical waste are generated every year in Singapore. Only 6 percent of all e-waste is recycled while 24 percent is traded-in. The rest is removed by deliverymen or thrown away.

The low percentage of e-waste recycling has been a concern of the Singapore government as e-waste is bad for health and the environment. All e-waste contains some amount of hazardous materials, such as heavy metals like lead and mercury found in electronic goods. There are also economic gains from recycling e-waste, which contains valuable resources such as gold, silver, copper and platinum that can be extracted through proper treatment processes.

To reverse the trend, the Singapore government has been looking to countries like Sweden and Denmark. These countries recycle 52 percent and 43 percent of their e-waste respectively and have successfully adopted the Extended Producer Responsibility (EPR) scheme since the early 1990s.

Under Singapore's EPR scheme implemented in July 2021, retailers that operate outlets with a floor space of 300m² or more will set up in-store collection points and offer one-for-one take-back services for the electrical and electronic products they sell. In addition, firms that manufacture or import regulated products above the prescribed supply thresholds will also bear the financial cost of the collection and proper disposal of these products by licensed recycling firms.

As part of the scheme, outreach programmes will also be organised to raise public awareness on the environmental costs to responsibly manage e-waste and to promote a culture of recycling.

Industry experts have expressed cautious optimism about Singapore's EPR scheme.

CleanEnviro Summit Singapore managing director Dalson Chung said: "The critical success factor will be the behavioural change of our people that will be doing the recycling, because taking out e-waste and putting it into a recycling bin is not a traditional habit."

Professor Seeram Ramakrishna, chair of the NUS Circular Economy Taskforce, also warned that the success of this scheme could be stifled by attempts to "game the system". He said producers can raise their waste collection targets through many innovative and creative ways, but the waste may end up not being recycled and upcycled properly.

*Adapted from research@SMU, 5 August 2021 and
The Straits Times, 11 February 2021 & 25 March 2022*

Questions

- (a) (i) With reference to Figure 1, compare the changes in sales revenue of smartphones and PCs between 2018 and 2021. [2]
- (ii) Explain a possible reason for your observations in (a)(i). [2]
- (b) (i) Explain the likely market structure of video conferencing platforms. [2]
- (ii) Now that Zoom is a leader, Microsoft is faced with some tough choices. (Extract 2) [8]
- Discuss the factors that Microsoft would consider before deciding whether they should discontinue their Skype services.
- (c) Explain how the recycling of e-waste can help to address the problem of scarcity. [2]
- (d) (i) With the use of a diagram, explain how the consumption and improper disposal of electronic devices is likely to affect Singapore's social welfare. [4]
- (ii) Explain how the measures under the Extended Producer Responsibility (EPR) scheme mentioned in Extract 3 can be implemented to improve societal welfare in Singapore and assess how likely it is to be successful. [10]

[Total: 30]

Question 2: COVID-19 Pandemic and Its Impacts on Advanced Economies**Extract 4: Resilience Index 2020: Global resilience put to the pandemic test**

Resilience Index takes into account fiscal space, financial market development, human capital, economic complexity, labour market efficiency, income inequality index and others. Global macroeconomic resilience was stable in 2019, but the world economy was less resilient going into the COVID-19 crisis. We forecast a drop of about 20% in global resilience in 2020 as a result of the pandemic, as stimulus packages deplete economies' fiscal budget. We expect COVID-19 to widen health and mortality protection gaps globally as households grapple with lower incomes, leading to higher healthcare costs and greater mortality. Switzerland has proven resilient to the COVID-19 crisis thanks to a diversified economy with relatively low reliance on hospitality and entertainment and with significant fiscal space to support households and firms. Finland's economy seems to stabilise despite the pandemic due to the high savings rate and consumer confidence creating conditions for rapid growth in private consumption.

Source: Swiss Re Institute, 2020

Table 2: Selected Countries Resilience Index

Country	2019 Resilience Index	2020 Resilience Index
Canada	0.81	0.70
Finland	0.80	0.67
Norway	0.76	0.65
Sweden	0.98	0.68
Switzerland	0.84	0.80
UK	0.74	0.41
US	0.80	0.58

Source: Swiss Re Institute, 2020

Extract 5: How the pandemic has changed the world economy

If the economy is growing, that generally means more wealth and more new jobs. It is measured by looking at the percentage change in gross domestic product. The IMF estimates that the global economy shrunk by 4.4% in 2020. The organisation described the decline as the worst since the Great Depression of the 1930s. The IMF is, however, predicting global growth of 5.2% in 2021. That will be driven primarily by countries such as India and China, forecast to grow by 8.8% and 8.2% respectively. Recovery in big, services-reliant, economies that have been hit hard by the outbreak, such as the UK or Italy, is expected to be slow. The travel industry in UK has been badly damaged, with airlines cutting flights and customers cancelling business trips and holidays. New variants of the virus - discovered only in recent months - have forced many countries to introduce tighter travel restrictions. The hospitality sector has been hit hard, with millions of jobs and many companies bankrupt. Data from Transparent - an industry-leading intelligence company that covers over 35 million hotel and rental listings worldwide - has registered a fall in reservations in all the top travel destinations. The number of people entering retail malls has seen unprecedented falls as shoppers stayed at home. New variants and surges in cases have made problems worse. Separate research suggests that consumers are still feeling anxious about their return to stores. Accountancy giant Ernst & Young says 67% customers are now not willing to travel more than 5 kilometres for shopping.

Source: BBC, January 2021

Extract 6: Covid-19 impairs 2020 growth in Nordic economies

The Danish economy has been materially weakened by the 2020 crisis as capital spending and consumption have regressed, with investment sentiment and consumer confidence having seen significant deteriorations – before improving since May as the economy re-opened. In addition, the Danish economy has been impaired by the coronavirus shock because trade, travel and tourism (accounting for about 17% of GDP) have been restricted, with Denmark being the only Nordic country that is a net exporter in this sector. However, several core Danish industries, such as pharmaceuticals, agriculture and wind turbine manufacturing, are not strongly cyclical, so exports will decline less in these industries in 2020. Denmark has, in addition, benefitted this year from lesser dependence on global value chains compared with its Nordic peers. Unemployment rose but the government is proactively supporting the private sector by temporarily paying up to 90% of employee salaries.

Danmarks Nationalbank has taken action to defend the fixed exchange rate against the euro. Even before the coronavirus crisis, the Danish krone underwent pressure driven by capital outflows as domestic savers sought investments abroad, incentivised by negative domestic deposit rates. Whereas the majority of central banks around the world have cut interest rates during this crisis to provide significant liquidity assistance, the Danish central bank instead increased its key interest rate in March to safeguard the krone.

In March, the central bank bought Danish krone to defend the currency. Although these actions have been effective in protecting the peg to the euro the lack of an independent monetary policy has restricted the government response this crisis.

Due to Denmark's strong fiscal fundamentals entering this crisis, the government is able to run a wide 2020 public deficit without endangering debt sustainability. Additionally, the government has detailed 12.8% of GDP in loans and guarantees. We expect the government debt-to GDP ratio to increase from 33.2% in 2019 to a still moderate 42.5% in 2020.

Rising debt in Finland during the 2020 crisis requires consolidation steps post-crisis to stabilise and reverse debt trajectory. Economic contraction, government stimulus and economic weaknesses that predate the pandemic are elevating government debt in Finland and could present risks to long-run creditworthiness if a swift response to stabilise the debt trajectory is not acted upon. In the two years before 2020's crisis, real growth in Finland was slowing and output shrank in the last quarter of 2019. This year's unprecedented shock to domestic and foreign demand is exacerbating the structural challenges that Finland faces. The pandemic will impact exports as well as private consumption, with the latter having been a key driver of economic growth in recent years. Finland exports predominantly investment products, demand for which has been severely impaired.

Source: Scope Ratings, June 2020

Extract 7: Britain is suffering her worst peacetime downturn ever

Britain is in the midst of its deepest downturn in peacetime as the coronavirus pandemic wreaks havoc on the economy, while an expected recovery in the second half is already in jeopardy. "The coronavirus crisis is delivering an unprecedented hit to GDP that the economy will take many years to recover from," said Paul Dales at Capital Economics.

"The pace of the recovery will be muted by demand constraints as consumers and firms will not come unscathed out of these lockdowns," said Stefan Koopman at Rabobank. Prime Minister Boris Johnson promised to shake Britain's economy out of its coronavirus-induced crisis by fast-tracking plans to speed up government infrastructure spending. "We will build the hospitals, build the schools, the colleges," he said. The centrepiece of the British government's plans to protect the economy is its pledge to pay 80% of wages if staff are put on leave rather than let go. For its part, the Bank of England slashed Bank Rate to a record low of 0.10%, restarted its quantitative-easing programme and agreed to temporarily lend the government money if needed to help finance its massive COVID-19 spending plans.

"The Bank of England (BOE) has made the government's transaction account limitless until (so far) the end of the year, which means that the UK government can – literally – print its own money without first issuing debt and then wait for the central bank to buy it in the secondary market," said Erik Nielsen at UniCredit. But despite the huge amounts of fiscal and monetary stimulus, the Bank's chief economist, Andy Haldane, warned on Tuesday the economy was not certain to recover rapidly once coronavirus restrictions were lifted, because people may be reluctant to spend or socialise as they did before. However as inflation rates are forecasted to rise, BOE may start to raise interest rates which was at an all-time low during the pandemic.

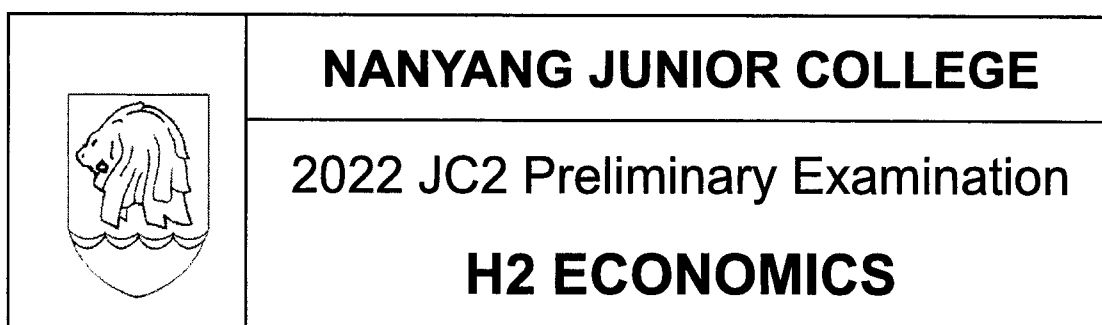
Source: Reuters, April 2020

Questions

- (a) With reference to Extract 4 and Table 2:
- (i) Identify one country that is the most resilient in 2020 despite being hit by the coronavirus pandemic and give a possible reason why. [2]
 - (ii) Explain the effect of a change in Resilience Index on material living standards from 2019 to 2020. [3]
- (b) Using a production possibility curve diagram, explain the impact of the pandemic on UK's economic growth. [3]
- (c) With reference to Extract 6, explain how the "Danish krone underwent pressure" before the coronavirus crisis. [4]
- (d) Discuss whether Finland or Denmark will be harder hit by the pandemic. [8]
- (e) Discuss whether UK should adopt fiscal or monetary measures to respond to the economic downturn caused by the COVID-19 pandemic. [10]

[Total: 30]

***** The End *****



Paper No: 9757/02

14th September 2022
Wednesday

Time: 0800 – 1015 hrs
Duration: 2 hours 15 mins

INSTRUCTIONS TO CANDIDATES

Do not turn over this paper until you are told to do so.

Write your name, class and the name of your Economics tutor in the space provided on the answer booklet.

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.

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

Write your answers on the answer booklet provided.

If you use more than one answer booklet, slot the additional booklets into the first booklet.

Please start each question on a fresh page.

You are advised to spend several minutes reading through the questions and plan before you begin writing your answers.

There are **3** printed pages including this cover page.

Answer **three** questions in total.

Section A

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

- 1 Rising unemployment rates and job uncertainty have influenced consumers' buying patterns towards economic and affordable products. Subsequently, the overall portfolio in smartphones is moving toward low-to-mid end devices. Be prepared to pay higher prices for smartphones, tablets, or PCs. A report by Nikkei Asia claims that chipmakers are marking up their production costs due to the ongoing global component shortage.

Source: telecoms.com: 28th September 2020

- (a) Using income elasticity of demand, explain how a recession might affect the revenue earned by sellers of different types of smartphones in Singapore. [10]
- (b) Discuss the likely combined impact of the abovementioned changes on the price and quantity of different types of smartphones in Singapore. [15]

- 2 Established carmakers around the world are ripping up their business models in the hope of adapting to a new world in which electricity replaces gasoline and diesel. Factories are being overhauled to produce electric cars, and automakers are snapping up every battery they can find. The high cost of developing electric cars is forcing some companies to find partners and turning others into acquisition targets.

Source: CNN August 2019

- (a) Explain how the market structure in which established car makers operate is likely to influence how prices are determined. [10]
- (b) With the increasing competition from the established car makers, discuss the strategies that the electric car makers can adopt to increase their profitability. [15]

- 3 (a) Explain why imperfect information and labour immobility may lead to market failure. [10]
- (b) Discuss the policies governments can adopt to correct these causes of market failure. [15]

Section B

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

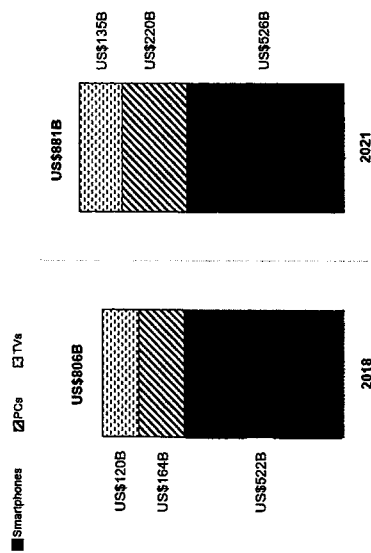
- 4 The Covid pandemic has caused radical change in the labour market as more people work from home, shifting new job demands from semi-skilled jobs in retail, catering and cleaning, to jobs that require workers' proficiency in digital skills.
- (a) Explain how the pandemic has hindered the government's goal to achieve inclusive economic growth. [10]
- (b) Discuss the measures a government can adopt to achieve inclusive economic growth in view of the structural change brought about by the Covid pandemic. [15]
- 5 The world was worrying about recession one year ago and governments were quick to adopt measures to revive their economy. But now, inflation has taken center stage on government's agenda.
- (a) Explain why governments are concerned with inflation. [10]
- (b) Discuss the extent to which government's policy to tackle recession is to be blamed for causing inflation. [15]
- 6 Most economies in the world are suffering from budget deficits and balance of trade deficits for the past two years due to domestic and external challenges.
- (a) Explain the relationship between a balance of trade deficit and a budget deficit. [10]
- (b) Discuss whether policies adopted by a government to reduce the balance of trade deficit would worsen the budget deficit. [15]

***** The End *****

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 1 CSQ 1

Question 1: Zoom to the Future

Figure 1: Revenue of selected consumer electronics for 2018 and 2021



Source: Deloitte Insights, 2021

Extract 1: PC sales have surged for at-home workers and learners during the pandemic

With millions of workers and students forced to stay home owing to the COVID-19 pandemic, sales of mobile devices and personal computers shot to their highest level in six years.

"The obvious drivers for last year's growth centered around work from home and remote learning needs, but the strength of the consumer market should not be overlooked," IDC vice president Ryan Reith said in a statement. "We continue to see gaming PCs and monitor sales at all-time highs, and Chrome-based devices are expanding beyond education into the consumer market. In retrospect, the pandemic not only fueled PC market demand but also created opportunities that resulted in a market expansion."

The pandemic, which has so far killed almost 2 million people worldwide, prompted lockdowns and school closings around the world starting last January. That prompted a wave of PC buying, from the most expensive laptops to the least expensive Chromebooks. At the same time, widespread quarantines are slowing the mobile revolution. Instead of trying to do everything from our phones, we're back at our desks.

Source: Fortune, 12 January 2021

Table 1: Market Share of Video Conferencing Platforms

	2020	2021
Zoom	26.4%	48.7%
Google Meet	8.1%	23.1%
Microsoft Teams	9.7%	14.5%
Skype*	32.4%	6.6%
Slack	17.7%	3.6%
GoToMeetings	3.6%	1.1%

*Skype was acquired by Microsoft Corporation in 2011.

Source: diginomica, 25 August 2021

Extract 2: How Microsoft let Skype lose out to Zoom

Zoom Video Communications Inc., maker of the ubiquitous video conferencing tool that made a global pandemic less isolating, just reported another quarter of explosive growth. While its business may not continue to soar quite so much, Zoom is well positioned, appears to have a loyal fan base and continues to innovate. It has also achieved a rare corporate feat: it created a product popular enough to become a common verb. To "Zoom" now means to "chat by video" — in the same way that to "Google" is to search the web. Yet not so long ago, another product's name stood for videoconferencing: Skype. Launched in 2003, Skype has been available nine years longer than Zoom and is owned by tech titan Microsoft Corp., yet Zoom has effectively left it in its dust.

In 2011, when Microsoft acquired Skype for \$8.5 billion (it's third-biggest acquisition after LinkedIn and Nokia), Zoom had just launched and Skype already had 100 million users. By 2015, it had 300 million users. But Skype's technology isn't well-suited to mobile devices. When Microsoft set about to address that problem, it gave users further headaches by redesigning Skype frequently and haphazardly while integrating messaging and video functions of its videoconferencing tool. Eventually, when Microsoft-owned LinkedIn said in September 2020 that it would add a video conferencing feature to direct messages, allowing users to kick off calls through Microsoft Teams, Skype was left out.

The absence of Skype in the implementation exemplifies the video conferencing service's diminishing presence in a year when competitors became more prominent than ever, as the coronavirus pandemic forced people to connect online. Skype did get a boost from the virus. In March Microsoft said that Skype had 40 million daily active users, up 70 percent from the previous month. But even at Microsoft, it's not the star. In April the company said Teams had amassed 75 million daily active users. Whereas Zoom, which has overcome many security concerns about its platform, says its total "daily meeting participants" grew during the pandemic from 10 million to about 350 million.

More recently, Skype has lagged behind its competitors. The Skype iPhone app failed to make it to the top 200 apps ranked on Apple's App Store in August and September,

according to data from app-analytics company AppAnnie, while Zoom for iPhone never left the top 20 and Google Meet was generally in the top 100.

Now that Zoom is a leader, Microsoft is faced with some tough choices, to discontinue Skype and concentrate on improving the features for Teams, or to redesign Skype.

Extract 3: Singapore to have new electronic waste disposal system
Adapted from CNBC, 10 October 2020, and Bloomberg, 4 June 2021

According to Singapore's National Environment Agency, around 60,000 tonnes of electronic and electrical waste are generated every year in Singapore. Only 6 percent of all e-waste is recycled while 24 percent is traded-in. The rest is removed by deliverymen or thrown away.

The low percentage of e-waste recycling has been a concern of the Singapore government as hazardous materials, such as heavy metals like lead and mercury found in electronic goods. There are also economic gains from recycling e-waste, which contains valuable resources such as gold, silver, copper and platinum that can be extracted through proper treatment processes.

To reverse the trend, the Singapore government has been looking to countries like Sweden and Denmark. These countries recycle 52 percent and 43 percent of their e-waste respectively and have successfully adopted the Extended Producer Responsibility (EPR) scheme since the early 1990s.

Under Singapore's EPR scheme implemented in July 2021, retailers that operate outlets with a floor space of 300m² or more will set up in-store collection points and offer one-for-one take-back services for the electrical and electronic products they sell. In addition, firms that manufacture or import regulated products above the prescribed supply thresholds will also bear the financial cost of the collection and proper disposal of these products by licensed recycling firms.

As part of the scheme, outreach programmes will also be organised to raise public awareness on the environmental costs to responsibly manage e-waste and to promote a culture of recycling.

Industry experts have expressed cautious optimism about Singapore's EPR scheme.

CleanEnviro Summit Singapore managing director Datson Chung said: "The critical success factor will be the behavioural change of our people that will be doing the recycling, because taking out e-waste and putting it into a recycling bin is not a traditional habit."

Professor Seeram Ramakrishna, chair of the NUS Circular Economy Taskforce, also warned that the success of this scheme could be stifled by attempts to "game the system". He said producers can raise their waste collection targets through many innovative and creative ways, but the waste may end up not being recycled and upcycled properly.

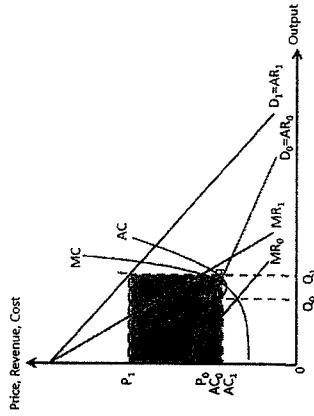
Adapted from research@SMU, 5 August 2021 and
The Straits Times, 11 February 2021 & 25 March 2022

Questions

(a)	(i) With reference to Figure 1, compare the changes in sales revenue of smartphones and PCs between 2018 and 2021. (ii) Explain a possible reason for your observations in (a)(i).	[2] [2]
(b)	(i) Explain the likely market structure of video conferencing platforms. Now that Zoom is a leader, Microsoft is faced with some tough choices. (Extract 2)	[2] [8]
(c)	(ii) Discuss the factors that Microsoft would consider before deciding whether they should discontinue their Skype services. Explain how the recycling of e-waste can help to address the problem of scarcity.	[8] [2]
(d)	(i) With the use of a diagram, explain how the consumption and improper disposal of electronic devices is likely to affect Singapore's social welfare. (ii) Explain how the measures under the Extended Producer Responsibility (EPR) scheme mentioned in Extract 3 can be implemented to improve societal welfare in Singapore and assess how likely it is to be successful.	[4] [10]
		[Total: 30]

Suggested Answers

<p>(a)</p> <p>(i) With reference to Figure 1, compare the changes in sales revenue of smartphones and PCs between 2018 and 2021.</p> <ul style="list-style-type: none"> • Both increase [1] • Sales revenue of PCs increased at a much faster rate (34%) compared to smartphones (0.7%) [1] 	<p>[2]</p> <p>(ii) Explain a reason for your observations in (a)(i).</p> <ul style="list-style-type: none"> • Extract 1: Covid-19 pandemic prompted lockdowns and school closing → wave of buying PCs as workers and students had to work and learn from home → increase in demand → increase in price and quantity → increase in sales revenue ($P \times Q$) [1] • Why sales revenue for PCs increased faster: increase demand due to the need/preferences to have personal devices with bigger screens for working or learning at home OR the increase in demand for gaming PCs for a more comfortable entertainment experience at home. [1]
<p>(b)</p> <p>(i) Explain the likely market structure of video conferencing platforms.</p> <ul style="list-style-type: none"> • Oligopoly [1]. Top 3 firms dominating of the market e.g. 2020 (76.5% market share) or 2021 (86.3% market share) [1]. <p><i>Note: when students quote data, either 2020 or 2021 is acceptable</i> 2020: Top 3 firms: Zoom, Skype, Slack with 76.5% market share 2021: Top 3 firms: Zoom, Google Meet, Microsoft Teams with 86.3% market share</p>	<p>[2]</p> <p>Now that Zoom is a leader, Microsoft is faced with some tough choices. (Extract 2)</p> <p>(ii) Discuss the factors that Microsoft would consider before deciding whether they should discontinue their Skype services.</p> <p>Objective of Microsoft: maximise profits (maximise revenue & minimise cost)</p> <p>DM factors</p> <ul style="list-style-type: none"> • Constraints: whether it has enough funds to absorb losses and implement measures to salvage Skype • Benefits of discontinuing Skype: streamline business and concentrate on Teams - concentrate its resources on improving Teams to better compete with Zoom (Extract 2) with unique features that Zoom may not have → to increase AR and reduce PED (reduce closeness of substitutes) increase profits from P_b, AC_c to P_f, AC_c.



- **OR Benefits of discontinuing Skype:** streamline business can help to improve efficiency reducing cost (reduce both AC and MC) increase profits
- **Cost of discontinuing Skype:** lose more consumers to other platforms like Google Meet and Zoom (Extract 2: Zoom for iPhone never left the top 20 apps and Google Meet was generally in the top 100) if Skype is discontinued, it is likely that users will switch to a popular and user-friendly platform unlikely to change platforms once they get used to the interface and they serve the purpose well Microsoft lose AR even more lose more revenue and profits
- Microsoft will also not be able to recoup the sunk costs that have been invested to unsuccessfully redesign Skype in the past. (Extract 2: When Microsoft set about to address that problem, it gave users further headaches by redesigning Skype frequently and haphazardly while integrating messaging and video functions of its videoconferencing tool.)
- **Information:** Find out why Skype is losing so much market share (Table 1): Skype's technology not well-suited to mobile devices (Extract 2) → need info on whether it will be better to combine Skype with Teams and integrate their functions to retain consumers

Conclusion

Most important factor: Benefits

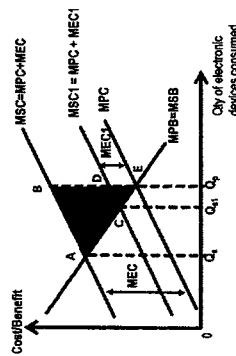
- Objective of firms is to increase profits. Since past data has time and again showed that Skype is not consumers' choice of video conferencing platforms, and Teams has more similar features to Zoom and Google Meet, by streamlining its resources to discontinue Skype and concentrate on improving Teams, Microsoft will be able to generate more revenue and profits and remain one of the market leaders in the industry.
- Furthermore, since Microsoft owns Skype, it can offer its existing Skype users a one-time free conversion to use Teams and help them to transit smoothly to Teams. If Microsoft can prevent users from switching over to Zoom/Google Meet, then the cost of losing more revenue may not occur and Microsoft can still retain their customer base.
- Information is also not as important since technology is fast evolving (by the time they investigate why Skype is losing, the new 'next best thing' would have been invented and popularised). Hence, it will be better for Microsoft

		to consolidate their resources and come up with new and better ways to compete with their closest rivals in order to stay in the game.	
Mark Scheme			
L2	<ul style="list-style-type: none"> Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> Discuss various factors in the decision-making process by Microsoft (e.g. benefits, costs, constraints, etc), with priority given to benefits and costs of the decision Answer has sufficient depth: <ul style="list-style-type: none"> Rigorous and detailed economic analysis of the factors affecting the decision making relevant and precise use of economic concepts relevant and clearly-labelled diagrams (i.e. cost-revenue graphs) where appropriate to support economic analysis Answer is relevant to the context of the question and applies contextual evidences to support the analysis. 	4-6	
L1	<ul style="list-style-type: none"> Answer is mostly irrelevant to question requirements. Answer is mostly relevant to question requirements but underdeveloped or lack economic analysis. Economic concepts are largely irrelevant and/or inaccurate. Unclear and/or inaccurate economic analysis. Lacking in use of diagrams or wrong diagrams are used. Attempts to address the context of the question but lacks contextual evidence. No diagrams or relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	1-3	
E	<p>Takes a clear, overall relevant stand that is comprehensively substantiated by</p> <ul style="list-style-type: none"> providing convincing evaluative comments on most of the points covered in the body paragraphs that explicitly address the evaluative requirement(s) of the question. providing convincing explanation on the relative importance of most of the points covered in the body paragraphs in forming the stand and providing insightful opinion(s). <p>Make a relevant overall stand: Which is the most important / significant factor in Microsoft's decision on whether to discontinue their Skype services.</p>	2	
(c)	Explain how the recycling of e-waste can help to address the problem of scarcity.	[2]	
	<ul style="list-style-type: none"> Recycling of e-waste can increase the quantity of limited resources (e.g. Extract 3: gold, silver, copper and platinum) [1] → more wants can be 		

		satisfied [1] alleviating scarcity.	
(d)	<p>(i) With the use of a diagram, explain how the consumption and improper disposal of electronic devices is likely to affect Singapore's social welfare.</p> <ul style="list-style-type: none"> Determine market output where $MPB=MPG$ [1] Consumption and improper disposal of electronic devices generates e-waste leading to external costs → results in environmental harm (e.g. greenhouse effects) and affects health of those living near e-waste disposal plants, causing them incur higher medical costs without being compensated [1] Determine socially optimal output where $MSB=MSC$ [1] Societal welfare not maximised due to overconsumption of electronic devices leading to deadweight loss [1] 	[4]	
	<p>(ii) Explain how the measures under the Extended Producer Responsibility (EPR) scheme mentioned in Extract 3 can be implemented to improve societal welfare in Singapore and assess how likely it is to be successful.</p> <p>Introduction</p> <ul style="list-style-type: none"> As seen in (d)(i), consumption of electronic devices will generate e-waste leading to external costs. Societal welfare can be improved by: <ul style="list-style-type: none"> addressing the problem of overconsumption of electronic devices reducing the external cost generated from e-waste <p>Body</p> <p>Measure 1: Collection points at large retail outlets</p> <ul style="list-style-type: none"> Mandating large retail outlets to collect and recycle e-waste will reduce the likelihood of environmental harm through the discharge of hazardous 	[10]	

materials into the environment (Extract 3) lowers MEC of consuming electronic devices, causing a smaller divergence between MSC and MPC, reducing the extent of market failure.

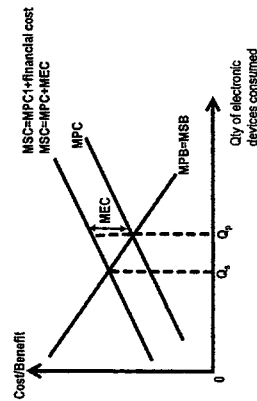
- Based on the diagram, the original market output is at Q_p where $MPB=MPC$ and the original socially optimum output is at Q_s where $MSB=MSC$. Hence, there is a deadweight loss of area ABC.
- With the reduction in MEC to MEC1, the MSC will decrease from MSC to MSC1, causing the socially optimum output levels to shift from Q_s to $Qs1$ where $MSB=MSC1$. This causes electronic devices to be overconsumed to a smaller extent, leading to a smaller deadweight loss of area CDE.



- **Evaluation:** Success of measure depends on willingness of consumers to bring their end-of-life electronic devices to the collection points. Also, even if the government is successful in implementing e-waste collection, it may "end up not being recycled and upcycled properly" (Extract 3). In addition, opportunity cost of monitoring and enforcement should be considered.

Measure 2: Manufacturers or importers of regulated products to bear financial cost of managing e-waste

- Firms bear financial cost of managing e-waste increased cost of production fall in supply shortage increase in prices of electronic devices which are passed on to consumers raises MPC of consumers to MPC1 (internalises MEC) market output (Q_p) = socially optimal output (Q_s) societal welfare maximised



- **Evaluation:** Effectiveness depends on PED of electronic devices, which determines the extent to which producers are able to pass on the financial cost of managing e-waste to consumers. Given that the use of electronic devices has been pervasive in the society that we live in, it is likely that

$PED < 1$ due to the high degree of necessity. Hence, an increase in price will lead to a less than proportionate fall in quantity demanded rendering the measure less effective.

Measure 3: Outreach programmes

- Facilitates "behavioural change" which has been identified as a critical success factor for the EPR scheme useful to promote a culture of recycling.
- **Evaluation:** Education is a long-drawn process that involves changing mindsets. Desired outcomes may not be achieved due to confirmation bias.

Overall evaluative judgement

- EPR scheme may not be successful in the short-run as the success hinges on the willingness of consumers to bring their end-of-life electronic devices to the collection points for recycling in the first place. Also, due to strong competition between retailers of electronic products, the larger retailers may be more reluctant to pass on the cost of e-waste management to consumer.
- More likelihood of success in the long-run if Singapore manages to infuse the habit of recycling into our culture like Sweden and Denmark which experienced success with their EPR scheme.

Overview, Understanding, Application and Analysis		5 - 7
L2	<ul style="list-style-type: none"> • Question requirements are interpreted accurately explaining how 2 measures under the EPR scheme work to improve societal welfare in Singapore. • Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. • Appropriate diagrams are used to support economic analysis, where relevant. 	1 - 4
L1	<ul style="list-style-type: none"> • Question requirements are interpreted inaccurately. • Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. • Inappropriate or wrong diagrams are used. 	2 - 3
Evaluation		
E	Evaluative comments are well-explained and supported by economic analysis.	1
	Unexplained evaluative comments.	

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 1 CSQ 2

Question 2: COVID-19 Pandemic and Its Impacts on Advanced Economies

Extract 4: Resilience Index 2020: Global resilience put to the pandemic test

Resilience Index takes into account fiscal space, financial market development, human capital, economic complexity, labour market efficiency, income inequality index and others. Global macroeconomic resilience was stable in 2019, but the world economy was less resilient going into the COVID-19 crisis. We forecast a drop of about 20% in global resilience in 2020 as a result of the pandemic, as stimulus packages deplete economies' fiscal budget. We expect COVID-19 to widen health and mortality protection gaps globally as households grapple with lower incomes, leading to higher healthcare costs and greater mortality. Switzerland has proven resilient to the COVID-19 crisis thanks to a diversified economy with relatively low reliance on hospitality and entertainment and with significant fiscal space to support households and firms. Finland's economy seems to stabilise despite the pandemic due to the high savings rate and consumer confidence creating conditions for rapid growth in private consumption.

Source: Swiss Re Institute, 2020

Table 2: Selected Countries Resilience Index

Country	2019 Resilience Index	2020 Resilience Index
Canada	0.81	0.70
Finland	0.80	0.67
Norway	0.76	0.65
Sweden	0.98	0.68
Switzerland	0.84	0.80
UK	0.74	0.41
US	0.80	0.58

Source: Swiss Re Institute, 2020

Extract 5: How the pandemic has changed the world economy

If the economy is growing, that generally means more wealth and more new jobs. It is measured by looking at the percentage change in gross domestic product. The IMF estimates that the global economy shrunk by 4.4% in 2020. The organisation described the decline as the worst since the Great Depression of the 1930s. The IMF is, however, predicting global growth of 5.2% in 2021. That will be driven primarily by countries such as India and China, forecast to grow by 8.8% and 8.2% respectively. Recovery in big, services-reliant, economies that have been hit hard by the outbreak, such as the UK or Italy, is expected to be slow.

The travel industry in UK has been badly damaged, with airlines cutting flights and customers cancelling business trips and holidays. New variants of the virus - discovered only in recent months - have forced many countries to introduce tighter travel restrictions. The hospitality sector has been hit hard, with millions of jobs and many companies bankrupt. Data from Transparent - an industry-leading intelligence company that covers over 35 million hotel and rental listings worldwide - has registered a fall in reservations in all the top travel destinations.

The number of people entering retail malls has seen unprecedented falls as shoppers stayed at home. New variants and surges in cases have made problems worse. Separate research

suggests that consumers are still feeling anxious about their return to stores. Accountancy giant Ernst & Young says 67% customers are now not willing to travel more than 5 kilometres for shopping.

Source: BBC, January 2021

Extract 6: Covid-19 impairs 2020 growth in Nordic economies

The Danish economy has been materially weakened by the 2020 crisis as capital spending and consumption have regressed, with investment sentiment and consumer confidence having seen significant deteriorations – before improving since May as the economy re-opened. In addition, the Danish economy has been impaired by the coronavirus shock because trade, travel and tourism (accounting for about 17% of GDP) have been restricted, with Denmark being the only Nordic country that is a net exporter in this sector. However, several core Danish industries, such as pharmaceuticals, agriculture and wind turbine manufacturing, are not strongly cyclical, so exports will decline less in these industries in 2020. Denmark has, in addition, benefited this year from lesser dependence on global value chains compared with its Nordic peers. Unemployment rose but the government is proactively supporting the private sector by temporarily paying up to 90% of employee salaries.

Danmarks Nationalbank has taken action to defend the fixed exchange rate against the euro. Even before the coronavirus crisis, the Danish krone underwent pressure driven by capital outflows as domestic savers sought investments abroad, incentivised by negative domestic deposit rates. Whereas the majority of central banks around the world have cut interest rates during this crisis to provide significant liquidity assistance, the Danish central bank instead increased its key interest rate in March to safeguard the krone.

In March, the central bank bought Danish krone to defend the currency. Although these actions have been effective in protecting the peg to the euro the lack of an independent monetary policy has restricted the government response to this crisis.

Due to Denmark's strong fiscal fundamentals entering this crisis, the government is able to run a wide 2020 public deficit without endangering debt sustainability. Additionally, the government has detailed 12.8% of GDP in loans and guarantees. We expect the government debt-to-GDP ratio to increase from 33.2% in 2019 to a still moderate 42.5% in 2020.

Rising debt in Finland during the 2020 crisis requires consolidation steps post-crisis to stabilise and reverse debt trajectory. Economic contraction, government stimulus and economic weaknesses that predate the pandemic are elevating government debt in Finland and could present risks to long-run creditworthiness if a swift response to stabilise the debt trajectory is not acted upon. In the two years before 2020's crisis, real growth in Finland was slowing and output shrank in the last quarter of 2019. This year's unprecedented shock to domestic and foreign demand is exacerbating the structural challenges that Finland faces. The pandemic will impact exports as well as private consumption, with the latter having been a key driver of economic growth in recent years. Finland exports predominantly investment products, demand for which has been severely impaired.

Source: Scope Ratings, June 2020

Extract 7: Britain is suffering her worst peacetime downturn ever

Britain is in the midst of its deepest downturn in peacetime as the coronavirus pandemic wreaks havoc on the economy, while an expected recovery in the second half is already in jeopardy. "The coronavirus crisis is delivering an unprecedented hit to GDP that the economy will take many years to recover from," said Paul Dales at Capital Economics.

"The pace of the recovery will be muted by demand constraints as consumers and firms will not come unscathed out of these lockdowns," said Stefan Koopman at Rabobank. Prime Minister Boris Johnson promised to shake Britain's economy out of its coronavirus-induced crisis by fast-tracking plans to speed up government infrastructure spending. "We will build the hospitals, build the schools, the colleges," he said. The centrepiece of the British government's plans to protect the economy is its pledge to pay 80% of wages if staff are put on leave rather than let go. For its part, the Bank of England slashed Bank Rate to a record low of 0.10%, restarted its quantitative-easing programme and agreed to temporarily lend the government money if needed to help finance its massive COVID-19 spending plans.

"The Bank of England (BOE) has made the government's transaction account limitless until (so far) the end of the year, which means that the UK government can – literally – print its own money without first issuing debt and then wait for the central bank to buy it in the secondary market," said Erik Nielsen at UniCredit. But despite the huge amounts of fiscal and monetary stimulus, the Bank's chief economist, Andy Haldane, warned on Tuesday the economy was not certain to recover rapidly once coronavirus restrictions were lifted, because people may be reluctant to spend or socialise as they did before. However as inflation rates are forecasted to rise, BOE may start to raise interest rates which was at an all-time low during the pandemic.

Source: Reuters, April 2020

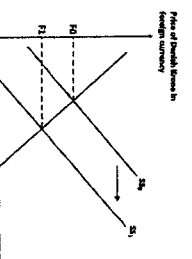
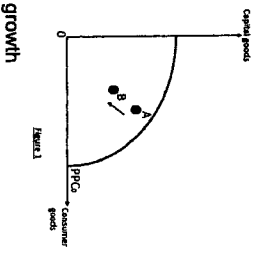
Questions:

- (a) With reference to Extract 4 and Table 2:
- (i) Identify one country that is the most resilient in 2020 despite being hit by the coronavirus pandemic and give a possible reason why. [2]
- (ii) Explain the effect of a change in Resilience Index on material living standards from 2019 to 2020. [3]
- (b) Using a production possibility curve diagram, explain the impact of the pandemic on UK's economic growth. [3]
- (c) With reference to Extract 6, explain how the "Danish krone underwent pressure" before the coronavirus crisis. [4]
- (d) Discuss whether Finland or Denmark will be harder hit by the pandemic. [8]
- (e) Discuss whether UK should adopt fiscal or monetary measures to respond to the economic downturn caused by the COVID-19 pandemic. [10]

[Total: 30]

Suggested Answers

(a)	<p>(i) With reference to Extract 4 and Table 2: Identify one country that is the most resilient in 2020 despite being hit by the coronavirus pandemic and give a possible reason why. Switzerland [1]</p> <p>Any one [1]:</p> <ul style="list-style-type: none"> Switzerland has a 'diversified economy' and 'relatively low reliance on hospitality and entertainment' which are most affected due to the pandemic. Switzerland has 'significant fiscal space to support households and firms'. 	[2]
(ii)	<p>(ii) Explain the effect of a change in Resilience Index on material living standards from 2019 to 2020.</p> <p>From Table 2, Resilience Index falls for all countries. This means that "households grapple with lower incomes" (Extract 4) due to Covid-19 and thus have lower purchasing power and fall in material SOL.</p> <p>[1] Change in resilience index [1] Evidence [1] Fall in material SOL</p>	[3]
(b)	<p>Using a production possibility curve diagram, explain the impact of the pandemic on UK's economic growth.</p> <p>Impact on UK's economic growth [2]</p> <ul style="list-style-type: none"> Fall in export revenue due to travel restrictions and thus fall in flights and holiday reservations (Extract 5) fall in production of goods fall in actual growth Fall in consumption expenditure due to lockdown thus consumers stay at home more and shop less (Extract 5) fall in production of goods fall in actual growth 	[3]
(c)	<p>PPC diagram [1]</p> <ul style="list-style-type: none"> Movement of point A to B within PPC as shown in Figure 1 <p>With reference to Extract 6, explain how the "Danish krone underwent pressure" before the coronavirus crisis.</p> <ul style="list-style-type: none"> Higher interest rate overseas greater rate of returns [1] Speculators seek short term capital abroad hot money outflow from Denmark [1] 	[4]



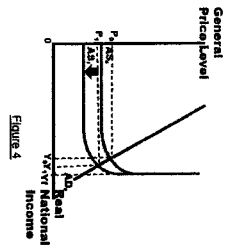
	<p>global value chains (Extract 6) than Finland, impacting less from the pandemic.</p> <p>or</p> <p>[Others: Feasibility] Finland was already facing debt issues before the pandemic and after the government stimulus, budget deficit worsened and could potentially mean that there is a greater government debt. With a risky creditworthiness, Finland risks losing investors post pandemic. On the other hand, Denmark has stronger fiscal background before the pandemic and even with its stimulus spending, it does not endanger their debt situation (Extract 6).</p> <p>OR</p> <p>[Possible Stand 2*] Denmark was hit harder by the pandemic than Finland due to the measures in place to mitigate the impacts.</p> <p>[Assumptions] Danish central bank increasing interest rates (Extract 6) could deter investment and consumption due to the higher cost of borrowing since other central banks including Finland would likely have lowered interest rate to encourage consumption and investment. While Finland's measure would spur growth since the pandemic resulted in a fall in RNY, Denmark's measure will reduce its already falling growth rate even more.</p> <p><i>*Either Finland or Denmark was harder hit is acceptable as a stand.</i></p> <table border="1" data-bbox="730 219 1241 869"> <tr> <td colspan="2" data-bbox="730 219 1241 235">Knowledge, Understanding, Application and Analysis</td> </tr> <tr> <td data-bbox="730 235 762 869">L2</td> <td data-bbox="762 235 1241 869"> <ul style="list-style-type: none"> Question requirements are interpreted accurately explaining the impact of pandemic on both Finland and Denmark's internal and external economy. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. AD/AS diagram(s) are used to support economic analysis, where relevant. </td> </tr> <tr> <td data-bbox="730 869 762 967">L1</td> <td data-bbox="762 869 1241 967"> <ul style="list-style-type: none"> Explained impact on either Finland/Denmark's internal and external economy (max 4m). Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. </td> </tr> <tr> <td colspan="2" data-bbox="730 967 1241 983">Evaluation</td> </tr> <tr> <td data-bbox="730 983 762 1081">E</td> <td data-bbox="762 983 1241 1081"> <ul style="list-style-type: none"> Evaluative comments are well-explained and supported by economic analysis. Unexplained evaluative comments. </td> </tr> </table>	Knowledge, Understanding, Application and Analysis		L2	<ul style="list-style-type: none"> Question requirements are interpreted accurately explaining the impact of pandemic on both Finland and Denmark's internal and external economy. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. AD/AS diagram(s) are used to support economic analysis, where relevant. 	L1	<ul style="list-style-type: none"> Explained impact on either Finland/Denmark's internal and external economy (max 4m). Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	Evaluation		E	<ul style="list-style-type: none"> Evaluative comments are well-explained and supported by economic analysis. Unexplained evaluative comments.
Knowledge, Understanding, Application and Analysis											
L2	<ul style="list-style-type: none"> Question requirements are interpreted accurately explaining the impact of pandemic on both Finland and Denmark's internal and external economy. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. AD/AS diagram(s) are used to support economic analysis, where relevant. 										
L1	<ul style="list-style-type: none"> Explained impact on either Finland/Denmark's internal and external economy (max 4m). Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 										
Evaluation											
E	<ul style="list-style-type: none"> Evaluative comments are well-explained and supported by economic analysis. Unexplained evaluative comments. 										
(e)	<p>Discuss whether UK should adopt fiscal or monetary measures to respond to the economic downturn caused by the COVID-19 pandemic.</p> <p>Intro: The economic downturn caused by COVID-19 pandemic resulted in a recession. Fiscal and monetary measures are intended for RNY to</p>										

<ul style="list-style-type: none"> Speculators sell Danish krone rise in supply of Danish krone from S_0 to S_1 as shown in Figure 2 [1] Downward pressure on Danish krone from F_0 to F_1 depreciation [1] 	<p>[8]</p> <p>Discuss whether Finland or Denmark will be harder hit by the pandemic.</p> <p>Intro: Whether or not Finland or Denmark will be harder hit by the pandemic depends on the impacts on their respective macro goals.</p> <p>Explain how Finland was hit by the pandemic</p> <p>Extract 6: "The pandemic will impact exports as well as private consumption, with the latter having been a key driver of economic growth in recent years. Finland exports predominantly investment products, demand for which has been severely impaired."</p> <ul style="list-style-type: none"> Fall in C fall in AD from AD_0 to AD_1 as shown in Figure 3 <ul style="list-style-type: none"> fall in RNY from Y_0 to Y_1 fall in actual growth fall in final output of goods and services produced, resulting in a fall in demand for labour since labour is a derived demand. This then increases unemployment Fall in export revenue worsen trade balance <p>Explain how Denmark was hit by the pandemic</p> <p>Extract 6: "materially weakened by the 2020 crisis as capital spending and consumption have regressed, with investment sentiment and consumer confidence having seen significant deteriorations"</p> <ul style="list-style-type: none"> Fall in C & I fall in AD from AD_0 to AD_1 as shown in Figure 3 <ul style="list-style-type: none"> fall in RNY from Y_0 to Y_1 fall in actual growth fall in final output of goods and services produced, resulting in a fall in demand for labour since labour is a derived demand. This then increases unemployment in the long run, the falling investment could hinder the rise in LRAS thus hampering potential growth <p>Conclusion</p> <p>[Possible Stand 1*] Finland was hit harder by the pandemic than Denmark due to their state of economy prior to the pandemic.</p> <p>[State of Economy] Finland's growth was already slowing prior to the pandemic and the pandemic worsened it while for Denmark, its core industries such as pharmaceuticals, agriculture and wind turbine manufacturing were not cyclical (Extract 6), so export revenue and trade balance is less affected in these industries. Also, it is less dependent on</p>
---	---

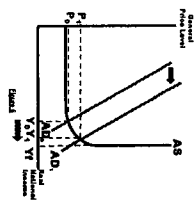
rise. Whether or not UK should adopt fiscal or monetary measures depends on the limitations each measure brings.

Explain how fiscal measures can address economic downturn

- Supply-side measures Extract 7: "...British government's plans to protect the economy is its pledge to pay 80% of wages if staff are put on leave rather than let go." reduce COP SRAS rise from AS₀ to AS₁ in Figure 4 RNY rise from Y₀ to Y₁, actual growth



- Extract 7: "We will build the hospitals, build the schools, the colleges," rise in G on infrastructure rise in AD from AD₀ to AD₁ in Figure 5 RNY rise from Y₀ to Y₁, actual growth

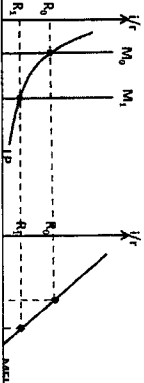


Limitations of fiscal measures

- Strain on government budget (Extract 7: "huge amounts of fiscal stimulus") crowding out effect and opportunity cost of government spending on other areas such as healthcare and education.
- As the building of infrastructure takes time, there is a time lag as to how fast growth can be observed. With a recession, this may not be ideal.

Explain how monetary measures can address economic downturn

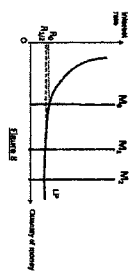
- Extract 7: "Bank of England slashed Bank Rate to a record low of 0.10%, restarted its quantitative-easing programme...made the government's transaction account limitless until (so far) the end of the year, ... UK government can - literally - print its own money" expansionary monetary policy increase money supply from M₀ to M₁ in Figure 6 lower i/r from R₀ to R₁
 - lower cost of borrowing increases expected profitability resulting in an increase in investments from I₀ to I₁ in Figure 7
 - encourages consumption as consumers may now choose to save less instead due to the lower returns on savings



The rise in investment and consumption expenditure rise in AD from AD₀ to AD₁ in Figure 5 RNY rise from Y₀ to Y₁, actual growth

Limitations of monetary measures

- Consumers may not spend despite lower cost of borrowing (Extract 5) since new variants and surges in cases made more to rather stay at home (Extract 5) so this will not substantially boost C to boost growth.
- Liquidity trap since BOE slashed Bank Rate to a record low of 0.10% (Extract 7) where with further increasing money supply from M₁ to M₂ in Figure 8, there will be no change in i/r resulting in no change in C & I resulting in no change to AD and growth.



Conclusion

[Stand] UK should adopt fiscal measures to address economic downturn arising from the COVID-19 pandemic. [State of economy] Inflation rates are forecasted to rise limits the extent to which Bank of England can reduce interest rates without worsening inflationary pressures. Fiscal measures, on the other hand, can increase SRAS thereby having the added benefit of addressing the rising prices.

L2	<ul style="list-style-type: none"> Question requirements are interpreted accurately explaining how both fiscal and monetary measures work to address economic downturn and its limitations. Appropriate economic concepts, theories and principles are used. Economic analysis is accurate, complete and well supported by contextual evidence. Appropriate diagrams are used to support economic analysis, where relevant. 	5 - 7
L1	<ul style="list-style-type: none"> Question requirements are interpreted inaccurately. Inappropriate economic concepts, theories and principles are used. Inaccurate economic analysis. Inappropriate or wrong diagrams are used. 	1 - 4
E	Evaluative comments are well-explained and supported by economic analysis.	2 - 3
	Unexplained evaluative comments.	1

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 2_Section A_Q1

Rising unemployment rates and job uncertainty have influenced consumers' buying patterns towards economic and affordable products. Subsequently, the overall portfolio in smartphones is moving toward low-to-mid end devices. Be prepared to pay higher prices for smartphones, tablets, or PCs. A report by Nikkei Asia claims that chipmakers are marking up their production costs due to the ongoing global component shortage.

Source: telecoms.com: 28th September 2020

- (a) Using income elasticity of demand, explain how a recession might affect the revenue earned by sellers of different types of smartphones in [10] Singapore.
- (b) Discuss the likely combined impact of both these changes on the price and quantity of different types of smartphones in Singapore. [15]

Suggested answer for Part (a):

Question Analysis	
Command	Explain how
Content	Demand and Supply, income elasticity of demand
Context	Smartphone market in Singapore
Synopsis: Students are to explain how the demand for normal goods and inferior goods react differently to a fall in income due to recession using the economic concept of income elasticity of demand.	

Introduction

- Total revenue earned by supermarket = price X quantity sold
- Recession means that there is a *fall in income* which affect revenue earned by smartphone sellers in Singapore on different types of smartphones, according to differences in income elasticity of demand (YED)
- YED is a measure of the degree of responsiveness of demand to a change in income of a good, *ceteris paribus*.

Body

Consider the impact on revenue when mid-end smartphones are normal necessities goods

- Revenue will decrease slightly for mid-end smartphones with income inelastic demand i.e. $0 < YED < 1$.
- When incomes fall during recession, demand for normal goods will fall. A fall in income will lead to fall in purchasing power and this means that there is decrease in willingness and ability to purchase goods and services. However, the magnitude of the fall in demand for normal goods depends on YED. For mid-end smartphones that are normal necessities, demand for these goods will decrease less than proportionately when there is fall in incomes in Singapore.

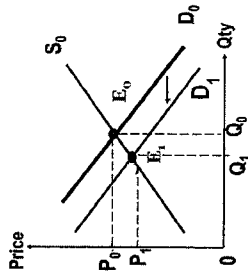
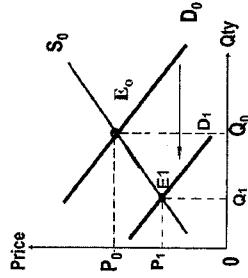


Figure 1: Market for mid-end smartphones

- As shown in figure 1, demand for normal necessities will decrease and demand curves shifts less to the left from D_0 to D_1 to a small extent. Thus, price will decrease from P_0 to P_1 and quantity will decrease from Q_0 to Q_1 . This leads to a small decrease in total revenue from $0P_0E_0Q_0$ to $0P_1E_1Q_1$.
- As demand is income inelastic for mid-end smartphones which are necessities, revenue for sellers in Singapore will decrease slightly with the decrease in incomes.

Consider the impact on revenue when high-end smart phones are normal luxury goods

- Revenue will decrease significantly for high-end smart phones with income elastic demand i.e. $YED > 1$.
- When incomes fall during recession, demand for high-end smart phones that are normal luxury goods will also fall. However, the magnitude of the fall in demand for luxury goods will differ from necessities. Instead, demand for these high-end smartphones will decrease more than proportionately when there is fall in incomes in Singapore. This leads to a huge decrease in total revenue, as seen in Figure 2 below:



- As shown in Figure 2, demand for normal necessities will decrease more than proportionately and demand curves shifts less to the left from D_0 to D_1 to a large extent. Thus, price will decrease from P_0 to P_1 , and quantity will decrease from Q_0 to Q_1 . This leads to a large decrease in total revenue from $OP_0E_0Q_0$ to $OP_1E_1Q_1$.
- As demand is income elastic for high-end smartphones, the revenue for sellers in Singapore will decrease significantly with the decrease in incomes.

Figure 2: Market for high-end smart phones

Consider the impact on revenue when low-end smart phones are inferior goods

- Revenue will increase for smart phones with negative income elasticity demand values i.e. $YED < 0$.
- For low-end smartphones that are considered to be inferior goods, demand for these goods will increase when there is fall in income in Singapore. As shown in Figure 3, demand for inferior goods will increase and there is a rightward shift in the demand curve to the right from D_0 to D_1 . Thus, price will increase from P_0 to P_1 and quantity will increase from Q_0 to Q_1 . This leads to an increase in total revenue from $OP_0E_0Q_0$ to $OP_1E_1Q_1$.

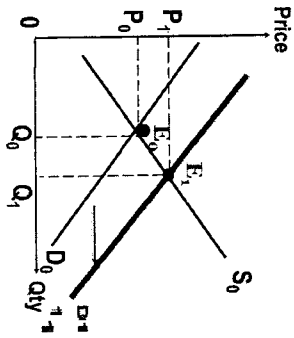


Fig 3: Market for low-end smartphones

- Thus, for low-end smartphones which are inferior goods, revenue will rise with the decrease in income.

Conclusion

In summary, revenue earned by sellers in Singapore of smartphones with $YED > 0$ will likely to fall while the revenue on goods with $YED < 0$ will likely to increase following the fall in the incomes.

Mark Scheme:

Knowledge Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> Answer is relevant to question requirements and covers sufficient breadth: Explain how YED makes a difference to direction and extent of change in demand and change in TR for different type of goods. Answer has sufficient depth: <ul style="list-style-type: none"> rigorous and detailed economic analysis that demonstrate strong understanding of how different YED values affects total revenue relevant and precise use of economic concepts (TR) relevant and clearly-labelled diagrams to support economic analysis Answer is relevant to the context of the question and applies real-world examples to support the analysis. 	8 – 10
L2	<ul style="list-style-type: none"> Answer is mostly relevant to question requirements <ul style="list-style-type: none"> e.g. incomplete explanation of 2 possible types of goods (max 7m) e.g. one good explanation of 1 type of good (max 5m) Economic concepts are relevant but may contain minor inaccuracies. Economic analysis is accurate but incomplete or lacks precision. Attempts to address the context of the question but is incomplete. Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	5 – 7
L1	<ul style="list-style-type: none"> Answer is mostly irrelevant to question requirements. Economic concepts are largely irrelevant and/or inaccurate. Unclear and/or inaccurate economic analysis. Lacking in use of diagrams or wrong diagrams are used. 	1 – 4

- 1 (b) Discuss the likely combined impact of both these changes on the price and quantity of different types of smartphones in Singapore. [15]

Suggested answer for Part (b):

Question Analysis	
Command Content	Discuss (2-sided answer) Impacts of combined shifts on price and quantity
Context	Markets for different types of smartphones in Singapore
Synopsis	
Students are expected to explain how an increase in the cost of production and a fall in income affects the price and quantity of low-end, mid-end and high-end smartphones.	

Body

Impact of increase in cost of production on supply of smart phones

- A rise in cost of production will result in a decrease in supply of smartphones in Singapore.
- A rise in cost of production is illustrated by a leftward shift of the supply curve from S_0 to S_1 , in Figure 4.

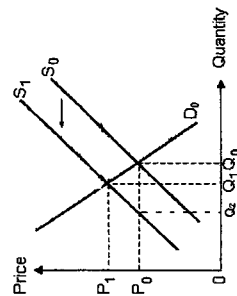


Figure 4: Fall in Supply of smartphones due to a rise in cost of production

- At the initial, equilibrium price, P_0 , quantity demanded exceeds quantity supplied creating a shortage of $Q_0 - Q_1$. To get rid of the excess demand, consumers will be willing to offer higher prices. At the same time, producers are asking for higher prices. This will lead to

upward pressure on prices and quantity demanded falls while quantity supplied rises. This process will continue and stop when the demand and new supply of intersects at the higher equilibrium price (P_1) and lower equilibrium quantity transacted (Q_1).
 • Ceteris paribus, the impact of a rise in cost of production will lead to an increase in equilibrium price (from P_0 to P_1) and fall in equilibrium quantity from (Q_0 to Q_1) of smartphones in Singapore.

Combined impact of both recession and higher cost of production for normal goods

- Given that a rise in cost of production will lead to a fall in supply and a fall in incomes can lead to either an increase or decrease in demand, the following cases will be considered to show the possible impacts of these 2 changes on the price and quantity of different types of groceries products in Singapore.

Market for luxury high-end smartphones

- The combined effect of a rise in cost of production and fall in incomes will result in a definite fall in equilibrium price and quantity for high-end smartphones where their demand is income elastic in Singapore.
- From Figure 5 below, a rise in cost of production due to rising costs of chips is illustrated by a leftward shift of the supply curve from S_0 to S_1 . At the same time, fall in incomes will lead to a more than proportionate fall in the demand curve to the left from D_0 to D_1 , for luxurious high-end smartphones.

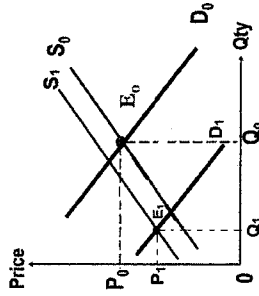


Figure 5: Combined effect for market for high-end smartphones

- In this case, the demand will fall more than the fall in supply and the overall effect would be a fall in equilibrium price from P_0 to P_1 , and a definitely fall in equilibrium quantity from Q_0 to Q_1 .

Market for necessity mid-end smartphones

- The combined effect of a rise in cost of production and fall in incomes will result in an increase in equilibrium price and a fall in equilibrium quantity for mid-end smartphones where their demand is income inelastic in Singapore.

- From Figure 6 below, a rise in cost of production due to rising chip prices is illustrated by a leftward shift of the supply curve from S_0 to S_1 . At the same time, fall in incomes will lead to a less than proportionate fall in the demand curve to the left from D_0 to D_1 for necessity mid-end smartphones.

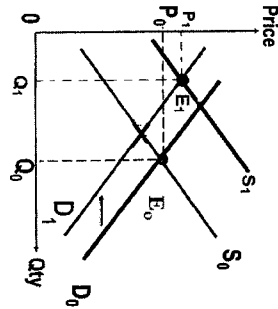


Figure 6: Combined effect for market for necessity mid-end smartphones

- In this case, demand will fall less than the fall in supply and the overall effect would be an increase in the equilibrium price from P_0 to P_1 and a fall in equilibrium quantity from Q_0 to Q_1 .

For inferior low-end smartphones, the combined effect of a rise in cost of production and a fall in incomes will cause a rise in equilibrium price of the goods. However, the combined effect on overall quantity of low-end smartphones which have negative income elasticity of demand is indeterminate. It depends on the magnitude of the shift in demand and supply curves.

Combined impact of both recession and higher cost of production for inferior good (can choose 1)

Case 1: Increase in demand more than the fall in supply

- The combined impact will result in an increase in equilibrium price and quantity for inferior goods when the effect of recession is greater than the increase in cost of production.
- As shown in Figure 7 below, a rise in cost of production is illustrated by a leftward shift of the supply curve from S_0 to S_1 . At the same time, fall in incomes will lead to a shift in demand curve to the right from D_0 to D_1 by a larger extent. The overall effect on quantity would be a definite rise in equilibrium price from P_0 to P_1 and a rise in equilibrium quantity from Q_0 to Q_1 . (Draw the diagram)

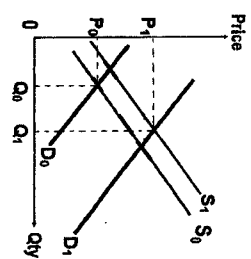


Figure 7: Combined effect for market for inferior low-end smartphones where effect of recession outweighs rising costs

- Justify why such a situation could happen (e.g. the effect of a global recession could outweigh the rise in cost of production as the recession affects many sectors whereas if the rise in cost of production came from the rise in cost of procuring smartphones chips – it would only affect costs in the smartphones industry)
- Thus, the overall impact of both changes will lead to a rise in overall quantity of low-end smartphones when the rise in demand is greater than the fall in supply.

Case 2: Increase in demand less than the fall in supply

- The combined impact will result in a rise in equilibrium price but a fall in overall quantity for inferior goods when the effect of recession is smaller than the increase in cost of production.
- As shown in Figure 8 below, a rise in cost of production is illustrated by a leftward shift of the supply curve from S_0 to S_1 . At the same time, fall in incomes will lead to a shift in demand curve to the right from D_0 to D_1 by a smaller extent. The overall effect on quantity would be a definite rise in equilibrium price from P_0 to P_1 but a fall in equilibrium quantity from Q_0 to Q_1 .

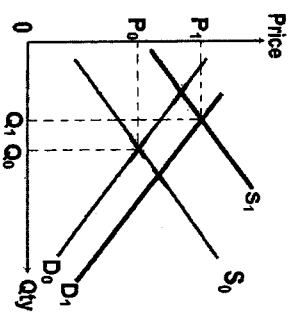


Figure 8: Combined effect for market for inferior low-end smartphones effect of rising cost outweigh the effect of recession

	<ul style="list-style-type: none"> • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. 	
Evaluation		
E3	Evaluative assessment based on economic analysis.	4 - 5
E2	Largely unexplained assessments.	2 - 3
E1	Unexplained assessment or one that is not supported by analysis.	1

- Justify why such a situation could happen (e.g. the rise in cost of production could outweigh the effect of a global recession as the price of a chip is a large proportion of the cost of smartphone production, thus a very important factor input)
- The overall impact of both changes will lead to a rise in equilibrium price but a fall in overall quantity of low-end smartphones when the rise in demand is less than the fall in supply.

Conclusion

Equilibrium price and quantity are likely to fall for the market for luxury high-end smartphones. For necessity mid-end smartphones, price is likely to rise while quantity falls. And for inferior low-end smartphones, price is likely to rise while the impact on equilibrium quantity depends on whether demand or supply changes more.

However, the above analysis is done with many assumptions. In reality, the *ceteris paribus* assumption does not hold and there can be other factors influencing the impact on equilibrium price and quantity, such as tastes and preferences, which are heavily influenced by marketing efforts in the smartphone market. Furthermore, the smartphone market is also dominated by a few large firms, and can easily introduce a slightly "lower-tier" versions of the luxury smartphone even in times of recession to win consumers over and prop up demand to prevent a large fall in price and quantity of high-end luxury phones.

Mark Scheme:

Knowledge/Application/Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: • complete explanation of the combined impact on price and quantities of different types of smartphones and comment on the magnitude of the shift in demand and supply curves • Answer has sufficient depth: <ul style="list-style-type: none"> o rigorous and detailed economic analysis that demonstrate strong understanding of the how the combined factors affect price and quantity; o relevant and precise use of economic concepts (DD/SS analysis); o accurate and clearly-labelled diagrams to support economic analysis • Answer is relevant to the context of the question and applies real-world examples to support the analysis. 	8 - 10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to question requirements. • Economic concepts are relevant but may contain minor inaccuracies. • Economic analysis is accurate but incomplete or lacks precision. • An answer that shows the combined impact of both changes on the price and quantities of different types of smartphones. Does not take into account of the magnitude of the shift in demand and supply curves for low-end smartphones which are inferior goods • Attempts to address the context of the question but is incomplete. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	5 - 7
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. 	1 - 4

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 2, Section A_Q2

- 2 Established carmakers around the world are ripping up their business models in the hope of adapting to a new world in which electricity replaces gasoline and diesel. Factories are being overhauled to produce electric cars, and automakers are snapping up every battery they can find. The high cost of developing electric cars is forcing some companies to find partners and turning others into acquisition targets.

Source : CNN; August 2019

- (a) Explain how the market structure in which established car makers operate is likely to influence how prices are determined. [10]
- (b) With the increasing competition from the established car makers, discuss the strategies that the electric car makers can adopt to increase their profitability. [15]

Suggested answer for Part (a):

Question Analysis	
Command	Explain how
Content	Market structure, oligopoly, price determination
Context	Established car makers
Synopsis:	Students are to explain how established car makers which are oligopolistic in nature seek to maximize profits, their high interdependence resulted in rigid prices and may formally or tacitly (by an unspoken agreement) collude by watching each others' prices to avoid price wars or competitive advertising.

Introduction

- Established car makers are oligopolistic in nature.
- Oligopolistic firms seek to maximize profits, do not engage in price competition and may collude to increase market power.

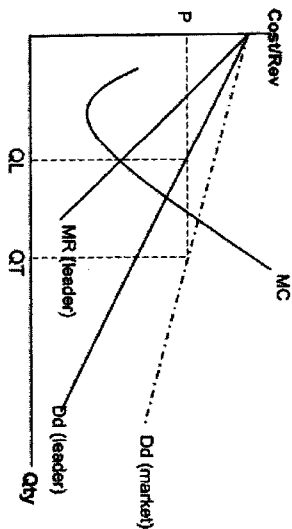
Established car makers are oligopolistic

- Few large firms measured by concentration ratio
- High barriers of entry, high cost of R&D and manufacturing, large land/factory space required.

- Interdependence between firms. When a firm wants to change its price or output, it will consider the other firms' possible reactions before actually proceeding with the change; different car brands charge similar prices for cars in the same range.

Tacit collusion of oligopolistic firms

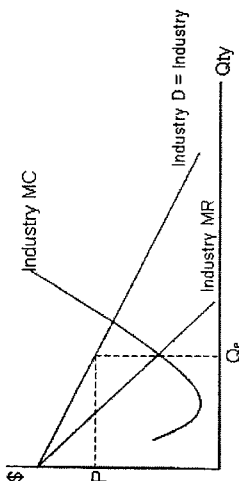
- Established car makers can also tacitly (by an unspoken agreement) collude by watching each others' prices to avoid price wars or competitive advertising. This leads to various types of price leadership behaviours:
- **Dominant price leadership** - this is where firms choose the same price as that set by a dominant firm (leader) which is usually the largest in the industry.



- In the figure above, the price leader will estimate the market share it owns and derives its demand curve and MR curve. To maximise profits, the leader will produce where marginal revenue is equal to its marginal cost (QL) and charge a price (P).
- At this price the market demand would be at QT. The followers would therefore supply the portion not supplied by the leader i.e. QL - QT at the same price (P). This theory assumes that all firms want to maintain a constant market share and therefore, follow all price changes.
- **Barometric price leadership** - this is where the price leader is one whose prices reflect market conditions in the most satisfactory way. This may be a smaller firm.

Prices are rigid in a non-collusive oligopolistic market

- Price rigidity in an oligopoly market structure can be supported by the interdependence between firms. Since rival firms only match price decreases and not price increases, firms initiating a price cut or raising prices will experience falling total revenue. Thus firms will be reluctant to change current prices, leading to price rigidity.



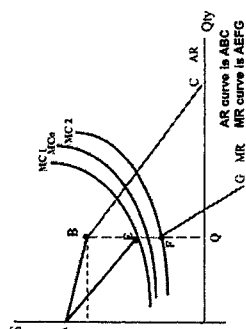
- For example, the established car makers cartel seeks to maximise profits by producing where the industry's MC and MR meet at quantity Q as seen in Figure 1. The cartel's MC curve is the horizontal summation of all the MC curves of its members. Having thus agreed on an output of Q_c, this quantity will be divided between the different firms in the industry. Each firm would be given a quota and the sum of all quotas must add up to Q_c.

Conclusion

- Established car makers who profit-maximise will set a high price where MC = MR. They may formally collude to decide on a price or tacitly collude by following a price leader. They may also compete against one another resulting in price rigidity

Mark Scheme:

Knowledge Application, Understanding and Analysis	
L3	<ul style="list-style-type: none"> Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> Explain how collusive and non-collusive oligopolistic firms set price Answer has sufficient depth: <ul style="list-style-type: none"> rigorous and detailed economic analysis that demonstrate strong understanding of how oligopolistic firms set price. relevant and precise use of economic concepts (cost/revenue analysis) relevant and clearly-labelled diagrams to support economic analysis Answer is relevant to the context of the question and applies real-world examples to support the analysis. For L3-10: Non-collusive + cartel + price-leadership
L2	<ul style="list-style-type: none"> Answer is mostly relevant to question requirements <ul style="list-style-type: none"> two incomplete explanation of either non-collusive and collusive model only (max 7m) one good explanation of either non-collusive oligopolistic firm set price (max 5m) Economic concepts are relevant but may contain minor inaccuracies. Economic analysis is accurate but incomplete or lacks precision. Attempts to address the context of the question but is incomplete.



- Profits are maximised at output Q, where MC=MR. If the firm experience cost savings and its MC falls from MC0 to MC2, it will not lower its prices. Its output and price will remain unchanged since it is still profit maximising at the output Q, where MC2=MR.
- Similarly if the firm experiences rising cost that leads to a rise in MC from MC0 to MC1, it will not raise prices. Its output and price will remain unchanged since it is still profit maximising at the output Q, where MC1=MR.
- In summary, any cost changes within the range EF will have no effect on the price or output. So long as there are changes in MC and the MC lies anywhere between MC1 and MC2 in Figure 4, the profit maximising price and output will remain at P and Q respectively.
- Since prices are not adjusted, firms engage in non-price competition in the non-collusive Oligopoly model.
- Only substantial cost changes shifting the marginal cost above MC1 or below MC2 will cause price and output to change. In this case firms may opt for price competition especially when there is a substantial fall in the marginal cost.

Oligopolistic firms formally collude to maximize profits

- Established car makers may collude by agreeing (formally or informally) to limit competition among them. They may fix prices, set output quotas, or agree on market share and advertising expenditure.
- A formal collusive agreement among the established car makers is called a cartel. It refers to a group of firms that agree to coordinate their production and pricing decisions so that they act as a single firm to earn monopoly profits. For established car makers to collude, all of the firms in the industry must be able to agree on a price and quantity for the whole industry. Once the price and quantity are agreed upon for the whole industry, the cartel must decide on the allocation for each firm. To be successful, each firm should adhere to the allocated quantity. Monitoring must occur to ensure that firms stick to the agreement.

	<ul style="list-style-type: none"> Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	
L1	<ul style="list-style-type: none"> Answer does not include how a non-collusive oligopolistic firm set price. Answer is mostly irrelevant to question requirements. Economic concepts are largely irrelevant and/or inaccurate. Unclear and/or inaccurate economic analysis. Lacking in use of diagrams or wrong diagrams are used. 	1 - 4

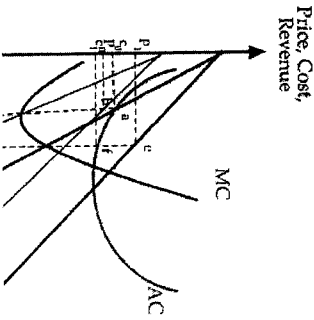
- 2 (b) With the increasing competition from the established car makers, discuss the strategies that the electric car makers can adopt to increase their profitability. [15]

Suggested answer for Part (b):

Question Analysis	
Command	Discuss (2-sided answer)
Content	Strategies to increase AR/MR or decrease AC/MC
Context	Electric car makers
Synopsis	
Students are expected to provide an analysis of one strategy each to increase AR/MR and decrease AC/MC for the electric car makers.	

Mergers of electric car makers

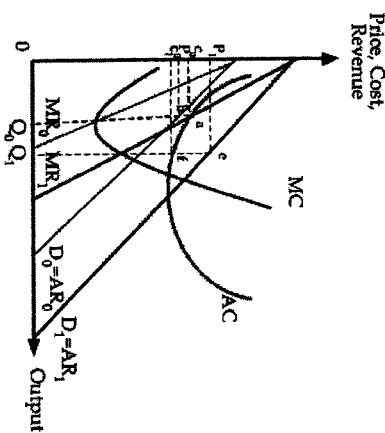
- Mergers, especially horizontal mergers, are a characteristic trait of oligopolistic industries. Intense competition and interdependent decision-making encourage oligopolistic firms to cooperate. One way to lessen the competition among an oligopolistic rival is to join forces through a merger. The merger also reduces costs as the firm experience greater internal economies of scale.
- Although mergers may lead to lower prices due to lower cost, consumers may lose out in terms of less variety of goods. In addition, the merged firm may grant the firm larger monopoly power and result in the firm exploiting the consumer in the long run in terms of higher prices.
- Diagrammatically, this is represented by an outward shift of the demand curve from D_0 to D_1 , as seen in the figure below. Assuming cost remain constant (this simplifies the analysis significantly), the profit maximising level of output where $MC = MR$ will increase



from Q_0 to Q_1 , and the profit maximising price will increase from P_0 to P_1 . This results in a change in profits level from a subnormal profits of $C_{0ab}P_0$ to supernormal profits of $P_1e'fC_1$.

Electric car makers can engage in product differentiation in order to increase revenue.

- Product differentiation is a non-price strategy where an electric car maker seeks to differentiate its product from its rivals'. By differentiating its product, the firm can potentially enjoy greater market share and market power by catering more to the needs of consumers. The aim of product differentiation is to further develop or highlight the differences between the products of a firm and its rivals.
 - For example, electric car makers can carry out advertisements by engaging social media influencers on Instagram to conduct promotional campaigns. This will help to create brand loyalty and to appeal to consumers when they see their favourite celebrities endorsing a certain product.
 - Additionally, firms can also conduct research and development to enhance the car features.
- Diagrammatically, this is represented by an outward shift of the demand curve from D_0 to D_1 , as seen in the figure below. Assuming cost remain constant (this simplifies the analysis significantly), the profit maximising level of output where $MC = MR$ will increase from Q_0 to Q_1 , and the profit maximising price will increase from P_0 to P_1 . This results in a change in profits level from a subnormal profits of $C_{0ab}P_0$ to supernormal profits of $P_1e'fC_1$.



- **Limitations:** As with any research and development programme, there are extremely high cost and a low certainty of outcome.
- **Note:** any other non-pricing strategy that helps to reduce costs or increase revenue will be accepted if explained thoroughly with rigour and balance. Pricing strategies such as price discrimination will be accepted as well with sufficient rigour and balance.

Evaluative Conclusion:

- **[Stand]** Electric car makers should engage in a collaborative R&D that allow for firms to cut costs as well as increase revenue.
- **[Context]** Due to the entrance of established car makers to the electric car market. Electric car makers should focus on collaborative R&D to reduce costs and horizontal and/or vertical mergers between firms would be good options to fend off the competition from established car makers entering the electric car market. Product and process innovation in the electric car manufacturing can be protected using patents to increase artificial barriers to entry and may also serve as an additional source of revenue for the electric car makers.

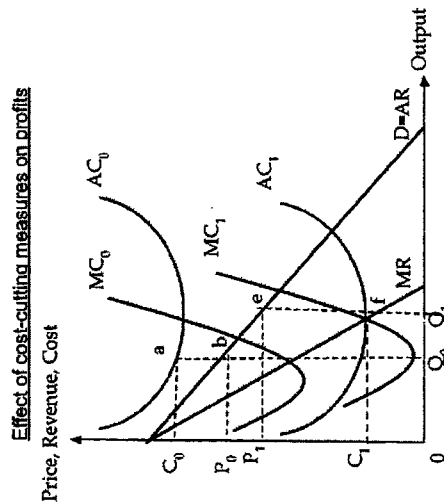
Mark Scheme:

Knowledge Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> o complete explanation of the possible strategies and limitations to increase revenue or reduce costs o rigorous and detailed economic analysis that demonstrate strong understanding of the how the combined strategies increase profitability o relevant and precise use of economic concepts (Cost/Revenue analysis); o accurate and clearly-labelled diagrams to support economic analysis • Answer is relevant to the context of the question and applies real-world examples to support the analysis. • Strategies to increase revenue and reduce costs with limitations. 	8 – 10
L2	<ul style="list-style-type: none"> • An answer that gives an explanation of the possible strategies and limitations to increase revenue or reduce costs. • Answer is mostly relevant to question requirements. 	5 – 7

- **Limitations:** However, attempts at product differentiation may end up costing more as firms need to run advertisement or promotional campaigns. Furthermore, rival firms may also attempt to imitate or retaliate with their own promotions or campaigns. This may reduce the effectiveness of the campaign, resulting in minimal increases in demand.

Electric car makers can engage in cost cutting measures

- By engaging in research and development into improvements in technology or efficiency in production processes, the firm may be able to lower its average cost of production and therefore earn higher profits. For example, electric car makers may increase the dependence on technology for car manufacturing, so that they may reduce staffing and cut costs on paying labour wages.
- This results in a decrease in cost of production, hence both AC and MC decreases. This is shown by a downward shift of the AC and MC curves from AC_0 to AC_1 and MC_0 to MC_1 in figure 5. As a result, the profit maximising level of output and price changes from P_0 to P_1 and Q_0 to Q_1 respectively. The level of profits change from subnormal profits of C_0eP_0 to supernormal profits of P_1eC_1 .



	<ul style="list-style-type: none"> • Economic concepts are relevant but may contain minor inaccuracies. • Economic analysis is accurate but incomplete or lacks precision. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. 	1-4
Evaluation		
E3	Evaluative assessment based on economic analysis.	4-5
E2	Largely unexplained assessments.	2-3
E1	Unexplained assessment or one that is not supported by analysis.	1

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 2_Section A_Q3

- 3 (a) Explain why imperfect information and labour immobility may lead to market failure [10]
- (b) Discuss the policies governments can adopt to correct these causes of market failure. [15]

Suggested answer for Part (a):

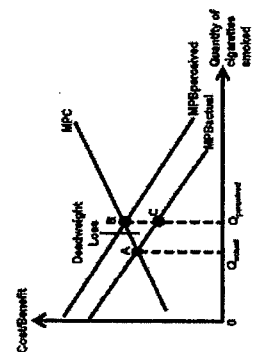
Question Analysis	
Command	Explain how
Content	Market failure, imperfect information, labour immobility
Context	No context
Synopsis: Students are to explain how imperfect information can lead to market failure using a diagram to show either over or under-consumption due to a divergence in costs or benefits. Students are to explain how labour immobility can lead to market failure due to occupational and geographical immobility.	

Introduction

- Imperfect information occurs when buyers and/or sellers have incomplete, inaccurate or misunderstood information of the true benefits and costs relevant to the transaction. Consequently, decisions made by market participants are guided by perceived (instead of actual) knowledge of the benefits versus the costs.
- Labour may be immobile because the labour markets may not be perfect. When labour resources are immobile, an increase in demand for goods does not lead to an increase in production but only a rise in price. Labour immobility may be due to geographical or occupational immobility

How imperfect information leads to market failure

Over-consumption in Cigarette Market due to $MPB_{perceived} > MPB_{actual}$

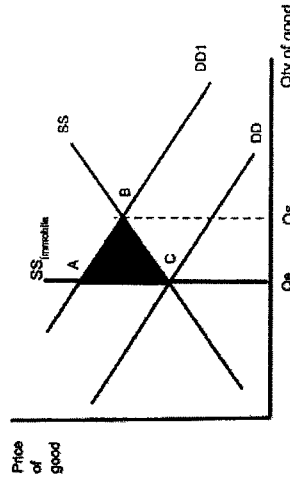


MPC of smoking cigarettes is the additional cost that smokers have to pay for the cigarettes. $MPB_{perceived}$ of smoking cigarette is the satisfaction derived from smoking an additional cigarette. To maximise net private benefit, smokers will consume at $Q_{perceived}$ where $MPB_{perceived}$ is equal to MPC. $MPB_{perceived}$ is higher than MPB_{actual} since smokers mistakenly perceive that smoking makes them more alert and is a great form of stress relief. To maximise net private benefit, the quantity of cigarettes smoked should be at Q_{actual} where MPB_{actual} is equal to MPC, and where socially-desirable output-level is achieved.

Since smokers are not aware of the true private benefits of smoking, there is an over-consumption of cigarettes resulting in $Q_{perceived}$ to be greater than Q_{actual} . There is allocative inefficiency and this results in a deadweight loss of area ABC. Thus, the market fails.

*students can explain either over or under-consumption due to divergence between costs or benefits.

How labour immobility leads to market failure



The factors of production may be immobile because the markets for the resources may not be perfect. When labour resources are immobile, an increase in demand for goods does not lead to an increase in production but only a rise in price. SS is the supply curve of goods when factors of production are perfectly mobile. $SS_{immobile}$ is the supply curve of goods when factors of production are immobile. Area ABC is the welfare loss when factors are immobile. In the figure above, an increase in demand for a good usually would result in the increase in output produced and an increase in price. The new equilibrium output should rise to Q_s from Q_e . However if factors of production are perfectly immobile, the rise in demand will not lead to a rise in output. This is because the supply of goods is perfectly price inelastic. Factor immobility leads to a deadweight loss of ABC.

Labour immobility can be due to geographical immobility. This is often due to the inability or lack of willingness of labour to move from one geographical area to another. It may be due to high cost of relocation, poor availability of housing or other facilities (e.g accessibility via transportation network, schools etc.) in the new area or even ignorance of availability of jobs elsewhere in the country.

Labour immobility can be due to occupational immobility. This is often due to the mismatch between the skills of factors of production and those required by producers seeking factors of production, resulting in the inability of factors of production to move from one occupation/sector

to another. As an economy progresses, there is a shift in the type of industries. A developed economy may shift to focusing on service sector because of a decline in its manufacturing industry due a loss in comparative advantage. Although there are employment opportunities in the service industry, workers lack the skills and so are not able to switch jobs immediately. They are then structurally unemployed.

Conclusion

Hence, due to imperfect information and labour immobility, inefficient allocation of resources occurs. Therefore, government will need to intervene to correct the market failure.

Mark Scheme:

Knowledge Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> Explain how imperfect information and labour mobility lead to market failure. For L3-9: imperfect information + geographical immobility + occupational immobility Answer has sufficient depth: <ul style="list-style-type: none"> rigorous and detailed economic analysis that demonstrate strong understanding of how imperfect information and labour immobility result in deadweight loss to society. relevant and precise use of economic concepts (cost/benefit analysis) relevant and clearly-labelled diagrams to support economic analysis Answer is relevant to the context of the question and applies real-world examples to support the analysis. 	8 – 10
L2	<ul style="list-style-type: none"> Answer is mostly relevant to question requirements <ul style="list-style-type: none"> e.g. incomplete explanation of imperfect information and labour immobility only (max 7m) e.g. one good explanation of either imperfect information or labour immobility only (max 5m) Economic concepts are relevant but may contain minor inaccuracies. Economic analysis is accurate but incomplete or lacks precision. Attempts to address the context of the question but is incomplete. Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	5 – 7
L1	<ul style="list-style-type: none"> Answer is mostly irrelevant to question requirements. Economic concepts are largely irrelevant and/or inaccurate. Unclear and/or inaccurate economic analysis. Lacking in use of diagrams or wrong diagrams are used. 	1 – 4

- 3 (b) Discuss the policies governments can adopt to correct these causes [15]
of market failure.

Suggested answer for Part (b):

Question Analysis	
Command	Discuss (2-sided answer)
Content	One policy to correct imperfect information and one policy to correct labour immobility
Context	Any relevant context for imperfect information and labour immobility
Synopsis	
Students are expected to provide an analysis (with limitations) of one policy for each type of market failure that they have explained in part (a).	

Introduction

- To deal with imperfect information, government could regulate by introducing specific product standards or educate.
- To improve occupational mobility, the government may alter the educational system or encourage workers to retrain for jobs where the demand is higher.
- To improve geographical mobility, the government may improve the road and transportation networks across the country.

One policy to correct information failure

Some sellers may misrepresent their products to increase sales. To protect the buyer, the government may require that producers print certain required information on the packaging of certain products or on their company or product website. In an effort to keep the consumers more informed of the product they are buying, the regulatory body requires warnings label pertaining to potential hazards or side-effects be clearly printed or communicated to consumers. Such efforts would inform consumers of the true costs or benefits of the choices they make and hence eliminating the perceived and actual cost or benefits gap.

Examples:

- Health Ministry requires cigarette packages to contain explicit warnings on the harmful effects of smoking on the organs of the consumer. Such efforts may have the effect of:
 - Making the smoker see that the actual private benefit of smoking is lower than perceived thus reduce one's smoking of cigarette to Qactual OR
 - Making the smoker see that the actual private cost of smoking is higher than perceived thus reduce one's smoking of cigarette to Qactual.
 - Smoking cigarette at Qactual eliminates deadweight loss area ABC.

- Canned or preserved consumer products are also required to have nutrition information of the contents clearly printed on the products so that the health-conscious consumer could make better choices about their nutritional intake.

Evaluation:

- **Advantage:**
 - Introducing specific product standard achieves allocative efficiency and corrects market failure due to imperfect information.

Disadvantage:

- Smokers may see the warnings on the cigarette packaging as being too exaggerated or discount the probability of the harmful effects of smoking falling on them thus smoking may not reduce to Q_{actual} thus overconsumption still exist as Q_p is still greater than socially desirable output level Q_{actual} (Figure 27). With a deadweight loss of area ABC, there is still allocative inefficiency thus market still fails.

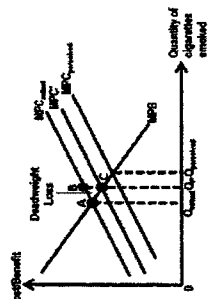


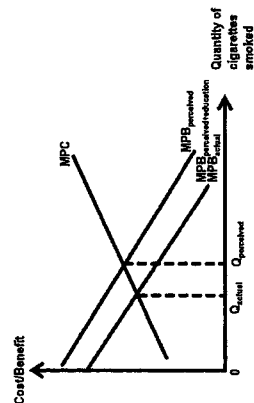
Figure 27

Alternative policy to correct information failure

The government can improve information access and sharing via the various media platforms. In doing so, information is more accessible to the public so that consumers can make informed choices. Such efforts would inform consumers of the true costs or benefits of the choices they make and hence eliminating the perceived and actual costs or benefits gap.

For example, quit smoking campaigns on social media platforms featuring former smokers sharing negative impacts of smoking on health such as organ failures via videos, provide smokers with more information on the ill-effects of smoking.

With this education campaign, smokers will then see that their private benefit of smoking is actually lower than what they perceive it to be. Thus, their private benefit of smoking cigarettes decreases from $MPB_{perceived}$ to $MPB_{perceived+Education}$.



This reduces their smoking of cigarette to Q_{actual} eliminating deadweight loss, achieving allocative efficiency and correcting market failure due to imperfect information.

Once policy to correct occupational immobility

To improve occupational mobility, the government may alter the educational system or encourage workers to retrain for jobs where the demand is higher.

The government might invest in increased provision of training schemes for the unemployed - particularly those workers experiencing structural unemployment or raise total spending on education and move towards increased investment in vocational training for students (e.g. Skills Programme for Upgrading and Resilience (SPUR) and subsidised funding from Skills Development Fund).

Evaluation:

Advantage:

- With workers trained and therefore able to work in new industries, there is an improvement in factor mobility and thus allocative efficiency is achieved.
- Being more skilled after receiving the training, workers will receive higher income and reduces income inequality.

Disadvantages:

- It should be noted that all these measures may add to costs whose use to address one source of market failure may mean less funds (or resources) for other uses. Certain disposition or nature of the immobile labour (e.g. age factor, attitudes towards training etc.) may hamper the effectiveness of measures to encourage labour mobility and employment.

One policy to correct geographical immobility

To improve geographical mobility, the government may improve the road and transportation networks across the country. Roads, railways and mass rapid transit systems are some of the measures the government can take to encourage the mobility of resources so that they could be used more efficiently.

Evaluation:

Advantage:

- With accessibility and connectivity between different parts of the country improved, there is an improvement in geographical mobility and thus allocative efficiency is achieved.

Disadvantage:

Large expenditure required, incurring opportunity costs as the funds could have been spent on other areas such as healthcare or education.

Alternative policy to correct geographical immobility

To improve geographical mobility, the government may subsidise firms to encourage them to move to areas where there is surplus of labour or provide the unemployed with adequate incentive to offer their labour services and travel to new areas where there are shortages of

labour. To reduce capital immobility, governments can target certain sectors and encourage firms to purchase capital goods by giving them incentives via tax cuts or subsidies.

Evaluation:

Advantage:

- Workers do not have to incur high cost of relocation to find a job.

Disadvantage:

High expenditure by government to encourage firms to spend on capital goods by giving them subsidies.

Evaluative Conclusion:

- [Stand]** Policies proposed to solve imperfect information and labour immobility will differ depending on the state/characteristics of the economy.
- Overconsumption of vices such as cigarettes due to imperfect information may be a different problem when in a developing nation rather than a developed one. Patterns of smoking are different in developing and developed countries: **more men (50-80%) but fewer women (2-10%) smoke in developing countries compared with developed countries**, where approximately 25-30% of both men and women smoked. Policies aim at educating the masses may work better in a developed nation while policies targeting the male smokers may be a better solution in a developing nation.
- Labour immobility in a large economy such as China will be harder to solve compared to a small economy like Singapore. For one, geographical immobility is almost non-existent in Singapore given our small land size. Alternating educational system to solve occupational immobility will be a harder task for a larger economy such as China compared to Singapore due to her larger population, differing labour needs in different states and the requirement of a much larger budget.

Mark Scheme:

Knowledge, Application, Understanding and Analysis	
L3	<ul style="list-style-type: none"> Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> explains one policy with limitations for each type of market failure. Answer has sufficient depth: <ul style="list-style-type: none"> rigorous and detailed economic analysis that demonstrate strong understanding of the how the policies correct the market failure relevant and precise use of economic concepts (cost/benefit analysis); accurate and clearly-labelled diagrams to support economic analysis Answer is relevant to the context of the question and applies real-world examples to support the analysis.
L2	<ul style="list-style-type: none"> Answer is mostly relevant to question requirements. Economic concepts are relevant but may contain minor inaccuracies. Economic analysis is accurate but incomplete or lacks precision.

L1	<ul style="list-style-type: none"> 2 distinct policies (e.g. on imperfect information and only occupational immobility), but analysis is incomplete (max 7m) Attempts to address the context of the question but is incomplete. Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	1-4
Insufficient		
E3	Evaluative assessment based on economic analysis.	4-5
E2	Largely unexplained assessments.	2-3
E1	Unexplained assessment or one that is not supported by analysis.	1

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 2_Section B_Q4

4. The Covid pandemic has caused radical change in the labour market as more people work from home, shifting new job demands from semi-skilled jobs in retail, catering and cleaning, to jobs that require workers' proficiency in digital skills.
 - (a) Explain how the pandemic has hindered the government's goal to achieve inclusive economic growth. [10]
 - (b) Discuss the measures a government can adopt to achieve inclusive economic growth in view of the structural change brought about by the covid pandemic. [15]

Suggested answer for (a):

Question Analysis	
Command	Explain how
Content	Inclusive economic growth
Context	Pandemic; a government (no context); digital skills; retail & F&B
<p>Synopsis: Students are expected to explain how the Covid pandemic has adversely affected the AD and AS of an economy, leading to a deterioration of actual and impending potential growth. At the same time, from the preamble, the pandemic has altered the traditional mode of how work is performed causing a change in consumption behaviour. Hence, the changing demands of workers' skills will influence the labour markets leading to wage disparity within the economy.</p>	

Introduction:

- Define key term:

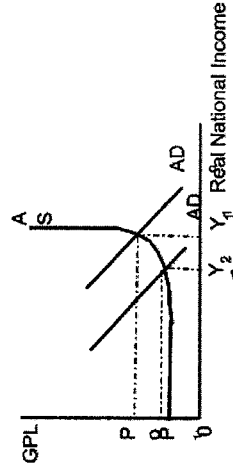
Inclusive growth indicates a rate of growth that is sustained over a period of time, is broad-based across economic sectors, and creates productive employment opportunities for the majority of the country's population. It is economic growth with benefits incurred by every section of society.
- Overview of approach:

The covid pandemic has caused severe disruptions to international travel, movement of goods, and the restrictions on socialization and working in offices, deeply impacted tourism, retail and food & beverage industry. These will impact the aggregate demand (AD) and aggregate supply (AS) of the economy, adversely affecting economic growth.

Due to the restrictions on socialization and working in offices, working from became the new normal. This has significantly altered work demands and has inevitably affecting the labour demand of various sectors of the economy, causing wage differential among workers.

Body 1: Explain and illustrate how the pandemic will lead to a fall in AD

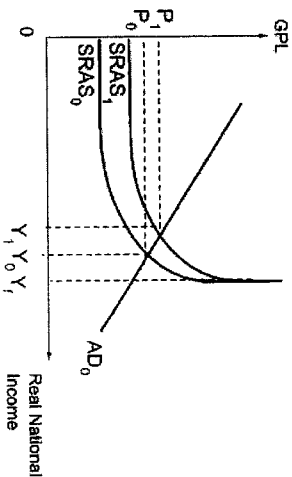
- Restrictions on international travel lead to fall in demand for tourism related services by foreigners --- fall in export revenue (X)
- Global economic uncertainties, economic recession of major economies in the world and pessimistic economic outlook has increased the risks of investments. Due to expected fall in future profits, producers will reduce their investments --- fall in investment expenditure (I)
- Restrictions on socialization, domestic labour movement and working in offices reduce the demand for physical retail purchases and dining in restaurants. At the same time, pessimistic economic outlook has raised the risks of job losses, encouraging consumers to save more for precautionary purposes and reduce their unnecessary expenses --- fall in consumption expenditure (C).
- Fall in C, I and X will lead to a fall in AD.
- [Brief reverse multiplier description]:
 The fall in AD from consumers, producers and foreigners will cause a fall in revenue and profits earned by firms. As such, firms will reduce the production within the economy causing a fall in demand for factors of production (FOP). As the FOP are owned by households, the fall in demand for FOP will reduce the income earned by households, reducing their purchasing power. Hence, consumption (induced) expenditure will fall leading to a further fall in AD. However, the fall in C will be of a smaller magnitude as households draw on their savings, pay less taxes and buy less imports. This cycle continues until the multiplier process stops and AD of the economy will fall from AD_0 to AD_1 .



- Real national income will fall from Y_1 to Y_2 --- leading to recession.

Body 2: Explain and illustrate how the pandemic will lead to a fall in AS

- Due to ports and airports closures to contain the spread of the pandemic, this has disrupted global supply chain, leading to severe shortages of raw materials and factor inputs --- higher factor prices due to the shortages cause an increase in costs of production (COP) --- reducing SRAS.



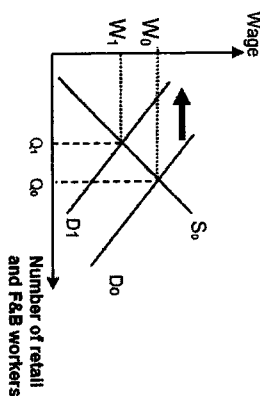
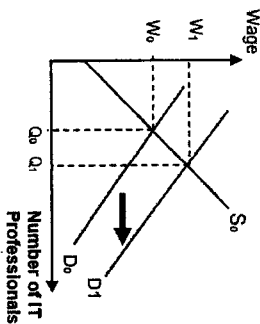
- SRAS falls from SRAS₀ to SRAS₁, RNY falls from Y₀ to Y₁ --- recession.

Body 3: Explain how pandemic has caused business closures --- reduce LRAS --- reduce potential growth

- Due to travel restrictions and gloomy global economic outlook, low expected returns on investment will lead to a fall in investment expenditure. At the same time, outflow of foreign direct investments (FDI) either back to home countries or other low cost countries will result in fall in quantity of capital goods when specialized machines and equipment are transferred out of the country. The fall in quantity of capital goods will reduce the productive capacity of the economy, ceteris paribus, adversely affecting the potential growth.

Body 4: Explain and illustrate how the pandemic will lead to wage differential

- As workers work from home and the increase in demand for online purchases, there is a significant increase in demand for IT professionals to support the industry. As labour is a derived demand, the increase in demand for online platforms for work and new consumption behavior leads to an increase in demand for IT professionals from D₀ to D₁. This causes a shortage at the original wage rate W₀ exerting an upward pressure on the equilibrium wage. The market for IT professionals will reach an equilibrium at W₁ where there is no more shortages as the number of IT professionals employed increases from Q₀ to Q₁.
- Restrictions on labour movement and reducing need for travel to work has reduced the demand for physical retail and food & beverage (dining-in) services. Hence, the sharp fall in demand for workers in the retail and F&B industries. Also, the restrictions on international travel has also reduced the demand for tourism related services such as aviation, hotels, entertainment and recreational services. The impact on the service industry which employ a large number of workers will cause a significant fall in demand for workers in the service industry as shown by the fall in demand from D₀ to D₁. This will lead to a surplus of workers at original wage W₀, exerting a downward pressure on their wages till a new equilibrium wage is reached at W₁.



- Hence, the increase in wages of workers in the IT related industry and the sharp fall in employment and wages of the service industry will hinder governments' aim of achieving inclusive growth.

Mark Scheme:

	Knowledge, Application, Understanding and Analysis	
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> ◦ Explains the effect of the pandemic on AD, AS and respective labour markets. ◦ Answer has sufficient depth: <ul style="list-style-type: none"> ◦ rigorous and detailed economic analysis of the cause-effects link on how the pandemic cause a fall in AD and AS; DD-SS analysis on respective labour markets. ◦ relevant and precise use of economic concepts (AD/AS & DD-SS analysis) ◦ relevant and clearly labelled diagrams to support economic analysis • Answer is relevant to the context of the question • Answers that covered only AD or AS with labour market analysis – max 8m 	8 – 10
L2	<ul style="list-style-type: none"> • Answers that covered only AD or AS with labour market analysis but with minor inaccuracies, incomplete or lacks precision. • Attempts to address the context of the question but is incomplete. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. • Insufficient breadth/scope (max 5m): <ul style="list-style-type: none"> - Answers only focus on labour market / structural unemployment to illustrate wage differential without linking to economic growth - Answers that only illustrate impacts on economic growth without labour market analysis 	5 – 7
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. 	1 – 4

(b) Discuss the measures a government can adopt to achieve inclusive economic growth in view of the structural change brought about by the covid pandemic. [15]

Suggested answer for (b):

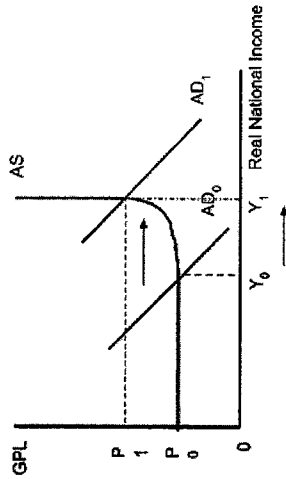
Question Analysis	
Command	Discuss
Content	Measures; inclusive growth; structural changes
Context	a government (no context); covid pandemic
Synopsis:	
Students are expected to explain the measures a government can adopt to achieve sustained growth and reduce income gap. Measures would include both demand-management, supply-side measures and /or income policies a government can adopt to achieve inclusive growth. Limitations and trade-offs of each policy are to be discussed with a conclusive judgement on which might be the most effective policy to achieve this aim of the government.	

Introduction:

- Structural change caused by the pandemic has altered the demands of the labour force. The change in how and where work is conducted has created a heavy reliance on online meeting platforms. Working from home has also significantly changed the consumption and dining habits of consumers with the proliferation of online shopping platforms and food delivery applications. All these intensify the need for IT professionals leading to a sharp demand for workers with digital skills. However, workers in the service industry who experienced massive job losses and wage cuts due to the pandemic are unable to find jobs in the midst and post-pandemic era.
- Measures proposed will focus on expansionary policy to increase actual growth; supply-side measure to achieve potential growth and mitigating the issue of skills mismatch to raise the income level of the workers in the service industry.

Body 1: Expansionary demand-management policy [Fiscal Policy – Singapore context]

- Singapore government has spent more than \$4.8 billion of the COVID-19 Resilience Package towards public health and safe re-opening measures in 2020, such as improvement in medical facilities and equipment, and increase recruitment of medical personnel.
- Singapore government also provides transfer payments to households such as cash enhancement payouts and GST vouchers for all households. This will increase the disposable income of households, increasing their purchasing power and consumption expenditure (C). At the same time, transfer payments are tiered based on households income which would raise the disposable income of the low income families, narrowing the income gap.
- Increase in government expenditure (G) and C will lead to increase in AD from AD₀ to AD₁. Due to the multiplier effect, RNY will increase from Y₀ to Y₁, achieving actual growth.

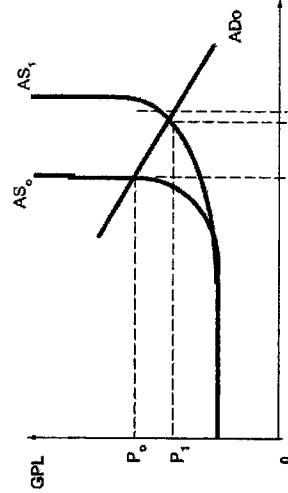


Limitations and trade-off:

- Limitations:
 - Small size of multiplier (due to large MPS and MPN) will limit the extent of increase in AD, hence increase in RNY might not be significant.
 - The increase in demand for FOP will increase the factor prices, causing increase in COP. This increase in COP will lead to a fall in I --- limit the increase in AD due to increase in G.
- Trade-Off:
 - Increased expenditure in public health will incur opportunity costs as these funds could be used to improve infrastructure and other essential services such as education.

Body 2: Supply-side measure to achieve potential growth

- Singapore government will provide \$24 billion for three years from 2019 to improve aviation infrastructure and digital capabilities.
- The increase in efficiency and productivity due to better aviation and digital infrastructure will increase the productive capacity of the Singapore economy leading to potential growth.
- Increase in G will lead to increase in LRAS. Hence full employment level increase from Y₁ to Y_n, achieving potential growth.



Y_t Y_t Y_{t+1} Real National Income

- **Limitations and trade-off:**
- Limitations: These expenditures on infrastructure takes time to complete and effects will only be seen in the long-run.
- Trade-off: Similarly, such expenditures incur opportunity costs as expenditures in other areas of economic development would have to be forgone.

Body 3: Supply-side measure to improve wages of workers in retail and F&B industry

- The government can encourage the training of labour by subsidising training costs and by providing training institutes. This helps to raise the productivity of labour (and hence quality of labour), raising the productive capacity.
- SkillsFuture credit of \$500 and a further top up of \$500 in 2020, aimed to encourage Singaporean to upgrade their skills.
- In addition to the training grant provided, SkillsFuture also provides the resources and information for all Singaporeans to develop new skills, continue their education and training so that they can improve their skills and incomes throughout their careers.
- With the grants on skills upgrading and curated training courses based on the needs of the economy, especially in digital literacy and proficiency, workers in the service industry will be more productive and can better meet the skills requirement of the new economy. These workers will see an increase in their wages that commensurate with their productivity, narrowing the income gap which enable the government to better achieve inclusive growth.
- **Limitations and trade-off:**
- Limitations:
 - Effects of training is uncertain as the completion of these training courses do not ensure that these workers have achieved an acceptable level of proficiency to be assured of employment in these new growth areas.
 - Due to the rapidly evolving digital and technological sector, it might be difficult for the government to identify the skillset required for the future economy. Hence, the current training courses might become redundant when the needs of the economy changes again.

Conclusion: [Evaluative judgement]

- **[Stand]** Supply-side measures that target skills upgrading and better skills and job matching would be the most appropriate policy to tackle the structural changes caused by the pandemic.
- **[Root cause]** While the effects of these training courses would take time and might be uncertain due to the constantly changing needs of the economy, regular consultation with industries on the new job demands would help the government to better design training courses that are relevant for the participants. Structural change will be the new normal for most economies in the world in view of the rapid technological advancements and globalization. Given Singapore's reliance on human capital, life-long learning and constant skills upgrading of the labour force regardless of skill level, is critical for the economy to maintain her competitiveness, and achieve sustained and inclusive growth.
- **[Time period]** In the short run, government assistance for the unemployed, especially workers in the service industry, will be essential to prevent further widening of the income gap. Such financial support would reduce the resistance of the

unemployed in undergoing skills upgrading courses since the basic needs of the families might be better met.

Mark Scheme:

Knowledge and Application: Understanding and Analysis	
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> - One policy to achieve economic growth (actual & potential) and one policy to address income gap. - Each policy must be evaluated (two-sided analysis) • Answer has sufficient depth: <ul style="list-style-type: none"> o rigorous and detailed economic analysis that demonstrate strong understanding of how the policies work which include limitations and/or trade-offs of the policies. o relevant and precise use of economic concepts (AD/DAS analysis); o accurate and clearly-labelled diagrams to support economic analysis • Answer is relevant to the context of the question and applies real-world examples to support the analysis.
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to question requirements that covers sufficient scope/breadth (policies that address both economic growth and income gap). However, analysis may contain minor inaccuracies with limited/inaccurate/incomplete evaluation of the policies. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. • Insufficient scope: <ul style="list-style-type: none"> - For accurate and precise analysis that only address economic growth or income gap with adequate evaluation of the measure (max 5m)
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used.
Evaluation	
E3	<ul style="list-style-type: none"> • Takes a clear overall stand that is comprehensively justified by providing convincing evaluative comments on the most appropriate policy to achieve inclusive growth.
E2	<ul style="list-style-type: none"> • Takes a clear overall stand that is only partially justified and explained or the arguments were unconvincing and/or inaccurate at times OR • Provides evaluative comments but overall stand is unclear OR • Provides insightful opinions which are however not directly relevant to the requirements of the question.
E1	<ul style="list-style-type: none"> • Make an overall stand: Which is the most appropriate policy to achieve inclusive growth?

2022 JC2 H2 Econs Prelims Suggested Answers for Paper 2_Section B_Q5

5. The world was worrying about recession one year ago and governments were quick to adopt measures to revive their economy. But now, inflation has taken center stage on government's agenda.
- (a) Explain why governments are concerned with inflation. [10]
 - (b) Discuss the extent to which government's policy to tackle recession is to be blamed for causing inflation. [15]

Suggested answer for (a):

Question Analysis	
Command	Explain why
Content	Concerned; inflation
Context	Governments (no context)

Synopsis:
Students are expected to explain and illustrate the negative effects of inflation. Answers should include both microeconomic and macroeconomic (or internal and external) consequences of inflation with the use of economic framework and examples.

Introduction:

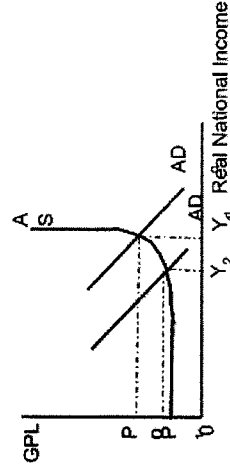
- Define inflation
- Inflation is a sustained increase in the general price level.
- Usually measured by the Consumer Price Index (CPI)
- Headline inflation – measures the change in the CPI, expressed in percentage
- Core inflation – measures the change in the CPI after removing volatile variables. In Singapore, it is after removing accommodation and transport prices.
- Identify 2 broad categories of inflation, namely demand-pull and cost-push inflation, with brief explanation.
- Inflation is a cause for concern when it is creeping to hyperinflation

Body 1: Microeconomic (redistributive) Effects of Inflation:

- **Effects of inflation on debtors and creditors:**
Due to the fall in real value of the loans over time with high level of inflation, creditors will lose out while debtors gain when the interest rate falls below the inflation rate. Hence, banks and creditors have less incentive to provide loans which might limit firms and households spending.
- **Effects of inflation on fixed and variable income earners:**
Variable income earners will become better off whereas fixed income earners are made worse off. E.g. businessmen whose incomes are dependent on sales value earn high profits while pensioners and salaried workers whose wages do not keep pace with the increase with general price levels will have lower real income levels. Hence economy may experience widening of the income gap.

Body 2: Macroeconomic Effects of Inflation (with explicit link to macroeconomic objectives):

- **Effects of inflation on savings and production:**
As the real value of money falls with inflation, spending will increase and savings will fall. If inflation is high and savings are discouraged, the loanable funds available for investments will be reduced. Production will stall if the cause of inflation is cost-push. The increase in factor prices that cause cost-push inflation will erode firms' profits and a reduction in production. With less demand for factors of production, including labour, this will result in an increase in unemployment.
- **Effects of inflation on domestic consumption and imports, and economic growth:**
- High level of inflation will cause domestic goods to be relatively more expensive than imports. Assuming that they are substitutes of each other, domestic consumers will switch from domestic product to imports, reducing consumption expenditure, hence AD. A fall in AD will cause RNY to decline, impeding economic growth.
- **Effects of inflation on export competitiveness, economics growth, unemployment and BOP (optional):**
- Uncompetitive exports due to high inflation will lead to a fall in demand for exports, when foreign goods are relatively cheaper than Singapore exports. It will be detrimental for country which is highly trade dependent such as Singapore, since a fall in demand for exports may lead to a fall in AD and RNY. The fall in AD from AD₀ to AD₁ due to fall in export revenue will cause a fall in revenue and profits earned by firms. As such, firms will reduce the production within the economy causing a fall in demand for factors of production. As labour is a derived demand, workers will be made redundant resulting in cyclical unemployment.



Mark Scheme:

Knowledge Application, Understanding and Analysis		
L3	<ul style="list-style-type: none"> Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> Explains the negative microeconomic and macroeconomic effects of inflation. Answer has sufficient depth: <ul style="list-style-type: none"> rigorous and detailed economic analysis of the cause-effects link on the microeconomic effects of inflation on various economic agents (households and firms). Use of AD-AS framework to illustrate the macroeconomic effects of inflation on macroeconomic objectives. relevant and precise use of economic concepts (AD/AS analysis) relevant and clearly labelled diagrams to support economic analysis 	8 – 10
L2	<ul style="list-style-type: none"> Answer is relevant to the context of the question Good accurate and complete answers that covered only microeconomic or macroeconomic effect. (max 7m) Answers that cover both aspects but with minor inaccuracies, incomplete or lacks precision. Attempts to address the context of the question but is incomplete. Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. Insufficient breadth/scope (max 5m): <ul style="list-style-type: none"> Microeconomic or macroeconomic analysis with 2 distinct points or 2 distinct microeconomic and macroeconomic effects of inflation. 	5 – 7
L1	<ul style="list-style-type: none"> Answer is mostly irrelevant to question requirements. Economic concepts are largely irrelevant and/or inaccurate. Unclear and/or inaccurate economic analysis. Lacking in use of diagrams or wrong diagrams are used. 	1 - 4

(b) Discuss the extent to which government's policy to tackle recession is to be blamed for causing inflation. [15]

Suggested answer for (b):

Question Analysis	
Command	Discuss the extent
Content	Policy to tackle inflation; recession
Context	Governments (no context)
Synopsis:	
<p>Students are expected to explain how expansionary demand management to tackle recessionary might lead to an increase in G_{PL}, causing demand-pull inflation. Limitations (extent) of the use of demand-management policy that would cause inflation should be analysed. Students are also expected to explain how other factors could have caused inflation, such as expectations of an economic recovery that prompted consumers and firms to increase consumption and investment that would lead to a inflationary pressure. The most significant discussion will be how supply-side factors could cause cost-push inflation, especially due to the supply-chain disruption and Ukraine war. A concluding judgement must be provided by synthesizing the content of the analysis and ascertain the extent of government's responsibility in causing inflation.</p>	

Introduction:

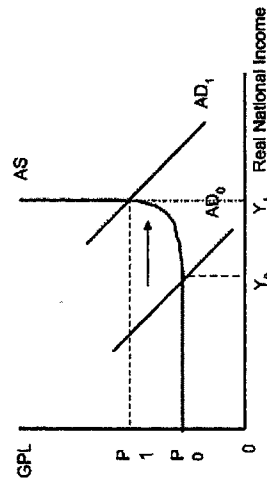
- Identify the policies governments can adopt to tackle recession (expansionary demand-management policy)
- Identify and define two types of inflation: Demand-pull and cost-push inflation
- Recognise that other than government policies, there could be other causes of inflation.

Body 1: Explain how the use of fiscal demand-management policy to tackle recession might cause demand-pull Inflation

- Fiscal policy involves the altering of government expenditure and/or tax revenue to affect the level of economic activities in the economy.
- Discretionary fiscal policy refers to the deliberate changing of taxes and government spending especially for the purpose of regulating the level of economic activity in the economy in order to influence national income.
 - To address recession and slow economic growth, a government can employ an expansionary fiscal policy by raising government spending and/or lowering taxes.
- Raising government expenditure on goods and services: Deliberate increase in government expenditure (e.g. in the area of defence, education, healthcare) will raise the 'G' component of AD and cause the AD curve to shift rightwards.
- Increase in Transfer payments: Transfer payments are money given by the government to its citizens or firms with no goods and services returned in exchange. Examples include unemployment benefits to households or wage subsidies to firms. They do not directly lead to more output but influences the citizens' ability to consume due to an

increase in disposable income or the firms' ability to invest. Hence raising transfer payments would encourage consumption expenditure through higher ability to consume or raise investment expenditure due to increased profitability, both causing AD and national income (through the multiplier process) to rise.

- Reducing Tax Rates:
 - Reduce direct taxes:
 - When personal income taxes are reduced, disposable incomes and purchasing power of households will increase, leading to an increase in 'C' component of AD.
 - When corporate taxes are reduced, it leads to an increase in after-tax profits, increasing expected profitability, leading to an increase in 'I' component of AD.
 - As 'C' and 'I' rises, AD increases and national income takes on a multiplied increase through the multiplier process.
 - [Brief multiplier description]:
The increase in AD will cause an increase in revenue and profits earned by firms. As such, firms will be incentivized to increase the production causing an increase in demand for factors of production (FOP). As the FOP are owned by households, the increase in demand for FOP will increase the income earned by households, increasing their purchasing power. Hence, consumption (induced) expenditure will increase leading to a further increase in AD. However, the increase in C will be of a smaller magnitude as households save, pay taxes and buy imports. This cycle continues until the multiplier process stops and AD of the economy will increase from AD_0 to AD_1 , leading to an increase in RNY from Y_0 to Y_1 , solving the problem of recession.



- However, further increase in G and reduction in T to stimulate the economy will eventually cause over-heating when the economy improves and nearing full employment level. Any increase in AD when the economy has achieved full employment will only cause demand-pull inflation without any increase in RNY. In this instance, the government play a significant role in causing inflation in the economy.

Limitations of expansionary demand-management policy in causing inflation in the economy

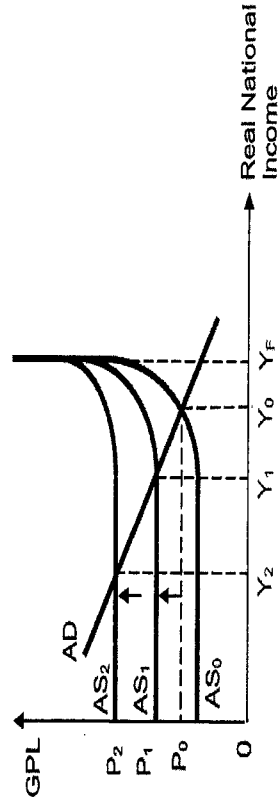
- The effect of expansionary demand-management that was aimed at tackling recession, which would eventually cause inflation is dependent on the following:
 - Extent of unemployment in the economy: If there was high level of unemployment in the economy (near Keynesian range of AS), it would take a significant amount of time for the economy to reach full employment level hence resulting in inflation.
 - Size of multiplier: If the size of multiplier is small, it would take considerable amount of G and fall in T, and long lag time for the economy to achieve Y_f . [Student can further elaborate with the use of Singapore context to explain how a small multiplier in Singapore might take a longer time for such policy to take effect.]

Body 2: Increase in GPL could be due to an increase in AD caused by other reasons

- With the recovery of major economies in the world in view of the slowly easing border restrictions, producers gain greater confidence in the global economy. With higher expected future profits and lower risks of investments, domestic and foreign investors have increased their investments and production in anticipation of higher future demand for their goods and services. This will increase the investment expenditure of the economy, leading to an increase in AD. Assuming the economy is near Y_f , the increase in AD will lead to an increase in GPL, causing demand-pull inflation (refer to diagram above).

Body 3: Explain how supply-side factors can cause inflation

- Disruptions to supply chain due to the pandemic have raised the price of raw materials and factor inputs.
- Ukraine has been one of the largest world corn and wheat exporters. The Ukraine war has significantly reduced global world supply of such important primary produce resulting in global shortages. These had caused a sharp increase in food prices which directly impacted households and raised costs of production for food producers.
- The increase in prices of food, raw materials and factor inputs led to a fall in SRAS from AS_0 to AS_1 and AS_2 , translated to higher GPL from P_0 to P_1 and P_2 , causing cost-push inflation.



Conclusion: Evaluative judgement

- The causes of inflation that the world is currently experiencing are multi-faceted. The adoption of expansionary demand management policies by most of the economies in the world could be partly responsible for the inflationary situation, however, to a smaller extent.
- **[Context]** While the global economy is still tackling the recession caused by the pandemic, expansionary policies implemented by the major economies had been successful in mitigating the economic downturn but yet to turn the tide against it. Unemployment remains high in some of these large economies which could indicate the limited role of government in causing the (demand-pull) inflation issues. Moreover, governments are responsive to the creeping inflation that the world is experiencing and had adopted anti-inflationary (contractionary demand management) policies. However, global prices continue to increase which warrant a call for further policies tightening.
- **[Assumptions]** The increase in AD due to reasons such as a positive economic outlook that encourage investments might be limited as well. For the last 2 years, the pandemic has dealt a severe blow to firms' profits resulting in down-sizing of large corporations and closures of numerous businesses. The ability for firms to tap on the early trend of economic recovery is highly dependent on the funds available which is a luxury for most businesses.
- **[Stand]** The increase in COP due to supply-chain disruptions has limited the accessibility of essential factor inputs for firms which resulted in shortages and high prices of raw materials and factor inputs. The Ukraine war has compounded the issues of cost-push inflation with the sharp reduction in corn and wheat exports that fuel food prices. Hence, the inflation experienced by most economies in the world is mainly due to supply-side factors rather than the policies adopted by the governments.

Mark Scheme:

Knowledge Application: Inflation and demand analysis		
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> ◦ Explain and evaluate the role of government in causing demand-pull inflation with the use of any demand-management policy analysis. ◦ Provide possible supply-side reasons to explain cost-push inflation. • Answer has sufficient depth: <ul style="list-style-type: none"> ◦ rigorous and detailed economic analysis that demonstrate strong understanding on the effects of expansionary demand-management policy on GPL and illustrations of cost-push inflation with the use of AD-AS framework. ◦ relevant and precise use of economic concepts (AD/AS analysis); ◦ accurate and clearly-labelled diagrams to support economic analysis • Answer is relevant to the context of the question and applies real-world examples to support the analysis. 	8 – 10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to question requirements. • For L2-7, answers should include illustration of expansionary policy in causing demand-pull inflation with discussion on the extent of its effect on inflation. • Economic concepts are relevant but may contain minor inaccuracies. • Economic analysis is accurate but incomplete or lacks precision. • Attempts to address the context of the question but is incomplete. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. • Ability to illustrate and evaluate the limitations of expansionary policy in causing demand-pull inflation (max 6m) 	5 – 7
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. • Limited breadth/scope (command word not addressed): <ul style="list-style-type: none"> - Only illustrate how expansionary policy can lead to demand-pull inflation with the use of AD-AS analysis (max 4m) 	1 – 4
Evaluation		
E3	<ul style="list-style-type: none"> • Takes a clear overall stand that is comprehensively justified by providing convincing evaluative comments on whether governments' expansionary policies are largely responsible for the inflation. 	4 – 5
E2	<ul style="list-style-type: none"> • Takes a clear overall stand that is only partially justified and explained or the arguments were unconvincing and/or inaccurate at times OR • Provides evaluative comments but overall stand is unclear OR • Provides insightful opinions which are however not directly relevant to the requirements of the question. 	2 – 3

E1	• Make an overall stand: On balance, whether government's expansionary policy is to be blamed for the inflation (large/small extent)	1
----	--	---

2022 Jc2 H2 Econs Prelims Suggested Answers for Paper 2_Section B_Q6

- 6. Most economies in the world are suffering from budget deficits and balance of trade deficits for the past two years due to domestic and external challenges.
 - (a) Explain the relationship between a balance of trade deficit and a budget deficit. [10]
 - (b) Discuss whether policies adopted by a government to reduce the balance of trade deficit would worsen the budget deficit. [15]

Suggested answer for (a):

Question Analysis	
Command	Explain
Content	Relationship: BOT, budget deficit
Context	deficit
Synopsis: Students are to explain how a fall in export revenue (X) and an increase in import expenditure (M) that resulted in $X > M$ (balance of trade deficit) can lead to an increase in government expenditure (G) and fall in tax revenue (T) ($G > T$) (budget deficit). Explain how a budget deficit where $G > T$ will lead to a fall in X and increase in M, resulting in $X < M$, hence BOT deficit.	

Introduction:

- Define balance of trade (BOT) deficit and budget deficit
- Identify the factors that might cause a fall in X and increase in M which could also lead to an increase in G and fall in T.

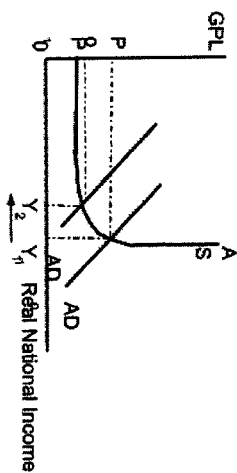
Body 1: Explain how a budget deficit might cause a BOT deficit

- Budget deficit arises when there is an increase in G and a fall in T which led to $G > T$.
- Increase in G such as infrastructure development to raise the productive capacity of an economy or increase in transfer payments to boost the disposable income of lower-income households will increase their consumption expenditure (C).
- The fall in personal income tax will increase disposable income, hence purchasing power of the consumers leading to an increase in C. At the same time, a fall in corporate tax will increase firms' after-tax profits, increasing the investment expenditure (I).
- The increase in G, C and I will increase the AD and lead to an increase in RNY (via multiplier process).
- The increase in RNY will increase purchasing power of the whole economy causing an increase in demand for imports and hence, increase in import expenditure (M). Also, if the economy is near full employment level, the increase in AD will cause an increase in GPL as the higher demand for resources accompanied by greater scarcity of resources, will increase factor prices. The increase in costs of production

will translate to higher GPL and reduce export competitiveness of the economy in the next time period reducing the export revenue (X).
Hence, an increase in M and a fall in X might cause $X < M$, leading to BOT deficit.

Body 2: Explain how a BOT deficit will cause budget deficit (due to automatic stabilisers)

- Non-discretionary fiscal policy or automatic stabilisers:
 - Non-discretionary fiscal policy or automatic stabilisers refer to tax revenues that rise and/or government expenditure that falls when national income rises (and vice versa).
- The government expenditure and tax revenue balance depends on automatic stabilisers which influence government spending or tax yields without the need for conscious or deliberate government intervention. The two principal built-in stabilisers are tax revenue from progressive income tax and government transfer payments such as unemployment benefits.
- When there is a worsening BOT deficit, X will fall and M will increase. This will lead to a fall in AD from AD_0 to AD_1 . With the fall in AD, it will lead to a multiplied fall in RNY from Y_1 to Y_2 resulting in a recession.



- When RNY falls, tax revenues will fall when tax payers earn lower income and are subject to lower tax rates. At the same time, the lower level of economic production will reduce the demand for resources. Since labour is a derived demand, unemployment rate will increase causing the amount paid out as unemployment benefits to rise. This will inevitably cause an increase in G and a fall in T ($G > T$) leading to a budget deficit.

Mark Scheme:

Knowledge, Application, Understanding and Analysis	
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> ◦ Explains content (1) and content (2) ◦ Answer has sufficient depth. ◦ rigorous and detailed economic analysis of the cause-effects link on how a BOT deficit might lead to a budget deficit, vice versa. ◦ relevant and precise use of economic concepts (AD/AS & DD/SS analysis)
	8 – 10

	<ul style="list-style-type: none"> o relevant and clearly labelled diagrams to support economic analysis • Answer is relevant to the context of the question • Answers that cover both content (1) and (2) but with minor inaccuracies, incomplete or lacks precision. • Attempts to address the context of the question but is incomplete. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. • Insufficient breadth/scope (max 5m): <ul style="list-style-type: none"> - Either Content (1) or (2) with accurate analysis and precise use of economic tools of AD/AS. • Answer is mostly irrelevant to question requirements. • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. 	5 - 7
L2		
L1		1 - 4

(b) Discuss whether policies adopted by a government to reduce the balance of trade deficit would worsen the budget deficit. [15]

Suggested answer for (b):

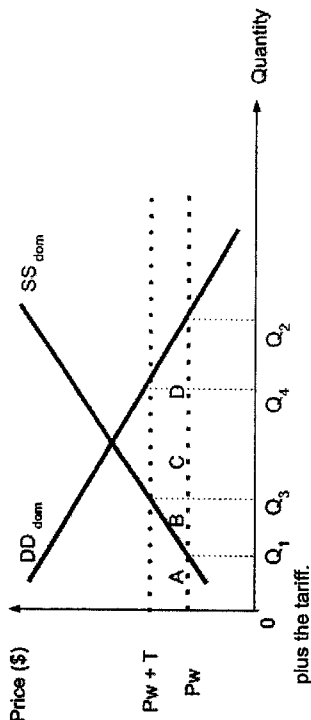
Question Analysis	
Command	Discuss
Content	Policy to reduce BOT deficit; budget deficit
Context	A Government (no context)
Synopsis:	
Students are to illustrate the use of expenditure reducing and expenditure switching measures to correct a BOT deficit and analyse their effects on government budget. A two sided discussion is expected to explain how these measures might worsen or improves government budget balance while attempting to correct a BOT deficit.	

Introduction:

- Define BOT and budget deficit
- Briefly explain why a government should be concerned with a BOT deficit and state the policies that a government can implement to reduce the deficit.
- The ↑ in trade deficit will translate into a ↓ in AD and subsequently ↓ in RNI. The effect on output, unemployment & GPL depends on whether the economy is currently below or near Y_f .
- This may also signal the presence of structural unemployment when the fall in X is primarily due to loss of comparative advantage.
- if deficit is large & persistent, it might result in a severe drain of foreign reserves government may need to borrow burden of national debt.

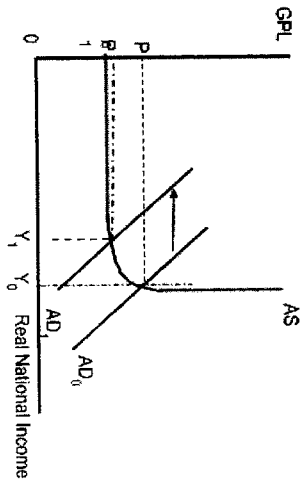
Body 1: Explain how the measures to reduce a BOT deficit might improve the budget deficit

- **Imposition of trade barriers such as tariff:**
- Tariffs are indirect taxes that may be of an *ad valorem* (levied as a percentage of the price of the imports) or *specific* (levied as a tax per unit of weight or physical quantity) form.
- To discourage the purchase of imports, the government can impose a tariff on the imported good. With a tariff, the price the domestic consumer pays for the good is P_w



- Assume the government imposes a tariff represented by T, the price paid by the domestic consumer is P_w+T , where P_w goes to the foreign producer and T goes to the government. This artificially raises the import prices, making imports less price competitive.
- The tariff raises the domestic price to P_w+T , and this encourages domestic supplier to raise their quantity supplied (law of supply) from quantity Q_1 to Q_2 . Simultaneously, at the higher price P_w+T , domestic consumer are now only willing to purchase quantity Q_4 , i.e quantity demanded falls from Q_2 to Q_4 (law of demand). Hence at P_w+T , domestic consumers are willing to purchase Q_4 , but domestic suppliers are only willing to supply Q_2 . Hence Q_4Q_2 is imported (from Q_1Q_2 before the tariff). The amount imported is reduced to Q_4Q_2 (from Q_1Q_2 before the tariff).
- The fall in import expenditure, assuming no change to X , will reduce the BOT deficit experienced by the economy.
- At the same time, the tax revenue collected from tariff will improve government's budget balance.
- **Expenditure-Reducing Measures: Contractionary Fiscal Policy**
- Reducing government expenditure on goods and services in the area of defence, education, healthcare, will reduce the 'G' component of AD.
- Increasing direct taxes such as personal income taxes will reduce the disposable incomes and purchasing power of households leading to a fall in demand for goods and services including imports. Hence, consumption expenditure will fall.
- When corporate taxes are raised, it leads to a fall in after-tax profits, reducing expected profitability, leading to a fall in investment expenditure.
- As G, C and I fall, AD fall and national income takes on a multiplied reduction through the multiplier process resulting in a multiple for in RNY.

- The fall in RNY will reduce households purchasing power and hence ability to consume imported goods reducing M.
- With the fall in M, assuming no change to X, BOT deficit will be reduced.
- Due to the fall in G and increase in T (due to more tax collection from income and corporate tax) government's budget will also improve.



Body 2: Explain how the measures to reduce a BOT deficit might worsen the budget deficit

- **Supply-side Policies (To increase both SRAS and LRAS)**
 - Government subsidies to lower the costs of production (GDP) of the firms such as wage subsidies, rental and utility rebates. By reducing the COP, firms will be able to lower the prices of exports making them more price competitive in the international markets encouraging foreign demand.
 - Government can provide research grants such as the Productivity and Innovation Credit by the Singapore government. By subsidizing firms' investment in R&D, this will encourage firms to innovate in terms of product and process innovation. Product innovation will lead to improvement in quality of the goods produced while process innovation will allow the firms to produce at a lower cost resulting in more competitive exports.
 - The increase in demand for exports will increase X. At the same time, domestic goods will be relatively cheaper and better than imports (assuming they are substitutes) causing a fall in M. The increase in X and fall in M will reduce the BOT deficit.
 - However, these supply-side measures to improve the competitiveness of domestic goods require huge government funding worsening budget deficit.

Conclusion: [Evaluative Judgement]

- Both expenditure reducing and expenditure switching measures can be adopted to reduce a BOT deficit. However, their effect on government's budget is highly dependent on the following:
 - [Assumption] Use of tariff allows the government to collect more tax revenue. However, if trading partners retaliate by imposing trade barriers on the exports, the resulting fall in demand for exports might lead to high unemployment (for countries highly dependent on exports). Similarly, contractionary FP will result in reduction of RNY and production in the economy, increasing unemployment as well. The increase

in employment rate will increase government's spending on transfer payments to support the unemployed which would worsen government's budget balance.
[Time period] Though supply-side measures might worsen budget deficit, the benefits of these measures can improve the comparative advantage and productive capacity of the economy. In the long run, the country is in better stead to achieve sustained growth due to more competitive domestic goods and exports, and more competitive investment climate to encourage higher level of investments in the economy. The higher economic growth in the long run will allow the government to earn higher level of tax revenue from households and firms, and the higher employment level will also reduce government's burden on transfer payments improving the government's budget balance.

Mark Scheme:

	Knowledge and Application, Understanding and Analysis	
L3	<ul style="list-style-type: none"> • Answer is relevant to question requirements and covers sufficient breadth: <ul style="list-style-type: none"> ◦ Explain expenditure reducing and expenditure switching measures in relation to their positive and negative effects on government budget balance. • Answer has sufficient depth: <ul style="list-style-type: none"> ◦ rigorous and detailed economic analysis that demonstrate strong understanding on the effects of the measures to correct BOT deficit and link to budget deficit. ◦ relevant and precise use of economic concepts (AD/AS, DD/SS, tariff analysis); ◦ accurate and clearly-labelled diagrams to support economic analysis • Answer is relevant to the context of the question and applies real-world examples to support the analysis. 	8 – 10
L2	<ul style="list-style-type: none"> • Answer is mostly relevant to question requirements. <ul style="list-style-type: none"> -For L2-7, answers should consist of a two-sided analysis (thesis & anti-thesis) but with minor inaccuracies. - Complete and accurate one-sided analysis (max 5m) • Attempts to address the context of the question but is incomplete. • Relevant diagrams are used but might not be accurately explained or applied to support economic analysis. 	5 – 7
L1	<ul style="list-style-type: none"> • Answer is mostly irrelevant to question requirements. • Economic concepts are largely irrelevant and/or inaccurate. • Unclear and/or inaccurate economic analysis. • Lacking in use of diagrams or wrong diagrams are used. 	1 – 4
E3	<ul style="list-style-type: none"> • Takes a clear overall stand that is comprehensively justified by providing convincing and synthesized evaluative comments on the measures to correct BOT deficit and their effects on budget deficit. 	4 – 5
E2	<ul style="list-style-type: none"> • Takes a clear overall stand that is only partially justified and explained or the arguments were unconvincing and/or inaccurate at times OR • Provides evaluative comments but overall stand is unclear OR • Provides insightful opinions which are however not directly relevant to the requirements of the question. 	2 – 3
E1	<ul style="list-style-type: none"> • Make an overall stand: On balance, whether measures to correct BOT deficit will worsen budget deficit. 	1

